Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2014-2015)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|-----------------------|
| Course Name | Operating system |
| Course Code | GMCA61 |
| Class | I year (2014-2015) |
| Semester | Even |
| Staff Name | Mr.I.THOMAS JEBASINGH |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| TD + 1 COLL /C | · |

Total 60Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To understand design issues related to process management and various related algorithms.
- > To understand design issues related to memory management and various related algorithms.
- > To understand design issues related to File management and various related algorithms

Syllabus

CORE SUBJECT – I

OPERATING SYSTEMS

UNIT I INTRODUCTION What is an Operating System: Mainframe Systems – Desktop Systems – Multiprocessor Systems - Distributed Systems – Clustered Systems – Real – time Systems– Handheld Systems. (10 L)

UNIT II PROCESS CONCEPT Process Concept – Process Scheduling – Operations on Process – Co-operating processes – Inter Processes - Inter Process communication. CPU Scheduling: Basic Concepts –Scheduling Criteria - Scheduling algorithms – Multi processor Scheduling - Real time Scheduling – Algorithms evaluation. (12 L)

UNIT III PROCESS SYNCHRONIZATION & DEADLOCKS Process Synchronization: Background – the critical section problem – Synchronization hardware – Semaphores – Classical problems of Synchronization – critical regions – Monitors – Atomic transaction. Deadlocks: System model – Deadlock Characterization – methods for handling Deadlocks – Deadlock prevention – Deadlock Avoidance – Deadlock detection – recovery from Deadlock.(14 L)

UNIT IV MEMORY MANAGEMENT Memory management: Background – Swapping – Contiguous memory allocation – paging – segmentation – segmentation with paging. Virtual Memory: Background – Demand paging – Page replacement – Allocation of frames. (12 L)

UNIT V File System Interface: File concept – Access methods– File system structure – File system implementation – File system structure – Filesystem implementation – Directories structure - Directory implementation – Allocation methods – Free space management – Efficiency and performance – Recovery. Mass Storage Structure: Disk Structure – Disk Scheduling – Disk management – Swap space management – RAID structure – Disk attachment – Stable Storage. (12 L)

| Hour | Class Schedule |
|-----------|------------------------------------------------------------|
| allotment | |
| | Even Semester Begin on 03.12.2014 |
| 1-L1 | INTRODUCTION- What is an Operating System |
| 2-L2 | Mainframe Systems |
| 3- L3 | Batchsystem - multiprogrammed system-time sharing system |
| 4-L4 | Desktop Systems |
| 5-L5 | Multiprocessor Systems |
| 6-L6 | Distributed Systems |
| 7-L7 | Client-server system, peer-to-peer system |
| 8- P1 | Welcoming of First year and Inauguration of BCAAssociation |
| 9- L8 | Real |
| 10- L9 | Time Systems |

| 11-L10 | Handheld Systems. | |
|-----------|------------------------------------------------------------------------------|--|
| 12-L11 | PROCESS CONCEPT Process Concept | |
| 13-L12 | Process Scheduling | |
| 14-L13 | Operations on Process | |
| 15-L14 | - Allotting portion for Internal Test-I | |
| 13-L14 | Internal Test I begins(19.01.2015) | |
| 16-L15 | Inter Processes | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Inter Process communication. CPU Scheduling | |
| 19-L17 | - Test Paper distribution and result analysis | |
| 1, 21, | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Basic Concepts | |
| 21- L19 | Scheduling Criteria | |
| 22- P2 | College level meeting/Cell function | |
| 23-L20 | Scheduling algorithms | |
| 24-L21 | Multi processor Scheduling | |
| 25-L22 | Real time Scheduling | |
| 26-L23 | Algorithms evaluation | |
| 27-L24 | PROCESS SYNCHRONIZATION & DEADLOCKS Process Synchronization: | |
| | Background | |
| 28-L25 | the critical section problem | |
| 29-L26 | Synchronization hardware | |
| 30-L27 | Semaphores | |
| 31-L28 | Classical problems of Synchronization | |
| 32-L29 | critical regions | |
| 33-L30 | Monitors | |
| 34- P3 | Department Seminar | |
| 35-L31 | Atomic transaction. Deadlocks: System model | |
| 36-L32 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(16.02.2015) | |
| 37- L33 | Deadlock Characterization | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | methods for handling Deadlocks | |
| 40-L35 | - Test Paper distribution and result analysis | |
| 41.7.26 | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Deadlock prevention | |
| 42- L37 | Deadlock Avoidance | |
| 43- L38 | Deadlock detection , recovery from Deadlock. | |
| 44- P4 | College level meeting/ function | |
| 45-L39 | File System Interface: File concept ,Access methods | |
| 46-L40 | File system structure, File system implementation | |
| 47-L41 | Directories structure ,Directory implementation | |
| 48-L42 | Allocation methods, Free space management | |
| 49-L43 | Efficiency and performance ,Recovery. Mass Storage Structure: Disk Structure | |
| 50-L44 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(16.03.2015) | |
| 51 L45 | Disk Scheduling, Disk management | |

| 52- L46 | Swap space management, RAID structure |
|-----------|---------------------------------------------------------------------------|
| 53-IT-III | Internal Test-III |
| 54-L47 | Disk attachment , Stable Storage |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(16.04.15) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23.04.2015 |

Course Outcomes

Extension activity

| Learning Outcomes | Outcomes COs of the course "Operating system" | |
|----------------------------|-----------------------------------------------------------------|--|
| | | |
| CO1 | Process Synchronization | |
| CO2 | Scheduling Algorithm | |
| CO3 | DeadLock | |
| CO4 | Dinning Philosopher Algorithm | |
| CO5 | Page Allocation Algorithm | |
| Experimental | | |
| Learning | | |
| EL1 | File System Interface: File concept ,Access methods | |
| EL2 | Directories structure ,Directory implementation | |
| EL3 | EL3 Efficiency and performance ,Recovery. Mass Storage Structur | |
| | Disk Structure | |
| Integrated Activity | | |
| IA1 | Deadlock Characterization | |
| IA2 | Atomic transaction. Deadlocks: System model | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for higher study.

For slow learner : special care taken, motivate the advanced learner to support the slow learner to study. To attend the remedial classes.

HOD Signature Staff Signature

: Motivate student to take classes for school students.

Principal

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2014-2015)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|--------------------------|
| Course Name | COMPUTER NETWORK |
| Course Code | GMCA62 |
| Class | III year (2014-2015) |
| Semester | EVEN |
| Staff Name | MRS.A.BATHSHEBA PARIMALA |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |

Total 75 Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 65 Hrs (5 units; 5×13=65; 13Hrs /unit)

Course Objectives

- To understand the basic networking concepts, types of addresses, data communication, protocols etc.
- To understand wired and wireless networks, its types, functionality of each layer.
- To understand importance of network security and cryptography

Syllabus

UNIT I NETWORK HARDWARE& SOFTWARE LAN-WAN-MAN – Wireless – Home Networks. Network Software: Protocol Hierarchies – Design issues for the layers – connection oriented and connection less services – Service primitives – The relationship of services to protocols. Reference Models: OSI Reference Model - TCP/IP reference Model Comparison of OSI and TCP/IP Critique of OSI and protocols – Critique of TCP/IP reference Model (**12 L**)

UNIT II PHYSICAL LAYER Guided Transmission Media: Magnetic Media: Twisted-Pair Cable, Coaxial Cable, Fiber-Optic Cable, Wireless Transmission: Electro Magnetic Spectrum - Radio Transmission - Microwave Transmission - Infrared and Millimeter Waves - Light waves - Communication satellites: Geostationary, Medium- Earth orbit, Low earth Orbit Satellites - Satellites versus fiber. (12 L)

UNIT III DATA LINK LAYER Error Detection and corrections – Elementary Data – Link protocols - Sliding window protocols, Medium –access control – Sub Layer: Multiple Access Protocols – Ethernet –Wireless LANs – Broad band wireless – Bluetooth. **(12 L)**

UNIT IV NETWORK & TRANSPORT LAYER Network layers: Routing algorithms – congestion control algorithms. Transport layer: Elements of transport protocols – Internet Transfer protocols: TCP. (12 L)

UNIT V APPLICATIONLAYER Application Layer: DNS – Email, network security: cryptography – symmetric key algorithms – public key algorithms - digital signatures. (12 L)

| allotment | | |
|-----------|------------------------------------------------------------------|--|
| | | |
| | Even Semester Begin on 03.12.2014 | |
| 1-L1 | UNIT I NETWORK HARDWARE& SOFTWARE LAN, WAN, MAN | |
| 2-L2 | Wireless | |
| 3- L3 | Network Software: Protocol Hierarchies | |
| 4-L4 | Design issues for the layers | |
| 5-L5 | connection oriented and connection less services | |
| 6-L6 | Service primitives | |
| 7-L7 | The relationship of services to protocols | |
| 8- P1 | BCA Association | |
| 9- L8 | Reference Models | |
| 10- L9 | OSI Reference Model | |
| 11-L10 | TCP/IP reference Model Comparison of OSI | |
| 12-L11 | TCP/IP Critique of OSI and protocols | |
| 13-L12 | Critique of TCP/IP reference Model | |
| 14-L13 | UNIT II PHYSICAL LAYER | |
| 15-L14 | Guided Transmission Media | |
| 16-L15 | Magnetic Media | |
| 17- L16 | Twisted-Pair Cable, Coaxial Cable, Fiber-Optic Cable | |
| 18- L17 | Wireless Transmission | |
| 19- L18 | Electro Magnetic Spectrum | |
| 20- L19 | Radio Transmission | |
| 21- L20 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(19.01.2015) | |
| 22- L21 | Microwave Transmission | |
| 23- IT-1 | Internal Test-I | |
| 24- L22 | Infrared and Millimeter Waves | |
| 25- L23 | Light waves | |
| 26- L24 | - Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 27- L25 | Communication satellites: Geostationary, Medium | |
| 28- L26 | Earth orbit, Low earth Orbit Satellites ,Satellites versus fiber | |
| 29- L27 | UNIT III DATA LINK LAYER Error Detection and corrections | |
| 30- P2 | College level meeting/Cell function | |
| 31-L28 | Elementary Data | |

| | T |
|-----------|---------------------------------------------------------|
| 32-L29 | Link protocols |
| 33-L30 | Sliding window protocols |
| 34- L31 | Medium |
| 35- L32 | access control |
| 36- L33 | Sub Layer |
| 37- L34 | Multipl Access Protocols |
| 38- L35 | Ethernet |
| 39- L36 | Wireless LANs |
| 40- L37 | Broad band wireless |
| 41- L38 | Bluetooth |
| 42-P3 | Department Seminar |
| 43- L39 | UNIT IV NETWORK & TRANSPORT LAYER |
| 44- L40 | Network layers |
| 45- L41 | Routing algorithms |
| 46- L42 | congestion control algorithms |
| 47- L43 | Allotting portion for Internal Test-II |
| | Internal Test II begins(16.02.2015) |
| 48- L44 | Transport layer |
| 49-IT-II | Internal Test-II |
| 50-L45 | Elements of transport protocols |
| 51- L46 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 52- L47 | Addressing |
| 53- L48 | Connection Establishment |
| 54- L49 | Connection Release |
| 55- L50 | Multiplexing |
| 56- L51 | Internet Transfer protocols |
| 57- L52 | TCP |
| 58- L53 | UNIT V APPLICATIONLAYER |
| 59-P4 | College level meeting/ function |
| 60- L54 | Application Layer |
| 61- L55 | DNS |
| 62- L56 | Email |
| 63- L57 | network security |
| 64- L58 | Allotting portion for Internal Test-III |
| | Internal Test III begins(16.03.2015) |
| 65- L59 | Cryptography |
| 66- L60 | symmetric key algorithms |
| 67-IT-III | Internal Test-III |
| 68- L61 | public key algorithms |
| 69- L62 | digital signatures |
| 70- L63 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 71-MT | Model Test begins(16.04.15) |
| 72-MT | Model Test |
| 73-MT | Model Test |
| | |

| 74-L64 | Model test paper distribution and previous year university question | |
|--------|---------------------------------------------------------------------|--|
| | paper discussion | |
| 75-L65 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 23.04.2015 | |

Course Outcomes

| Learning Outcomes | COMPUTER NETWORK | |
|-----------------------------|------------------------------------------------------------------|--|
| CO1 | Describe the functions of each Layer in OSI and TCP/IP model | |
| | | |
| | CO2 Functions of Application and Presentation Layer and Paradigm | |
| CO3 | Routing Protocol Classification | |
| CO4 | Functions of Data Link Layer | |
| CO5 | Types of Transmission Medium | |
| CO6 | Guides Media/Un guided Media | |
| CO7 | Real Time Application | |
| CO8 Shortest Path Algorithm | | |
| CO9 Network Layer Paradigm | | |
| Experimental | | |
| Learning | | |
| EL1 | LAN,MAN Connection | |
| EL2 | Routing Connection | |
| EL3 | Explore the Network Devices | |
| EL4 | Trouble Shooting Devices | |
| Integrated Activity | | |
| IA1 | Sharing Resources | |
| IA2 | Collabration/Discussion | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

Department of Computer Application

COURSE ACADEMIC PLAN(2014-2015)

(Prepared by staff member handling the course)

| Programme Name | BCA |
|----------------------|-----------------------------------|
| Course Name | Visual Basic |
| Course Code | SMCA41 |
| Class | II year (2014-2015) |
| Semester | Even |
| Staff Name | 1.Mr. B.Edward Daniel Christopher |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60 Hrs/Sem | |
| Internal Test 2 IIms | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- ➤ To understand the benefits of using Visual Basic for windows as an application tool.
- ➤ To understand the Visual Basic event-driven programming concepts, terminology and available tools
- ➤ Learn the fundamentals of designing, implementing and distributing a vb application.
- ➤ Learn to use the Visual Basic toolbox
- > To study connectivity between VB and databases.

VISUAL BASIC

UNIT I GETTING STARTED WITH VISUAL BASIC 6.0 Introduction to Visual Basic, Visual Basic 6.0 Programming Environment, Working with Forms, Developing an Application, Variables, Data types and Modules, Procedure and Control Structures, Array in Visual Basic, Additional examples. Working with Controls: Introduction, Creating and Using Controls, Working with Control Arrays, Additional examples.

UNIT II MENUS & GRAPHICS Menus, Mouse Events and Dialog Boxes: Introduction, Mouse Events, Dialog Boxes, Additional examples. Graphics, MDI and Flex Grid: Introduction, Graphics

for Applications, Multiple Document Interface (MDI), Using the flex Grid Control, Additional examples.

UNIT III OPEN DATABASE CONNECTIVITY ODBC and Data Access Objects: Evolution of Computer Architecture, Data Options, Additional examples. ODBC Using Data Access Objects and Remote Data objects: Open Database Connectivity (ODBC), Remote Data objects, Additional examples.

UNIT IV REPORT CREATION Data Environment and Data Report: Introduction, Data Environment Designer, Data Report, Additional examples. Object Linking and Embedding: Introduction, OLE Fundamentals, Using OLE Container Controls, Using OLE Automation Objects, OLE Drag and Drop, Additional examples.

UNIT V ACTIVE X CONTROLS Built – in Active X Controls: Working with Built – In ActiveX Controls, Additional examples. Working with Active X Data objects; An Overview of ADO and OLE DB, ADO Object Model, Additional examples. Files, and File System Controls: Introduction, File System Controls, Accessing Files, Interface with Windows, Additional examples.

| Hour | Class Schedule |
|-----------|-------------------------------------------------------------------------------|
| allotment | |
| | Even Semester Begin on 02.12-2014 |
| 1-L1 | UNIT I GETTING STARTED WITH VISUAL BASIC 6.0 Introduction to Visual Basic, |
| | Visual Basic 6.0 Programming Environment. |
| 2-L2 | Working with Forms, Developing an Application, Variables, Data types |
| 3- L3 | Modules, Procedure and Control Structures |
| 4-L4 | Array in Visual Basic,1-D array, 2-D array- Additional examples. |
| 5-L5 | Working with Controls: Introduction-tool box – available controls |
| 6-L6 | Creating and Using Controls-command button, textbox control, dropdown listbox |
| 7-L7 | Picture box, option button, check box – scroll bars |
| 8-L8 | Common dialog control with examples |
| 9-L9 | Working with Control Arrays, Additional examples. |
| 10-L10 | Explanation for calculator programme |
| | |
| 11-L11 | UNIT II MENUS & GRAPHICS Menus, popup menu-introduction- sample |
| | programme |
| 13-L12 | Mouse Events |
| 14-L13 | Dialog Boxes: Introduction – Input box- Additional examples. |
| 15-L14 | Graphics – Image box- picturebox-pixel manipulation |
| | -Allotting portion for Internal Test-I |
| | INTERNAL TEST I BEGINS(19.01.2015) |
| 16-L15 | MDI-Multiple document interface- creating MDI form and child form- sample |
| | programme and output |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Flex Grid - Using the flex Grid Control |
| 19-L17 | Test Paper distribution and result analysis- sample programme for flex grid |
| | control design a form with flex grid – setting properties. |

| | Entering Internal Test-I Marks into University portal |
|-----------------|------------------------------------------------------------------------------------------------------|
| 20-L18 | Programme for matrix addition using flex grid. |
| 21-P2 | College level meeting |
| 22-L19 | Dir listbox, drive listbox – sample programme to explain Dir and drive list boxes |
| 23-L20 | Exlaining the calculator programme. – Designing form – using contol arrays. |
| 24-L21 | UNIT III OPEN DATABASE CONNECTIVITYODBC - introduction |
| 25-L22 | Data Access Objects: Evolution of Computer Architecture, |
| 26-L23 | Data Options, Additional examples. ODBC Using Data Access Objects |
| 27-L24 | Remote Data objects |
| 28-L25 | Creating DSN using Open Database Connectivity (ODBC) |
| 29-L26 | Remote Data objects using ODBC - Additional examples. |
| 30-L27 | Insert – Delete – Update- coding using DAO |
| 31-L28 | Creating a student database in MS Access – connecting the database – Manipulating the data using RDO |
| 32-L29 | Linking database with data grid – Bound data with grid. |
| 33-L30 | Seminar By Students – Topic: Open database connectivity and RDO |
| | Allotting portion for Internal Test-II |
| | INTERNAL TEST II BEGINS(16.02.2015) |
| 34- P3 | Unit IV:Report Creation Data Environment and Data Report: Introduction |
| 35-L31 | Data Environment Designer, Data Report, Additional Examples |
| 36-L32 | Object Linking and Embedding: Introduction |
| 37-IT-II | OLE Fundamentals |
| 38-L33 | Using OLE Container Controls |
| 39-L34 | Using OLE Automation Objects |
| 40-L35 | OLE Drag and Drop |
| 41-L36 | Additional examples. |
| 42-P4 | UNIT - V ACTIVE X CONTROLS Built – in Active X Controls: |
| 43-L37 | Working with Built in controls |
| 44-L38 | ActiveX Controls- using and creating controls |
| 45-L39 | Additional examples. |
| 46-L40 | Working with Active X Data objects |
| 47-L41 | An Overview of ADO and OLE DB |
| 48-L42 | ADO Object Model. |
| 49-L43 | Additional examples |
| 50-L44 | Files, and File System Controls: Introduction |
| 51-IT-III | File System Controls |
| 50 T 45 | INTERNAL TEST III BEGINS(16.03.2015) |
| 52-L45 | Accessing Files |
| 53-L46 | Interface with Windows |
| 54-L47 | Additional Examples Entering Internal Test III Monks into University nortal |
| 55-L48 | Entering Internal Test-III Marks into University portal |
| 56-L49 57-MT | Model Test begins(16.04.15) Model Test |
| 57-MT 58-MT | Model Test Model Test |
| 58-MT | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |

Last Working day on 22-04-2015

Course Outcomes

| Learning Outcomes | COs of the course "VISUAL BASIC" | |
|------------------------------------------------------------------|--------------------------------------------------------|--|
| | | |
| CO1 | Gain knowledge about GUI | |
| CO2 | Skilled in form design and event driven programming | |
| CO3 | Usage of various tools in visual basic | |
| CO4 | Able to connect and access database | |
| CO5 | Able to connect external data base using ODBC | |
| CO6 | CO6 How to prepare data report | |
| Experimental | | |
| Learning | | |
| EL1 To do working models to explain Database connectivity | | |
| EL2 | Getting resources about Visual basic through Internet | |
| EL3 | GD on merit and demerit GUI | |
| EL4 | Discussion about Facebook and its database maintenance | |
| Integrated Activity | | |
| IA1 | Designing a billing software for grocery shop | |
| IA2 | | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

Forslow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

Department of Computer Application & Networking

1. Questionnaires for Course Feedback from Students

| Name of the student | |
|---------------------|--|
| Programme Name | |
| Course Name | |
| Course code | |
| Year of Joining | |
| Semester | |
| Date | |

Put a tick in the best represents your response to each statement.

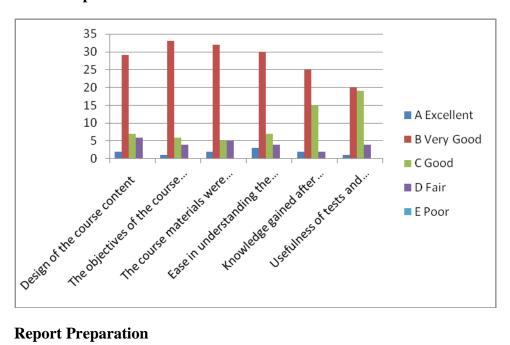
| No. | Parameters | A | В | С | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | The objectives of the course | A | В | С | D | Е |
| | were clearly stated. | | | | | |
| 3 | The course materials were | A | В | C | D | Е |
| | clearly explained. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | Е |
| | course content. | | | | | |
| 5 | Knowledge gained after | A | В | C | D | Е |
| | completion of the course. | | | | | |
| 6 | Usefulness of tests and | A | В | C | D | Е |
| | assignments | | | | | |
| 7 | Extent of efforts required by | A | В | С | D | E |
| | students. | | | | | |

Course Feedback Analysis and Report Preparation

Number of responses: 44

| No. | Parameters | A | В | С | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 2 | 29 | 7 | 6 | 0 |
| 2 | The objectives of the course | 1 | 33 | 6 | 4 | 0 |
| | were clearly stated. | 1 | 33 | U | 4 | U |
| 3 | The course materials were | 2 | 32 | 5 | 5 | 0 |
| | clearly explained. | 2 | 32 | 3 | 3 | U |
| 4 | Ease in understanding the | 3 | 30 | 7 | 4 | 0 |
| | course content. | 3 | 30 | , | 4 | U |
| 5 | Knowledge gained after | 2 | 25 | 15 | 2 | 0 |
| | completion of the course. | 2 | 23 | 13 | 2 | U |
| 6 | Usefulness of tests and | 1 | 20 | 19 | 4 | 0 |
| | assignments | 1 | 20 | 17 | 4 | U |
| 7 | Extent of efforts required by | 2 | 25 | 10 | 7 | 0 |
| | students. | 2 | 23 | 10 | / | U |

Chart Preparation



Report Preparation

Department of Computer Application & Networking

2. Questionnaires for Course Feedback from Teachers

| Name of the Teacher | |
|---------------------|--|
| Programme Name | |
| Course Name | |
| Course code | |
| Semester/Year | |
| Date | |

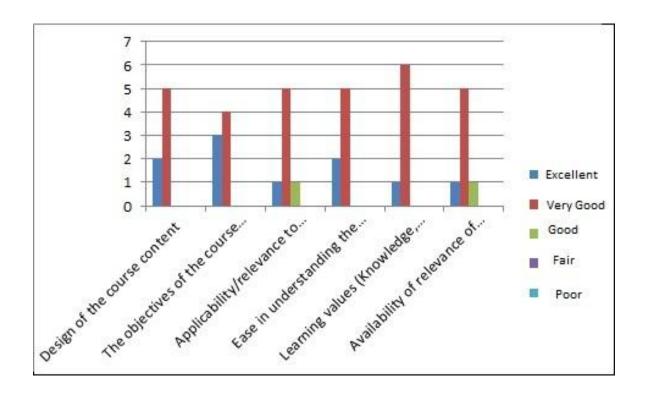
Put a tick in the best represents your response to each statement.

| No. | Parameters | A | В | C | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | The objectives of the course | A | В | C | D | Е |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | A | В | C | D | Е |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | Е |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | A | В | C | D | Е |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | A | В | C | D | Е |
| | additional source materials | | | | | |

Number of Responses: 7

| No. | Parameters | A | В | С | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 2 | 5 | 0 | 0 | 0 |
| 2 | The objectives of the course | 3 | 4 | 0 | 0 | 0 |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | 1 | 5 | 1 | 0 | 0 |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | 2 | 5 | 0 | 0 | 0 |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | 1 | 6 | 0 | 0 | 0 |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | 1 | 5 | 1 | 0 | 0 |
| | additional source materials | | | | | |

Chart preparation



Department of Application & Networking

3. Questionnaires for Course Feedback from Alumni

| Name of the Alumni | |
|--------------------|--|
| Programme Name | |
| Course Name | |
| Contact No/Mail id | |
| Semester and year | |
| Date | |

Put a tick in the best represents your response to each statement.

| No. | Parameters | A | В | C | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | The objectives of the course | A | В | C | D | Е |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | A | В | C | D | Е |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | Е |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | A | В | C | D | Е |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | A | В | C | D | E |
| | additional source materials | | | | | |

Number of Responses: 10

| No. | Parameters | A | В | С | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 5 | 1 | 5 | 3 | 0 |
| 2 | The objectives of the course | 2 | 7 | 4 | 4 | 0 |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | 2 | 5 | 2 | 1 | 0 |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | 1 | 4 | 1 | 8 | 0 |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | 5 | 2 | 1 | 5 | 0 |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | 4 | 2 | 8 | 5 | 0 |
| | additional source materials | | | | | |

4. Questionnaires for Course Feedback from Parents

| Name of the Parent | |
|--------------------------|--|
| Name of the Student | |
| Programme Name | |
| Course Name | |
| Contact Number/Mail id | |
| Year of Joining/Semester | |
| Date | |

Put a tick in the best represents your response to each statement. 15

| No. | Parameters | A | В | С | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | Course materials available in | A | В | С | D | Е |
| | Library. | | | | | |
| 3 | The course materials were | A | В | C | D | Е |
| | clearly explained. | | | | | |
| 4 | Improvement in soft skills, | A | В | C | D | Е |
| | knowledge, observed by you in | | | | | |
| | your ward. | | | | | |
| 5 | Usefulness of the course for | A | В | C | D | E |
| | getting job. | | | | | |
| 6 | Extent of efforts required by | A | В | C | D | E |
| | students. | | | | | |

Department of Computer Application& Networking

COURSE ACADEMIC PLAN(2014-2015)

(Prepared by staff member handling the course)

| Programme Name | BCA |
|--------------------|----------------------|
| Course Name | Computer Graphics |
| Course Code | GMCA64 |
| Class | III year (2014-2015) |
| Semester | Even |
| Staff Name | Mrs. G. Priskillal |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| TD + 1 c0 II /0 | |

Total 60 Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2Hrs

Practicals: 2Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- To understand the structure of modern computer graphics system.
- > To understand the basic principle of implementing computer graphics primitives.
- > To write algorithms for modelling and rendering graphical data.
- > To develop design and problem solving skills with application.
- To gain experience in constructing interactive computer graphics programs

Computer Graphics

UNIT I INPUT AND OUTPUT DEVICES

Introduction: Application and Operations of Computer Graphics - Graphics Packages - Requirements of a Graphical System - GUI. Common Input Devices - Graphical output Devices - Raster Scan Video Principle - Raster Scan CRT Monitors - Color Raster Scan System - Plasma Display - LCD - Hard copy Raster Devices - Raster Scan System - Memory Tube Displays - Plotters - Graphics Accelerators - Coprocessors.

UNIT II ALGORITHMS

Scan Conversion – Methods – Polynomial Method – DDA algorithms for line drawing Algorithm, Circle, Ellipse, Parabola – Bresenham's Line Drawing Algorithm - Bresenham's

Circle Drawing Algorithm – Problem of Scan Conversion – Solid Areas – Odd Even Methods – Winding Number Method - Solid Area Filling – Algorithms – Boundary, Flood Fill Algorithm.

UNIT III TRANSFORMATION

Two Dimension Transformations – Translation – Scaling – Rotation – Transformations of Points and Objects – Homogenous Coordinate System and Transformations – Reflection – Shearing – Three Dimension Transformations - Translation – Scaling – Rotation – Reflection – Shearing.

UNIT IV CLIPPING ALGORITHMS

2D Viewing and Clipping – Windows and View Ports – Viewing Transformations – Clipping of lines in 2D – Cohen Sutherland Clipping Algorithms – Visibility – Midpoint subdivision method – parametric Clipping – Polygon Clipping – Sutherland Hodgeman Algorithm – Clipping against Concave windows.

UNIT V HIDDEN SURFACE ALGORITHMS

Hidden Surface Elimination – Black Face Removable Algorithm Z buffer Algorithm.

| Hour | Class Schedule | | |
|-----------|--------------------------------------------------------------------------|--|--|
| allotment | | | |
| | Even Semester Begin on 03-12-2014 | | |
| 1-L1 | UNIT I INPUT AND OUTPUT DEVICES – Introduction | | |
| 2-L2 | Application and operations of computer graphics | | |
| 3- L3 | Graphics packages | | |
| 4-L4 | Requirements of graphical system | | |
| 5-L5 | GUI – Common input devices | | |
| 6-L6 | Graphical output devices | | |
| 7-L7 | Raster scan video principle | | |
| 8-L8 | Raster scan CRT monitor – color raster scan system | | |
| 9-L9 | Plasma display | | |
| 10-P1 | LCD – Hard copy raster devices | | |
| 11-L10 | Memory tube displays | | |
| 12-L11 | Plotters, graphics accelerator and coprocessor | | |
| 13-L12 | UNIT II ALGORITHMS – Introduction | | |
| 14-L13 | Scan conversion – Polynomial method - DDA line drawing algorithm | | |
| 15-L14 | Circle, ellipse, parabola | | |
| 16-L15 | Bresenham's line drawing algorithms | | |
| | INTERNAL TEST I BEGINS(19.01.2015) | | |
| 17-IT-1 | Internal Test-I | | |
| 18-L16 | Bresenham's circle drawing algorithms | | |
| 19-L17 | Test Paper distribution and result analysis – Problem of scan conversion | | |
| | Entering Internal Test-I Marks into University portal | | |
| 20-L18 | Solid Areas | | |

| 22 7 10 | |
|-----------|---------------------------------------------------------------------------|
| 22-L19 | Odd even method and winding number method |
| 23-L20 | Solid area filling |
| 24-L21 | Flood fill algorithms |
| 25-L22 | Boundary Fill algorithms |
| 26-L23 | UNIT – III TRANSFORMATIONS – Introduction |
| 27-L24 | Two dimensional transformations |
| 28-L25 | Translation and scaling |
| 29-L26 | Rotation |
| 30-L27 | Transformation of points and objects |
| 31-L28 | Homogeneous coordinate system and transformations |
| 32-L29 | Reflection – shearing |
| 33-L30 | 3D transformations |
| | Allotting portion for Internal Test-II |
| 34- P3 | Department Seminar |
| 35-L31 | Translation, Scaling and rotation. |
| 36-L32 | Reflection – shearing |
| | Allotting portion for Assignment/seminar |
| | INTERNAL TEST II BEGINS(16.02.2015) |
| 37-IT-II | Internal Test-II |
| 38-L33 | UNIT - IV CLIPPING ALGORITHMS – Introduction |
| 39-L34 | 2D viewing and clipping |
| 40-L35 | Windows and view ports |
| 41-L36 | Test Paper distribution and result analysis- Viewing Transformations |
| | Entering Internal Test-II Marks into University portal |
| 42-P4 | Department seminar |
| 43-L37 | Cohen – sutherland clipping algorithms – visibility |
| 44-L38 | Mid-point sub division method – Parametric clipping |
| 45-L39 | Polygon clipping – sutherlandHodgeman clipping |
| | Submission of Assignment/take the seminar |
| 46-L40 | Clipping against concave windows |
| 47-L41 | UNIT - V HIDDEN SURFACE ALGORITHMS - Introduction |
| 48-L42 | Hidden surface elimination |
| | Allotting portion for Internal Test-II |
| | INTERNAL TEST III BEGINS(16.03.2015) |
| 49-L43 | Backface removal algorithms |
| 50-L44 | Black dot removal algorithm |
| 51-IT-III | Internal Test-III |
| 52-L45 | Z buffer algorithms- Test Paper distribution and result analysis |
| 53-L46 | Model Test Announcement |
| 54-L47 | Over all view of the course by PPT |
| 55-L48 | Entering Internal Test-III Marks into University portal |
| 56-L49 | Model Test begins(16.04.15) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59-MT | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23-04-2015 |
| L | |

Course Outcomes

| Learning Outcomes | COs of the course "COMPUTER GRAPHICS" | |
|----------------------------|------------------------------------------------------------------------------|--|
| CO1 | Understand the structure of modern computer graphics system. | |
| CO2 | Understand the basic principle of implementing computer graphics primitives. | |
| CO3 | Familiarity with key algorithms for modelling and rendering graphical data. | |
| CO4 | Gain experience in constructing interactive computer graphics | |
| | programs | |
| Experimental | | |
| Learning | | |
| EL1 | To write a program for graphics operations. | |
| EL2 | To perform 2D Transformations | |
| EL3 | To perform 3D Transformations | |
| Integrated Activity | ty | |
| IA1 | How transformations are used in animation | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

Forslow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|-------------------------|
| Course Name | Personality Development |
| Course Code | GCSB5A |
| Class | IIIyear (2014-2015) |
| Semester | Even |
| Staff Name | Mr.K.Appasamy |
| Credits | 2 |
| L. Hours /P. Hours | 2 / WK |
| Total 30Hrs/Sem | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 20 Hrs (5 units; 5×4=20; 4Hrs /unit)

Course Objectives

- Personality Traits
- > Effective goal setting
- ➤ Measurement of Attitudes

Syllabus

UNIT-I

PERSONALITY - Definition – Determinants – Personality Traits – Theories of Personality – Importance of Personality Development. SELF AWARENESS – Meaning – Benefits of Self – Awareness – Developing Self – Awareness. SWOT – Meaning – Importance – Application – Components. GOAL SETTING Meaning- Importance – Effective goal setting – Principles of goal setting – Goal setting at the Right level.

UNIT - II

SELF MONITORING – Meaning – High self – monitor versus low self monitor – Advantages and Disadvantages self monitor- Self –monitoring and job performance. PERCEPTION- Definition- Factor influencing perception- Perception process –Errors in perception – Avoiding perceptual errors. ATTITUDE – Meaning- Formation of attitude – Types of attitude - Measurement of Attitudes – Barriers to attitude change – Methods to

attitude change. ASSERTIVENESS - Meaning – Assertiveness in Communication – Assertiveness Techniques – Benefits of being Assertive – Improving Assertiveness.

UNIT – III

TEAM BUILDING – Meaning – Types of teams – Importance of Team building- Creating Effective Team. LEADERSHIP – Definition – Leadership style- Theories of leadership – Qualities of an Effect leader. NEGOTIATION SKILLS – Meaning – Principles of Negotiation – Types of Negotiation – The Negotiation Process – Common mistakes in Negotiation process. CONFLICT MANAGEMENT – Definition- Types of Conflict- Levels of Conflict – Conflict Resolution – Conflict management.

UNIT-IV

COMMUNICATION – Definition – Importance of communication – Process of communication - Communication Symbols – Communication network – Barriers in communication – Overcoming Communication Barriers. TRANSACTIONAL ANALYSIS – Meaning – EGO States – Types of Transactions – Johari Window- Life Positions. EMOTIONAL INTELLIGENCE- Meaning – Components of Emotional Intelligence-Significance of managing Emotional intelligence – How to develop Emotional Quotient. STRESS MANAGEMENT – Meaning – Sources of Stress – Symptoms of Stress – Consequences of Stress – Managing Stress

UNIT - V

SOCIAL GRACES – Meaning – Social Grace at Work – Acquiring Social Graces. TABLE MANNERS – Meaning – Table Etiquettes in Multicultural Environment- Do's and Don'ts of Table Etiquettes. DRESS CODE – Meaning- Dress Code for selected Occasions – Dress Code for an Interview. GROUP DISCUSSION – Meaning – Personality traits required for Group Discussion- Process of Group Discussion- Group Discusson Topics. INTERVIEW – Definition- Types of skills – Employer Expectations – Planning for the Interview – Interview Questions- Critical Interview Questions

| Hour allotment | Class Schedule |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Even Semester Begin on 03.12.2014 |
| 1-L1 | UNIT -I PERSONALITY - Definition – Determinants – Personality Traits – Theories of Personality – Importance of Personality Development. SELF AWARENESS – Meaning – Benefits of Self – Awareness – Developing Self – Awareness |
| 2-L2 | SWOT – Meaning – Importance- Application – Components. GOAL SETTING Meaning- Importance – Effective goal setting – Principles of goal setting – Goal |

| | setting at the Right level. |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------|
| 3- P1 | |
| 4-L3 | Welcoming of First year and Inauguration of BCAAssociation UNIT – II SELF MONITORING – Meaning – High self – monitor versus low |
| 4-L3 | self monitor – Advantages and Disadvantages self monitor- Self –monitoring |
| | and job performance. PERCEPTION- Definition- Factor influencing perception- |
| | Perception process –Errors in perception – Avoiding perceptual errors. |
| | ATTITUDE |
| 5-L4 | Allotting portion for Internal Test-I |
| J-124 | Internal Test I begins(19.01.2015) |
| 6-IT-I | Internal Test-I |
| 7-L5 | - Test Paper distribution and result analysis |
| , 20 | Entering Internal Test-I Marks into University portal |
| 8-L6 | Meaning- Formation of attitude – Types of attitude - Measurement of Attitudes |
| 0 20 | - Barriers to attitude change - Methods to attitude change. ASSERTIVENESS - |
| | Meaning – Assertiveness in Communication – Assertiveness Techniques – |
| | Benefits of being Assertive – Improving Assertiveness |
| 9-L7 | UNIT – III |
| | TEAM BUILDING - Meaning - Types of teams - Importance of Team |
| | building- Creating Effective Team. LEADERSHIP – Definition – Leadership |
| | style- Theories of leadership – Qualities of an Effect leader. NEGOTIATION |
| | SKILLS |
| 10-P2 | College level meeting/Cell function |
| 11-L8 | Meaning – Principles of Negotiation – Types of Negotiation – The Negotiation |
| | Process - Common mistakes in Negotiation process. CONFLICT |
| | MANAGEMENT – Definition- Types of Conflict- Levels of Conflict – Conflict |
| | Resolution – Conflict management . |
| 12-L9 | UNIT –IV COMMUNICATION – Definition – Importance of communication – |
| | Process of communication - Communication Symbols - Communication |
| | network – Barriers in communication – Overcoming Communication Barriers |
| 13-P3 | Department Seminar |
| 14-L10 | TRANSACTIONAL ANALYSIS – Meaning – EGO States – Types of |
| | Transactions – Johari Window- Life Positions. EMOTIONAL |
| | INTELLIGENCE- Meaning – Components of Emotional Intelligence- |
| 15.7.11 | Significance of managing Emotional intelligence |
| 15-L11 | How to develop Emotional Quotient. STRESS MANAGEMENT – Meaning – |
| | Sources of Stress – Symptoms of Stress – Consequences of Stress – Managing |
| 16 1 10 | Stress Allactic and section for Internal Total II |
| 16-L12 | - Allotting portion for Internal Test-II |
| 17 IT 1 | Internal Test II begins(16.02.2015) |
| 17-IT-1 18-L13 | Internal Test-II Test Paper distribution and result analysis |
| 16-L13 | |
| 19-L14 | Entering Internal Test-II Marks into University portal |
| 17-L14 | UNIT – V SOCIAL GRACES – Meaning – Social Grace at Work – Acquiring Social Graces. TABLE MANNERS – Meaning – Table Etiquettes in |
| | Multicultural Environment- Do's and Don'ts of Table Etiquettes. DRESS CODE |
| 20- P2 | College level meeting/ function |
| 20- F2 21-L15 | - Meaning- Dress Code for selected Occasions - Dress Code for an Interview. |
| 21-113 | GROUP DISCUSSION – Meaning – Personality traits required for Group |
| | Discussion- Process of Group Discussion |
| | Discussion- 11000s of Group Discussion |

| 22-L16 | Group Discusson Topics. INTERVIEW – Definition- Types of skills – |
|------------|---------------------------------------------------------------------------|
| | Employer Expectations –Planning for the Interview – Interview Questions- |
| | Critical Interview Questions |
| 23- L17 | Allotting portion for Internal Test-III |
| | Internal Test III begins(16.03.2015) |
| 24- IT-III | Internal Test-III |
| 25-L18 | - Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 26-MT | Model Test begin(16.04.15) |
| 27-MT | Model Test |
| 28-MT | Model Test |
| 29-L19 | Model test paper distribution and previous year university question paper |
| | discussion |
| 30-L20 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23.04.2015 |

Course Outcomes

| Learning Outcomes | COs of the course" Personality Development" |
|----------------------------|--------------------------------------------------------------|
| | |
| CO1 | How to develop Emotional Quotient. STRESS MANAGEMENT |
| CO2 | Group Discusson Topics. INTERVIEW – Definition- Types of |
| | skills – Employer Expectations |
| Experimental | |
| Learning | |
| EL1 | Process of Group Discussion |
| EL2 | Personality traits required for Group Discussion |
| Integrated Activity | |
| IA1 | GROUP DISCUSSION – Meaning – Personality traits required for |
| | Group Discussion- Process of Group Discussion |

Blended Learning : using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc., : use library books, E- books, motivate student to prepare for higher study. : special care taken, motivate the advanced learner to support

For slow learner : special care taken, motivate the advanced learner to support the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2014-2015)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|----------------------|--------------------------------------|
| Course Name | Object Oriented Programming with C++ |
| Course Code | GMCA21 |
| Class | I year (2014-2015) |
| Semester | EVEN |
| Staff Name | K.APPASAMY |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Semester | |
| Internal Test-3 Hrs | |
| I | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- To understand how C++ improves C with object-oriented features.
- > To learn how to write inline functions for efficiency and performance.
- ➤ To learn the syntax and semantics of the C++ programming language.
- ➤ To learn how to design C++ classes for code reuse.

Syllabus

OBJECT ORIENTED PROGRAMMING WITH C++

UNIT I Principles of Object-oriented Programming: Software Evolution – A look at Procedure-Oriented Programming – Object-Oriented Programming Paradigm – Basic concepts of object-Oriented Programming – Benefits of OOP – Object-Oriented Languages-Applications of OOP **Beginning with C++**: What is C++? – Applications of C++ - A simple C++ Program – More C++ statements – An example with Class- Structure of C++ Program – Reference Variables – Operators in C++ - Scope Resolution Operator – Member De referencing Operators – Memory Management Operators – Manipulators – Type Cast Operators

UNIT II Functions in C++: Introduction – The Main Function – Function prototyping – Call by Reference – Return by reference – Inline Functions - Default Arguments – const Arguments – Function Overloading – Math Library Functions **Classes and Objects:** Introduction - C Structure Revisited – Specifying a Class – Defining Member Function-A C++ Program with Class -Making an outside Function Inline –Nesting of Member Function – Private member functions- Arrays with in a class – Memory allocation for objects – Static Data Members –

Static Member Functions, Arrays of objects – Objects as Function arguments – Friendly Functions – Returning Objects - Pointers to Members – Local Classes –

UNIT III Constructors and Destructors: Introduction – Constructors – Parameterized constructors – multiple constructors in a class – Constructors with Default arguments – Dynamic Initialization of Objects- Copy Constructors – Dynamic Constructors – Constructing two dimensional Arrays – Destructors **Operator Overloading and Type Conversion:** Introduction – Defining Operator Overloading – Overloading unary operators – Overloading Binary Operators – Overloading binary operators using Friends – Manipulation of strings using operators – Rules for overloading operators – Type conversions

UNIT IV Inheritance: Extending Classes: Introduction – Defining Derived Classes – Single inheritance – Making a Private Member Inheritable – Multilevel Inheritance – Multiple Inheritance – Hierarchical Inheritance – Hybrid Inheritance – Virtual Base Classes - Abstract Classes – Constructors in Derived Classes – Member Classes – Nesting of Classes

Unit V Managing Console I/O Operations: Introduction - C++ Streams - C++ Stream Classes - Unformatted I/O Operations - Formatted Console I/O Operation - Managing output with Manipulators Working with Files: Introduction - Classes for File Stream Operators - Opening and closing a File - Detecting end-of-file _ File Pointers and their Manipulators - Sequential Input and Output Operations - Error Handling during File Operations - Command - Line Arguments. TOTAL: 60 HOURS

Text Book: Object Oriented Programming C++ Third Edition – E Balagurusamy, Tata McGraw-Hill Publishing company Limited

reference Book:

- 1. Complete Reference C++ Herbert Schildt, Fourth Edition, Tata McGraw-Hill Publishing Company Limited
- 2. Object Oriented Programming with ANSI and Turbo C++ Ashok N. Kamthane, Pearson Edition
- 3. C++ How to Program Deitel, Fifth Edition Prentice Hall of India
- 4. Programming with C++ D.Ravichandran, Second Edition , Tata McGraw-Hill Publishing Company Limited.

| Hour | Class Schedule | | |
|-----------|----------------------------------------------------------------------------------------------------|--|--|
| allotment | Evan Samastar Pagin on 02 12 2014 | | |
| 1 7 1 | Even Semester Begin on 03.12.2014 | | |
| 1-L1 | UNIT I Principles of Object-oriented Programming : Software Evolution – A look at Procedure | | |
| 2-L2 | Oriented Programming, Object-Oriented Programming Paradigm | | |
| 3- L3 | Basic concepts of object-Oriented Programming, Benefits of OOP | | |
| 4-L4 | Object-Oriented Languages, Applications of OOP | | |
| 5-L5 | Beginning with C++: What is C++? ,Applications of C++ | | |
| 6-L6 | A simple C++ Program, More C++ statements, An example with Class | | |
| 7-L7 | Structure of C++ Program ,Reference Variables , Operators in C++ | | |
| 8- P1 | Welcoming of First year and Inauguration of BCAAssociation | | |
| 9- L8 | Scope Resolution Operator ,Member De referencing Operators | | |
| 10- L9 | Memory Management Operators ,Manipulators, Type Cast Operators | | |
| 11-L10 | UNIT II Functions in C++: Introduction ,The Main Function | | |
| 12-L11 | Function prototyping ,Call by Reference ,Return by reference ,Inline Functions , | | |
| | Default Arguments | | |
| 13-L12 | const Arguments – Function Overloading – Math Library Functions | | |
| 14-L13 | Classes and Objects: Introduction ,C Structure Revisited, Specifying a Class , | | |
| | Defining Member Function | | |
| 15-L14 | Allotting portion for Internal Test-I | | |
| | Internal Test I begins(19.01.2015) | | |
| 16-L15 | A C++ Program with Class ,Making an outside Function Inline,Nesting of | | |
| | Member Function | | |
| 17-IT-1 | Internal Test-I | | |
| 18-L16 | Private member functions, Arrays with in a class, Memory allocation for objects | | |
| 19-L17 | Test Paper distribution and result analysis | | |
| | Entering Internal Test-I Marks into University portal | | |
| 20-L18 | Static Data Members, Static Member Functions, Arrays of objects | | |
| 21- L19 | Objects as Function arguments, Friendly Functions | | |
| 22- P2 | College level meeting/Cell function | | |
| 23-L20 | Returning Objects, Pointers to Members ,Local Classes | | |
| 24-L21 | UNIT III Constructors and Destructors: Introduction, Constructors, | | |
| | Parameterized constructors | | |
| 25-L22 | multiple constructors in a class, Constructors with Default arguments | | |
| 26-L23 | Dynamic Initialization of Objects, Copy Constructors | | |

| | Last Working day on 23.04.2015 | |
|--------------------------------------------------------|---------------------------------------------------------------------------|--|
| 60-L50 | Feedback of the Course, analysis and report preparation | |
| | discussion | |
| 59- L49 | Model test paper distribution and previous year university question paper | |
| 58-MT | Model Test | |
| 57-MT | Model Test | |
| 56- MT | Model Test begins(16.04.15) | |
| | Entering Internal Test-III Marks into University portal | |
| 55-L48 | Test Paper distribution and result analysis | |
| 54-L47 | Error Handling during File Operations ,Command ,Line Arguments. | |
| 53-IT-III | Internal Test-III | |
| 52- L46 | Sequential Input and Output Operations | |
| 51 L45 | Detecting end-of-file, File Pointers and their Manipulators | |
| | Internal Test III begins(16.03.2015) | |
| 50-L44 | Allotting portion for Internal Test-III | |
| 49-L43 | Working with Files: Introduction, Classes for File Stream Operators | |
| 48-L42 | Formatted Console I/O Operation ,Managing output with Manipulators | |
| 47-L41 | C++ Stream Classes – Unformatted I/O Operations | |
| 46-L40 | Unit V Managing Console I/O Operations: Introduction, C++ Streams | |
| 45-L39 | Member Classes ,Nesting of Classes | |
| 44- P4 | College level meeting/ function | |
| 43- L38 | Constructors in Derived Classes | |
| 42- L37 | Virtual Base Classes ,Abstract Classes | |
| 41-L36 | Hierarchical Inheritance, Hybrid Inheritance | |
| Entering Internal Test-II Marks into University portal | | |
| 40-L35 | Test Paper distribution and result analysis | |
| 39-L34 | Multilevel Inheritance ,Multiple Inheritance | |
| 38- IT-II | Internal Test-II | |
| 37- L33 | Making a Private Member Inheritable | |
| | Internal Test II begins(16.02.2015) | |
| 36-L32 | Allotting portion for Internal Test-II | |
| 35-L31 | Defining Derived Classes ,Single inheritance | |
| 34- P3 | Department Seminar | |
| 33-L30 | UNIT IV Inheritance : Extending Classes : Introduction | |
| 32-L29 | Type Conversion | |
| 31-L28 | Manipulation of strings using operators ,Rules for overloading operators | |
| 30-L27 | Overloading Binary Operators ,Overloading binary operators using Friends | |
| 29-L26 | Defining Operator Overloading , Overloading unary operators | |
| 28-L25 | Destructors Operator Overloading and Type Conversion: Introduction | |
| 27-L24 | Dynamic Constructors , Constructing two dimensional Arrays | |
| | | |

Course Outcomes

| Learning Outcomes | Object Oriented Programming with C++ |
|--------------------------|--------------------------------------------------------------|
| CO1 | a) Describe the procedural and object oriented paradigm with |
| | concepts of streams, classes, functions, data and objects. |
| CO2 | Understand dynamic memory management techniques using |

| | pointers, constructors, destructors, etc |
|----------------------------|---------------------------------------------------------------|
| CO3 | Describe the concept of function overloading, operator |
| | overloading, virtual functions and polymorphism |
| CO4 | |
| | binding, usage of exception handling, generic programming |
| CO5 | Demonstrate the use of various OOPs concepts with the help of |
| | programs |
| Experimental | |
| Learning | |
| EL1 | Classes |
| EL2 | Objects |
| EL3 | Constructor |
| EL4 | Inheritance |
| Integrated Activity | |
| IA1 | Method Overriding |
| IA2 | Polymorphism |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

St. John's College, Palayamkottai

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2014-2015)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|----------------|--------|
|----------------|--------|

| Course Name | DIGITAL DESIGN | | | |
|------------------------|-------------------|--|--|--|
| Course Code | GACA11 | | | |
| Class | I YEAR(2014-2015) | | | |
| Semester | Odd | | | |
| Staff Name | Ms.G.Priskillal | | | |
| Credits | 4 | | | |
| L. Hours /P. Hours | 4 / WK | | | |
| Total 60Hrs/Sem | | | | |
| Internal Test-3 Hrs | | | | |
| Model Test-3 Hrs | | | | |
| Dept. Meetings-2 Hrs | | | | |
| College Meetings-2 Hrs | | | | |

Course Objectives

> To acquire the basic Knowledge of digital logic levels

Remaining 50 Hrs (5 units; $5\times10=50$; 10Hrs /unit)

- ➤ Application of knowledge to understand digital Electronic circuits
- > To perform the analysis and design of various digital electronic circuits

Syllabus

Unit I : Digital System and binary numbers: Digital systems – binary numbers – number base conversion – Octal and hexa decimal numbers – complements – signed binary numbers – binary codes – binary storage and registers – binary logic **Boolean algebra:** Introduction – basic definition – axiomatic definition of Boolean algebra

Unit II : Logic gates: Canonical and standard forms – other logic operations – digital logic gates and integrated - Don't conditions

Unit III: NAND and NOR implementation- other two level implementations – Exclusive OR Functions Combinational Logic: Introduction – Combinational circuits – Analysis Proceure - Design Procedure – Binary Adder – Subtractor – Decimal Adder - Binary Multiplier - Magnitude Comparator

Unit IV : Decoders - Encoders - Multiplexers **Synchronous Sequential Logic:** Introduction - Sequential Circuits - Storage Element Latches - Storage Element Flip- Flops - Analysis of Clocked Sequential Circuits

Unit V : Registers and Counters: Registers – Shift Registers – Ripple Counters – Synchronous Counters – Other counters Memory : Introduction – Random access memory – Memory Decoding – Error Detection and Correction – Read Only Memory.

| Hour allotment | Class Schedule | | |
|-------------------|-------------------------------------------------------------------------|--|--|
| | Odd Semester Begin on 18.06.2014 | | |
| 1-L1 | Unit I: Digital System and binary numbers: Digital systems | | |
| 2-L2 | binary numbers | | |
| 3- L3 | number base conversion | | |
| 4-L4 | Octal and hexa decimal numbers | | |
| 5-L5 | complements | | |
| 6-L6 | signed binary numbers | | |
| 7-L7 | binary codes | | |
| 8- P1 | Welcoming of First year and Inauguration of BCA Association | | |
| 9- L8 | binary storage and registers | | |
| 10- L9 | binary logic Boolean algebra | | |
| 11-L10 | basic definition | | |
| 12-L11 | axiomatic definition of Boolean algebra | | |
| 13-L12 | Unit II : Logic gates: Canonical and standard forms | | |
| 14-L13 | other logic operations | | |
| 15-L14 | Allotting portion for Internal Test-I | | |
| | Internal Test I begins(30.07.2014) | | |
| 16-L15 | digital logic gates | | |
| 17-IT-1 | Internal Test-I | | |
| 18-L16 | integrated circuits | | |
| 19-L17 | Test Paper distribution and result analysis | | |
| | Entering Internal Test-I Marks into University portal | | |
| 20-L18 | other logic operations | | |
| 21- L19 | Integrated operations | | |
| 22- P2 | College level meeting/Cell function | | |
| 23-L20 | Don't conditions | | |
| 24-L21 | Unit III : NAND and NOR implementation- other two level implementations | | |
| 25-L22 | Exclusive OR Functions | | |
| 26-L23 | Combinational Logic: Introduction | | |
| 27-L24 | Combinational circuits | | |
| 28-L25 | Analysis Proceure | | |
| 29-L26 | Design Procedure | | |
| 30-L27 | Binary Adder | | |
| 31-L28 | Subtractor | | |
| 32-L29 | Decimal Adder | | |
| 33-L30 | Binary Multiplier | | |
| 34- P3 | Department Seminar | | |
| 35-L31 | Magnitude Comparator | | |
| 36-L32 | Allotting portion for Internal Test-II | | |
| | Internal Test II begins(18.08.2014) | | |
| 37- L33 | Unit IV : Decoders | | |
| 38- IT-II | Internal Test-II | | |
| 39-L34 | Encoders | | |

| 40-L35 | Test Paper distribution and result analysis | |
|-----------|---------------------------------------------------------------------------|--|
| | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Multiplexers | |
| 42- L37 | Synchronous Sequential Logic: Introduction | |
| 43- L38 | Sequential Circuits | |
| 44- P4 | College level meeting/ function | |
| 45-L39 | Storage Element Latches | |
| 46-L40 | Storage Element Flip flops | |
| 47-L41 | Flops | |
| 48-L42 | Analysis of Clocked Sequential Circuits | |
| 49-L43 | Unit V : Registers and Counters: Registers | |
| 50-L44 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(15.09.2014) | |
| 51 L45 | Shift Registers | |
| 52- L46 | Ripple Counters | |
| 53-IT-III | Internal Test-III | |
| 54-L47 | Synchronous Counters | |
| 55-L48 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 56- MT | Model Test begins(24.10.14) | |
| 57-MT | Model Test | |
| 58-MT | Model Test | |
| 59- L49 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 60-L50 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 31.10.2014 | |

| Learning Outcomes | DIGITAL DESIGN | |
|------------------------------------------------------------|------------------------------------------------------------------------|--|
| | | |
| CO1 | Examine the structure of various number system | |
| CO2 | Examine the application the digital design | |
| CO3 | Ability to understand, Analyse and design various combinational | |
| | and sequential circuits. | |
| Experimental | | |
| Learning | | |
| EL1 | Basic Gates:OR,NOT,AND,NAND,NOR | |
| EL2 | Integrated circuits | |
| EL3 | K-map circuit diagram | |
| EL4 | Parity checker | |
| Integrated Activity | | |
| IA1 | Integration of the four circuit activity, in one combinational circuit | |
| IA2 The aim of the course is to make the students to be ab | | |
| | synthesize simple login circuits in one logic circuits. | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2014-2015)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. | |
|---------------------|---------------------|--|
| Course Name | DATA STRUCTRUE | |
| Course Code | GACA31 | |
| Class | II year (2014-2015) | |
| Semester | Odd | |
| Staff Name | Ms.G.PRISKILLAL | |
| Credits | 4 | |
| L. Hours /P. Hours | 4 / WK | |
| Total 60Hrs/Sem | | |
| Internal Test-3 Hrs | | |
| Model Test 2 Hrs | | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To understand different methods of organizing large amounts of data.
- > To efficiently implement different data structure.
- > To efficiently implement solution for different problems.

Syllabus

UNIT I DATATYPES INTRODUCTION

Introduction: Pseudo code – The Abstract Data Type – A Model for an Abstract Data Type – Algorithms Efficiency. Searching: List Searches – Hashed List Searches – Collision Resolution. (10 L)

UNIT II LINKED LISTS

Linear List Concepts – Linked List Concepts – linked List Algorithms – Processing a Linked List – Complex Linked List Structures. (10 L)

UNIT III STACKS AND QUEUES

Basic Stacks Operations – Stack Linked List Implementation – Stack Applications – Queue operations – Queue Linked List Design. (10L)

UNIT IV TREES

Basic Tree Concepts – Binary Tree - Binary Tree Traversals – Expression Trees- General Trees – Binary Search Trees – Heap definition – Heap Structure – Basic Heap Algorithm. (8L)

UNIT V INTRODUCTION TO GRAPHS

Sorting And Graphs: General Sort Concepts – Quick sort – External sorts. Graphs: Terminology – Operations – Graph storage Structure – Networks.

| Hour | Class Schedule | |
|-----------|-------------------------------------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 18.06.2014 | |
| 1-L1 | UNIT I DATATYPES INTRODUCTION | |
| | Pseudo Code | |
| 2-L2 | The Abstract Data Type | |
| 3- L3 | A Model For An Abstract Data Type | |
| 4-L4 | Algorithm Efficiency | |
| 5-L5 | Searching | |
| 6-L6 | List Searches | |
| 7-L7 | Hashed List Searches | |
| 8- P1 | Welcoming of First year and Inauguration of BCA Association | |
| 9- L8 | Collision Resolution | |
| 10- L9 | UNIT II LINKED LISTS | |
| | Linear List Concepts | |
| 11-L10 | Linked List Concept | |
| 12-L11 | Linked List Algorithm | |
| 13-L12 | Processing A Link List | |
| 14-L13 | Complex Linked List Structrue | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(30.07.2014) | |
| 16-L15 | UNIT III STACKS AND QUEUES | |
| | Basic Stacks Operations | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Stack Linked List Implementation | |
| 19-L17 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Stack Application | |
| 21- L19 | Queue Operation | |
| 22- P2 | College level meeting/Cell function | |

| 23-L20 | Queue Linked List Design |
|-----------|---------------------------------------------------------------------------|
| 24-L21 | UNIT IV TREES |
| 27-1221 | Basic Tree Concepts |
| 25-L22 | Binary Tree |
| 26-L23 | Binary Tree Traversal |
| 27-L24 | Expression Trees |
| 28-L25 | General Trees |
| 29-L26 | Binary Search Tree |
| 30-L27 | Heap Definition |
| 31-L28 | Heap Structrue |
| 32-L29 | Basic Heap Algorithm |
| 33-L30 | UNIT V INTRODUCTION TO GRAPHS |
| | Sorting And Graphs |
| 34- P3 | Department Seminar |
| 35-L31 | General Sort Concept |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(18.08.2014) |
| 37- L33 | Quick Sort |
| 38- IT-II | Internal Test-II |
| 39-L34 | External Sort |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Graphs |
| 42- L37 | Terminology |
| 43- L38 | Operation |
| 44- P4 | College level meeting/ function |
| 45-L39 | Graph Storage Structrue |
| 46-L40 | Network |
| 47-L41 | Abstract Data Type |
| 48-L42 | Pseudo Code |
| 49-L43 | List Searches |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(15.09.2014) |
| 51 L45 | Hashed List Searches |
| 52- L46 | Stack Application |
| 53-IT-III | Internal Test-III |
| 54-L47 | Heap Definition |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(24.10.14) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| 10 7 7 7 | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 31.10.2014 |

| Learning Outcomes | DATA STRUCTRUE | |
|------------------------------------------------------------|--------------------------------------------------------------------|--|
| CO1 | Select appropriate data structures as applied to specified problem | |
| | definition | |
| CO2 | CO2 To Implement operations | |
| CO3 | To implement linear and non-linear data structure | |
| CO4 | Determine complexity of the given algorithm | |
| Experimental | | |
| Learning | | |
| EL1 | To implement sorting | |
| EL2 | To implement the search operations | |
| EL3 | Implementation of the Queue and Stack | |
| EL4 Implementation of Binary Trees | | |
| Integrated Activity | | |
| IA1 | IT system integration | |
| IA2 Alternation mode choices shared about data structure | | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2014-2015)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. | |
|---------------------|-----------------------|--|
| Course Name | Environmental Studies | |
| Course Code | GEVS11 | |
| Class | Iyear (2014-2015) | |
| Semester | ODD | |
| Staff Name | Mr.B.JEFFERSON | |
| Credits | 2 | |
| L. Hours /P. Hours | 2 / WK | |
| Total 30Hrs/Sem | | |
| Internal Test-3 Hrs | | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 20Hrs (5 units; 5×4=20; 4Hrs /unit)

Course Objectives

- ➤ Use and over-utilization of surface and ground water
- ➤ Mineral resources: Use and exploitation
- > Growing energy needs

Syllabus

UNIT I: THE MULTIDISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES

Definition, scope and importance Natural resources and associated problems: Forest resources: Use and over-exploitation, deforestation, timber extraction, dams and their effects on forests and tribal people. – Water resources: Use and over-utilization of surface and ground water, floods, drought, dams-benefits and problems, water conservation and watershed management. -Mineral resources: Use and exploitation, environmental effects.-Food resources: World food problems, changes, effects of modern agriculture, fertilizer-pesticide problems. -Energy resources: Growing energy needs, renewablesndlnon renewable energy sources, alternate energy sources.- Land resources: Land as a resource, land degradation, man-induced landslides, soil erosion and desertification.

UNIT II: ECOSYSTEMS

Forest Ecosystem -Grassland Ecosystem -Desert ecosystem - Aquatic Ecosystem (Ponds, rivers, oceans, estuaries) -Energy flow in the ecosystem-Ecological succession-Food Chains, Food Webs and Ecological Pyramids.

UNIT III: BIODIVERSITY AND ITS CONSERVATION

Introduction Definition: Genetic, species and ecosystem diversity-Biogeographical classification of Jndia -Values of Biodiversity- Biodiversity at global, national and local levels- India as a mega-diversity nation- Hot-Spots of biodiversity -Threats to biodiversity - Endangered and endemic species of India -Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

UNIT IV: ENVIRONMENTAL POLLUTION

Definition- Causes, effects and control measures of:-Air Pollution -Water Pollution -Soil Pollution - Marine Pollution - Noise Pollution.- Thermal Pollution -Solid Waste Management - Disaster Management: Floods, earthquake, cyclone and landslides.

UNIT V: SOCIAL ISSUES AND THE ENVIRONMENT

Climatic change, global warming, acid rain, ozone depletion.- Wasteland reclamation - Consumerism and Waste products, use and through plastics Environment Protection Act- Air (Prevention and Control of Pollution) Act - Water (Prevention and Control of Pollution) Act - Wildlife Protection Act Forest Conservation Act - Population Explosion — Family Welfare Programme Human Rights

| Hour | Class Schedule | |
|-----------|-----------------------------------------------------------------------------------|--|
| allotment | | |
| | ODD Semester Begin on 18.06.2014 | |
| 1-L1 | Unit-1:Forest resources: Use and over-exploitation, deforestation, timber | |
| | extraction, dams and their effects on forests and tribal people. Water resources: | |
| | Use and over-utilization of surface and ground water, floods, drought, dams- | |
| | benefits and problems, water conservation and watershed management. | |
| 2-L2 | Energy resources: Growing energy needs, renewablesndlnon renewable energy | |
| | sources, alternate energy sources- Land resources: Land as a resource, land | |
| | degradation, man-induced landslides, soil erosion and desertification | |
| 3- P1 | Welcoming of First year and Inauguration | |
| 4-L3 | Mineral resources: Use and exploitation, environmental effects. | |
| 5-L4 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(30.07.2014) | |
| 6-IT-I | Internal Test-I | |
| 7-L5 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 8-L6 | Food resources: World food problems, changes, effects of modern | |
| | agriculture, fertilizer-pesticide problems. | |
| 9-L7 | Unit-2: Forest Ecosystem -Grassland Ecosystem -Desert ecosystem - Aquatic | |
| | Ecosystem (Ponds, rivers, oceans, estuaries) | |
| 10-P2 | College level meeting/Cell function | |
| 11-L8 | Energy flow in the ecosystem-Ecological succession-Food Chains, Food Webs | |
| | and Ecological Pyramids. | |
| 12-L9 | Unit-3: Introduction Definition: Genetic, species and ecosystem diversity- | |
| | Biogeographical classification of Jndia -Values of Biodiversity- Biodiversity at | |
| | global, national and local levels | |
| 13-P3 | Department Seminar | |

| 14-L10 | India as a mega-diversity nation- Hot-Spots of biodiversity -Threats to | |
|------------|--------------------------------------------------------------------------------|--|
| | biodiversity -Endangered and endemic species of India -Conservation of | |
| | biodiversity: In-situ and Ex-situ conservation of biodiversity. | |
| 15-L11 | Unit-4: Definition- Causes, effects and control measures of:-Air Pollution - | |
| | Water Pollution - Soil Pollution - Marine Pollution | |
| 16-L12 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(18.08.2014) | |
| 17-IT-1 | Internal Test-II | |
| 18-L13 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 19-L14 | Noise Pollution Thermal Pollution -Solid Waste Management - Disaster | |
| | Management: Floods, earthquake, cyclone and landslides. | |
| 20- P2 | College level meeting/ function | |
| 21-L15 | Unit-5: Climatic change, global warming, acid rain, ozone depletion Wasteland | |
| | reclamation -Consumerism and Waste products, use and through plastics | |
| | Environment Protection Act | |
| 22-L16 | - Air (Prevention and Control of Pollution) Act -Water (Prevention and Control | |
| | of Pollution) Act -Wildlife Protection Act Forest Conservation Act -Population | |
| | Explosion — Family Welfare Programme Human Rights | |
| 23- L17 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(15.09.2014) | |
| 24- IT-III | Internal Test-III | |
| 25-L18 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 26-MT | Model Test begins(24.10.14) | |
| 27-MT | Model Test | |
| 28-MT | Model Test | |
| 29-L19 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 30-L20 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 31.10.2014 | |

| Learning Outcomes | Environmental Studies |
|--------------------------|-----------------------------------------------------------------|
| | |
| CO1 | Energy flow in the ecosystem-Ecological succession-Food Chains, |
| | Food Webs and Ecological Pyramids |
| CO2 | Noise Pollution Thermal Pollution -Solid Waste Management - |
| | Disaster Management: Floods, earthquake, cyclone and landslides |
| CO3 | Climatic change, global warming, acid rain, ozone depletion |
| | Wasteland reclamation |
| Experimental | |
| Learning | |
| EL1 | Soil Pollution |
| EL2 | Disaster Management |

| Integrated Activity | |
|---------------------|---------------|
| IA1 | Field Work |
| IA2 | Village Visit |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2015-2016)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. | |
|----------------------|-----------------------|--|
| Course Name | Environmental Studies | |
| Course Code | GEVS11 | |
| Class | Iyear (2014-2015) | |
| Semester | ODD | |
| Staff Name | Mr.K.APPASAMY | |
| Credits | 2 | |
| L. Hours /P. Hours | 2 / WK | |
| Total 30Hrs/Sem | | |
| Internal Test-3 Hrs | | |
| Model Test-3 Hrs | | |
| Dept. Meetings-2 Hrs | | |

Course Objectives

College Meetings-2 Hrs

- ➤ Use and over-utilization of surface and ground water
- ➤ Mineral resources: Use and exploitation
- Growing energy needs

Remaining 20Hrs (5 units; 5×4=20; 4Hrs /unit)

Syllabus

UNIT I: THE MULTIDISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES

Definition, scope and importance Natural resources and associated problems:Forest resources: Use and over-exploitation, deforestation, timber extraction, dams and their effects on forests and tribal people. – Water resources: Use and over-utilization of surface and ground water, floods, drought, dams-benefits and problems, water conservation and watershed management. -Mineral resources: Use and exploitation, environmental effects.-Food resources: World food problems, changes, effects of modern agriculture, fertilizer-pesticide problems. -Energy resources: Growing energy needs, renewablesndlnon renewable energy sources, alternate energy sources.- Land resources: Land as a resource, land degradation, man-induced landslides, soil erosion and desertification.

UNIT II: ECOSYSTEMS

Forest Ecosystem -Grassland Ecosystem -Desert ecosystem - Aquatic Ecosystem (Ponds, rivers, oceans, estuaries) -Energy flow in the ecosystem-Ecological succession-Food Chains, Food Webs and Ecological Pyramids.

UNIT III: BIODIVERSITY AND ITS CONSERVATION

Introduction Definition: Genetic, species and ecosystem diversity-Biogeographical classification of Jndia -Values of Biodiversity-Biodiversity at global, national and local levels- India as a mega-diversity nation- Hot-Spots of biodiversity -Threats to biodiversity - Endangered and endemic species of India -Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

UNIT IV: ENVIRONMENTAL POLLUTION

Definition- Causes, effects and control measures of:-Air Pollution -Water Pollution -Soil Pollution - Marine Pollution - Noise Pollution.- Thermal Pollution -Solid Waste Management - Disaster Management: Floods, earthquake, cyclone and landslides.

UNIT V: SOCIAL ISSUES AND THE ENVIRONMENT

Climatic change, global warming, acid rain, ozone depletion.- Wasteland reclamation - Consumerism and Waste products, use and through plastics Environment Protection Act- Air (Prevention and Control of Pollution) Act -Water (Prevention and Control of Pollution) Act - Wildlife Protection Act Forest Conservation Act -Population Explosion — Family Welfare Programme Human Rights

| Hour | Class Schedule |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| allotment | |
| | Even Semester Begin on 18.06.2015 |
| 1-L1 | Unit-1 :Forest resources: Use and over-exploitation, deforestation, timber extraction, dams and their effects on forests and tribal people. Water resources: Use and over-utilization of surface and ground water, floods, drought, damsbenefits and problems, water conservation and watershed management. |
| 2-L2 | Energy resources: Growing energy needs, renewablesndlnon renewable energy sources, alternate energy sources- Land resources: Land as a resource, land degradation, man-induced landslides, soil erosion and desertification |
| 3- P1 | Welcoming of First year and Inauguration of BCA Association |
| 4-L3 | Mineral resources: Use and exploitation, environmental effects. |
| 5-L4 | Allotting portion for Internal Test-I |
| | Internal Test I begins(19.01.2015) |
| 6-IT-I | Internal Test-I |

| 7-L5 | Test Paper distribution and result analysis |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Entering Internal Test-I Marks into University portal |
| 8-L6 | Food resources: World food problems, changes, effects of modern |
| | agriculture, fertilizer-pesticide problems. |
| 9-L7 | Unit-2: Forest Ecosystem -Grassland Ecosystem -Desert ecosystem - Aquatic |
| | Ecosystem (Ponds, rivers, oceans, estuaries) |
| 10-P2 | College level meeting/Cell function |
| 11-L8 | Energy flow in the ecosystem-Ecological succession-Food Chains, Food Webs and Ecological Pyramids. |
| 12-L9 | Unit-3: Introduction Definition: Genetic, species and ecosystem diversity-Biogeographical classification of Jndia -Values of Biodiversity-Biodiversity at global, national and local levels |
| 13-P3 | Department Seminar |
| 14-L10 | India as a mega-diversity nation- Hot-Spots of biodiversity -Threats to biodiversity -Endangered and endemic species of India -Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity. |
| 15-L11 | Unit-4: Definition- Causes, effects and control measures of:-Air Pollution - Water Pollution -Soil Pollution - Marine Pollution |
| 16-L12 | Allotting portion for Internal Test-II |
| | Internal Test II begins(16.02.2015) |
| 17-IT-1 | Internal Test-II |
| 18-L13 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 19-L14 | Noise Pollution Thermal Pollution -Solid Waste Management - Disaster |
| | Management: Floods, earthquake, cyclone and landslides. |
| 20- P2 | College level meeting/ function |
| 21-L15 | Unit-5: Climatic change, global warming, acid rain, ozone depletion Wasteland |
| | reclamation -Consumerism and Waste products, use and through plastics Environment Protection Act |
| 22-L16 | - Air (Prevention and Control of Pollution) Act -Water (Prevention and Control of Pollution) Act -Wildlife Protection Act Forest Conservation Act -Population Explosion — Family Welfare Programme Human Rights |
| 23- L17 | Allotting portion for Internal Test-III |
| | Internal Test III begins(16.03.2015) |
| 24- IT-III | Internal Test-III |
| 25-L18 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 26-MT | Model Test begins(24.10.14) |
| 27-MT | Model Test |
| 28-MT | Model Test |
| 29-L19 | Model test paper distribution and previous year university question paper |
| | discussion |
| 30-L20 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 29.10.2015 |

| Learning Outcomes | Environmental Studies |
|----------------------------|-----------------------------------------------------------------|
| | |
| CO1 | Energy flow in the ecosystem-Ecological succession-Food Chains, |
| | Food Webs and Ecological Pyramids |
| CO2 | Noise Pollution Thermal Pollution -Solid Waste Management - |
| | Disaster Management: Floods, earthquake, cyclone and landslides |
| CO3 | Climatic change, global warming, acid rain, ozone depletion |
| | Wasteland reclamation |
| Experimental | |
| Learning | |
| EL1 | Soil Pollution |
| EL2 | Disaster Management |
| Integrated Activity | |
| IA1 | Field Work |
| IA2 | Village Visit |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2014-2015)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|----------------------|
| Course Name | Mobile Communication |
| Course Code | GMCA5C |
| Class | III year (2014-2015) |
| Semester | odd |
| Staff Name | MR . K. APPASAMY |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- To study the need and nature of mobile applications.
- To learn the tools and platforms required for mobile applications.
- To understand the design issues in mobile applications.

Syllabus

UNIT I INTRODUCTION Mobile Communication: Need for Mobile Communication – Requirements of Mobile Communication – History of Mobile Communication – Properties of Wireless Medium – Radio Propagation – Propagation Coverage Calculation. Introduction to Cellular Mobile Communication: Cellular Structure – Frequency Reuse – System Architecture – Authentication Centre (AUC) – Home Location Register (HLR) – Visiting Location Register (VLR) – Equipment Identify Register (EIR) – Base Station System - Cellular Mobile Communication Switching. (12 L)

UNIT I INTRODUCTION Mobile Communication Standards: First generation Wireless Networks – Second generation Wireless System – Third generation and Beyond Wireless

Systems – Implementation Organization – Regional Organization – Global Organization – Global System for Mobile communication (GSM) – GSM Architecture – Advanced Mobile Phone Service (AMPS) – Digital Advanced Mobile Phone Service. Cordless Telephony Standards: - Personal Access Communication Standards (PACS) – EIA/TIA IS-136-EIA TIA IS – 95 Standards – Digital European Cordless Telephone (DECT) – Personal Handy Phone System (PHS) – IEEE 802.11 - Other Standards – Handoff Techniques - Handoff Detection and Assignment – Types of Handoff – Mobile controlled Handoff – Network controlled Handoff – Mobile Assisted handoff – Radio Link Transfer – Roaming Management – Connection to Public Telephone Network – Connection from Mobile Unit to a Fixer User, Cellular. System Spectrum: Adaptive channel allocation – Frequency Division – Spectrum Utilization – Channel Reservation for Handoff Calls – Control Channels – Channel Assignment Methods – Channel Borrowing and Sharing – Non – Fixed Assignment Methods – Permanent Cell Splitting – Temporary Cell Splitting. (12 L)

UNIT I INTRODUCTIONCOrdless Mobile Communication System: Cordless Telephone
Home – Multichannel Cordless Telephone System – Wireless Private Box Exchange History
of Data networks – Classification of Mobile Data Networks – Independent Data networks –
Shared Mobile Data – Overlay Mobile Data – Cellular Digital Part data (CDPD) System –
Architecture of CDPD – Satellite Classification – Earth Orbit Satellites – Medium Earth
Orbit Satellite, Low Earth Orbit Global Satellite Communication. Changeover from One
Satellite to Requirements of Global Mobile Communication - Global User Number –
Configuration – Third Generation Global Mobile System Satellite System for mobility. (12
L)

UNIT IV INTERFERENCES Interferences in Cellular Mobile Communication: Nature of Co- Channel Interference – Measurement of Co- Channel Interference - Measurement of Co- Channel Interference with mobile Unit – Frequency Reuse - Co- Channel Interference Omni directional Radiation – directional Antennas for Co- Channel Interference Reduction – Other Methods of Co- Channel Reduction – Non-Co- Channel Interference – Measurement of Signal to Noise and Distortion Ratio (SINAD) – Design Objective – Basic Specification - Co- Channel Interference Reduction Factor – Adjacent Channel Interference – Propagation Attenuation – Fading – Factors to be Considered at the Base Station – Working of Mobile IP – Wireless Threads – Authentication and Access control –to Communication – Anonymity – Security Arrangement in CDMA – Security of Wireless Data Networks. (12 L) Secrecy

UNIT V WIRELESS LOCAL LOOP ARCHITECTURE Components in Will —
Problems in WLL — Modern Wireless Local Loop — Local Multipoint Distribution Service
(LMDS) - Properties of WAP — Beater Services — Wireless Datagram Protocol (WDP) —
Wireless Transport Layer Security (WTLS) — WAP Transaction Protocol (WTP) Wireless
Session Protocol (WSP) Wireless Application Environment (WAE) — Components
Integration — Bearer Adaptation — WAP Client Supporting Networks — System Description —
Advantages of Microcellular — Layout of the Optical Fiber Microcellular Communication
System — Need for Ad hoc Networks — MANET and Technical Factors Affecting Ad hoc
Network - Ad hoc Nodes System Description — Routing in Ad hoc Network — Bluetooth
Technology — Limitation on the Bluetooth Physical Layer — Types of Intelligent Cells —
Power Delivery Intelligent Cells — Processing Gain Intelligent Cells — User Controlled

Services – Reconfigurable Technology – Vision of 4G-4G Mobile System Convergence. (12 L)

| Hour | Class Schedule | |
|-----------|--------------------------------------------------------------------------|--|
| allotment | Class Schedule | |
| unouncil | odd Semester Begin on 18.06.2014 | |
| 1-L1 | UNIT I:INTRODUCTION Mobile Communication | |
| 2-L2 | Need for Mobile Communication. | |
| 3- L3 | Requirements of Mobile Communication. | |
| 4-L4 | History of Mobile Communication. | |
| 5-L5 | Properties of wireless medium. | |
| 6-L6 | Radio Propagation. | |
| 7-L7 | Propagation Coverage Calculation | |
| 8- P1 | Welcoming of First year and Inauguration of BCAAssociation | |
| 9- L8 | Introduction to Cellular Mobile Communication. | |
| 10- L9 | Cellular Structure. | |
| 11-L10 | Frequency Reuse. | |
| 12-L11 | System Architecture | |
| 13-L12 | Authentication Centre (AUC) | |
| 14-L13 | Home Location Register (HLR). | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(30.07.2014) | |
| 16-L15 | UNIT II: INTRODUCTION Mobile communication Standards. | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | First generation Wireless Networks. | |
| 19-L17 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Second generation Wireless System. | |
| 21- L19 | Third generation and Beyond Wireless system. | |
| 22- P2 | College level meeting/Cell function | |
| 23-L20 | Implementation Organization | |
| 24-L21 | Regional Organization. | |
| 25-L22 | Global Organization. | |
| 26-L23 | Global System for Mobile communication (GSM). | |
| 27-L24 | GSM Architecture. | |
| 28-L25 | Advanced Mobile Phone Service (AMPS). | |
| 29-L26 | Digital Advanced Mobile Phone Service. | |
| 30-L27 | Telephony Standards. | |
| 31-L28 | Personal Access Communication Standards (PACS),TIA IS-136-EIA TIA IS, 95 | |
| | Standards. | |
| 32-L29 | Digital European Cordless Telephone (DECT). | |
| 33-L30 | Personal Handy Phone System (PHS). | |
| 34- P3 | Department Seminar | |

| 35-L31 | UNIT III INTRODUCTION | |
|-----------|-------------------------------------------------------------------------------|--|
| 36-L32 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(18.08.2014) | |
| 37- L33 | Cordless Telephone Home. | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | Multichannel Cordless Telephone System. | |
| 40-L35 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Global User Number, Configuration, Third Generation Global Mobile System | |
| | Satellite System for mobility. | |
| 42- L37 | UNIT IV INTERFERENCES Interferences in Cellular Mobile | |
| | Communication: Nature of Co, Channel Interference ,Measurement of Co- | |
| | Channel Interference | |
| 43- L38 | Frequency Reuse ,Co- Channel Interference Omni directional Radiation | |
| | directional Antennas for Co. | |
| 44- P4 | College level meeting/ function | |
| 45-L39 | Channel Interference Reduction ,Other Methods of Co,Channel Reduction ,Non- | |
| | Co- Channel Interference. | |
| 46-L40 | Adjacent Channel Interference ,Propagation Attenuation ,Fading ,Factors to be | |
| | Considered . | |
| 47-L41 | Working of Mobile IP, Wireless Threads, Authentication and Access control –to | |
| | Communication. | |
| 48-L42 | UNIT V WIRELESS LOCAL LOOP ARCHITECTURE Components in | |
| | Will, Problems in WLL, Modern Wireless Local Loop. | |
| 49-L43 | Advantages of Microcellular, Layout of the Optical Fiber Microcellular | |
| | Communication System. | |
| 50-L44 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(15.09.2014) | |
| 51 L45 | Need for Ad hoc Networks ,MANET and Technical Factors Affecting Ad hoc | |
| | Network -,Ad hoc Nodes System Description | |
| 52- L46 | Limitation on the Bluetooth Physical Layer ,Types of Intelligent Cells | |
| 53-IT-III | Internal Test-III | |
| 54-L47 | Reconfigurable Technology ,Vision of 4G,4G Mobile System Convergence. | |
| 55-L48 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 56- MT | Model Test begins(24.10.14) | |
| 57-MT | Model Test | |
| 58-MT | Model Test | |
| 59- L49 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 60-L50 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 31.10.2014 | |

| Learning Outcomes | COs of the course " <mobile communication="">"</mobile> |
|-------------------|----------------------------------------------------------------|
| CO1 | Channel Interference Reduction ,Other Methods of Co,Channel |

| | Reduction ,Non-Co- Channel Interference. |
|-----------------------|------------------------------------------------------------------|
| CO2 | Authentication Centre (AUC) |
| CO3 | GSM Architecture |
| Experimental Learning | |
| EL1 | Properties of wireless medium. |
| EL2 | Channel Interference Reduction ,Other Methods of Co,Channel |
| | Reduction ,Non-Co- Channel Interference |
| Integrated Activity | |
| IA1 | Adjacent Channel Interference ,Propagation Attenuation ,Fading |
| | ,Factors to be Considered . |
| IA2 | Limitation on the Bluetooth Physical Layer ,Types of Intelligent |
| | Cells |

Blended Learning : using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for higher study.

For slow learner : special care taken, motivate the advanced learner to support the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2014-2015)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|--------------------|
| Course Name | Programming in C |
| Course Code | GMCA11 |
| Class | I year (2014-2015) |
| Semester | Odd |
| Staff Name | Mr.K.Appasamy |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > Importance of C
- Decision making and looping
- User defined functions
- > Arrays

Syllabus

Programming in C

Unit I Overview of C: Introduction- Importance of C - Sample C Programs - Basic structure of C - Executing C program **Constant, variables and data types:** Introduction- Character set - tokens – keywords and identifiers – constants – variables- data types –declaration of variables – assigning values of variables. **Operators and expressions:** Introduction – arithmetic of operations-relational operator – assignment operator – increment and decrement operator – conditional operator – bitwise operator – special operator – evaluation of expressions – precedence of arithmetic operators – type conversion in expression- operator precedence and associatively-mathematical functions

Unit II Managing input and output operators: Introduction: Reading a character- writing a character – formatted input – formatted output **Decision making and branching:** Introduction – decision making with IF statement- simple IF statement – The IF ELSE statement- nesting of IF –

ELSE statement –ELSE IF ladders- The switch statement – The?: operators – The GOTO statement **Decision making and looping:** The While statement – The Do statement – The for statement- Jump in loops

Unit III Arrays: One dimensional arrays – two dimensional arrays -Initializing two dimensional arrays – multi dimensional arrays Page **4** of **12**

Handling of character strings: Introduction: declaring and Initializing string variables- Reading string from terminal- writing string to screen – arithmetic operation on characters – putting strings together – comparison of two strings together – string handling functions

Unit IV User defined functions: Introduction – need for user- define functions- A multi- function program – The form of C functions- return values and their types – calling a function- category of function – no argument and no return values – argument with no return values –argument with return values – handling of non integer functions – nesting of functions – recursion – function with arrays – the scope and life time of variables in functions.

Unit V Pointers Introduction: understanding pointers – accessing the address of variables – declaring and initializing pointers – accessing a variable through its pointer – pointer expressions – pointer increments and scale factor – pointers and character strings – pointers and functions – points on pointer.

TOTAL: 60 HOURS Text Book: Programming in ANSI C – By E.Balagurusamy, Tata McGraw-Hill Publishing Company Reference Book: Programming with ANSI and TURBO C – by Ashok N. Kamthane

| Hour allotment | Class Schedule |
|-------------------|-----------------------------------------------------------------------------------|
| | Odd Semester Begin on 18.06.2014 |
| 1-L1 | Introduction- Importance of C, Sample C Programs |
| 2-L2 | Basic structure of C, Executing C program |
| 3- L3 | Executing C program |
| 4-L4 | Constant, variables and data types: Introduction |
| 5-L5 | Character set, tokens , keywords and identifiers |
| 6-L6 | constants ,variables, data types |
| 7-L7 | declaration of variables , assigning values of variables. |
| 8- P1 | Welcoming of First year and Inauguration of BCAAssociation |
| 9- L8 | Operators and expressions: Introduction , arithmetic of operations |
| 10- L9 | relational operator ,assignment operator ,increment and decrement operator |
| 11-L10 | conditional operator ,bitwise operator ,special operator |
| 12-L11 | evaluation of expressions, precedence of arithmetic operators ,type conversion in |
| 13-L12 | expression Type conversion in expression, operator presedence and |
| 13-L12 | Type conversion in expression ,operator precedence and |
| 14 1 12 | associatively, mathematical functions |
| 14-L13 | Unit II Managing input and output operators: Introduction: Reading a character |

| 15-L14 | Allotting portion for Internal Test-I |
|----------------------|--------------------------------------------------------------------------------------------------|
| 13-1214 | Internal Test I begins(30.07.2014) |
| 16-L15 | writing a character , formatted input, formatted output |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Decision making and branching: Introduction – decision making with IF statement |
| 19-L17 | - Test Paper distribution and result analysis |
| 1) 21, | Entering Internal Test-I Marks into University portal |
| 20-L18 | simple IF statement ,The IF ELSE statement, nesting of IF –ELSE statement |
| 21- L19 | ELSE IF ladders |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | The switch statement, The?: operators |
| 24-L21 | The GOTO statement |
| 25-L22 | Decision making and looping: The While statement |
| 26-L23 | – The Do statement, The for statement- Jump in loops |
| 27-L24 | Unit III Arrays: One dimensional arrays , two dimensional arrays , |
| 28-L25 | Initializing two dimensional arrays ,multi dimensional arrays |
| 29-L26 | Handling of character strings: Introduction: declaring and Initializing string variables |
| 30-L27 | Reading string from terminal, writing string to screen, arithmetic operation on characters |
| 31-L28 | putting strings together, comparison of two strings together, multi dimensional arrays |
| 32-L29 | string handling functions, Unit IV User defined functions: Introduction |
| 33-L30 | need for user- define functions, A multi- function program |
| 34- P3 | Department Seminar |
| 35-L31 | The form of C functions, return values and their types, calling a function, category of function |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(18.08.2014) |
| 37- L33 | no argument and no return values |
| 38- IT-II | Internal Test-II |
| 39-L34 | argument with no return values, argument with return values |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | handling of non integer functions , nesting of functions, |
| 42- L37 | recursion , function with arrays , the scope and life time of variables in functions. |
| 43- L38 | Unit V Pointers Introduction: understanding pointers |
| 44- P4 | College level meeting/ function |
| 45-L39 | understanding pointers |
| 46-L40 | accessing the address of variables ,declaring and initializing pointers |
| 47-L41 | accessing a variable through its pointer |
| 48-L42 | pointer expressions |
| 49-L43 | pointer increments and scale factor |
| 50-L44 | - Allotting portion for Internal Test-III |
| F4 T 1 = | Internal Test III begins(15.09.2014) |
| 51 L45 | pointers and character strings |
| 52- L46 53-IT-III | pointers and functions Internal Test-III |
| - 5 2 PP 111 | Internal Test-III |

| 54-L47 | points on pointer. |
|---------|---------------------------------------------------------------------------|
| | |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(24.10.14) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 31.10.2014 |

| Learning Outcomes | COs of the course " <programming c="" in="">"</programming> | |
|----------------------------|--------------------------------------------------------------------|--|
| | | |
| CO1 | Basic structure of C, Executing C program | |
| CO2 | The form of C functions, return values and their types , calling a | |
| | function,category of function | |
| CO3 | pointer expressions | |
| Experimental | | |
| Learning | | |
| EL1 | accessing the address of variables ,declaring and initializing | |
| | pointers | |
| EL2 | pointer increments and scale factor | |
| Integrated Activity | 7 | |
| IA1 | understanding pointers – accessing the address of variables | |
| IA2 | Array-Various Dimensions | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2014-2015)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|-----------------------|
| Course Name | Java programming |
| Course Code | GMCA31 |
| Class | II year (2014-2015) |
| Semester | Odd |
| Staff Name | Mr.I.THOMAS JEBASINGH |
| Credits | 6 |
| L. Hours /P. Hours | 6 / WK |
| Total 90 Hrs/Sem | |
| Intomal Tast 2 III | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 80 Hrs (5 units; 5×16=80; 16Hrs /unit)

Course Objectives

- Wrapper classes
- Control structures
- Constructors and methods in throwable classes
- > File and I/O streams

Syllabus

UNIT -I Java language fundamentals: The building blocks of Java – Data types – Variable declarations – Wrapper classes – Operators and assignment – Control structures – Arrays – Strings.

UNIT- II Java as an OOP language: Defining classes – Modifiers – Packages – Interfaces **Exception handling:** Introduction – Basics of exception handling in JAVA – Exception hierarchy – Constructors and methods in throwable classes – Unchecked and checked exceptions – Handling Exceptions in Java

UNIT- III Multithreading: Creating threads – Thread life-cycle – Thread priorities and thread scheduling – Thread synchronization. File and I/O streams: Java I/O – File streams – File Input Stream and File Output Stream – Filter streams

UNIT- IV Applets: Java applications versus Java applets – Applet Life-cycle – working with applets – the HTML APPLET tag. Database handling using JDBC: JDBC architecture – working with JDBC – Processing queries – Transaction commit and Rollback – Handling exceptions – Accessing Metadata

UNIT- V The Abstract Window Toolkit: Basic classes in AWT – Drawing with graphics class – Class hierarchy of AWT – Event handling – AWT controls – Layout managers.

| Hour | Class Schedule | |
|-----------|------------------------------------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 18.06.2014 | |
| 1-L1 | UNIT -I Java language fundamentals | |
| 2-L2 | Data types | |
| 3- L3 | Variable declarations | |
| 4-L4 | Wrapper classes | |
| 5-L5 | Operators and assignment | |
| 6-L6 | Control structures | |
| 7-L7 | Arrays | |
| 8-L8 | Strings | |
| 9-L9 | UNIT- II Java as an OOP language: Defining classes | |
| 10-P1 | Welcoming of First year and Inauguration of BCAAssociation | |
| 11-L10 | Modifiers | |
| 12-L11 | Interfaces | |
| 13-L12 | Exception handling: Introduction | |
| 14-L13 | Basics of exception handling in JAVA | |
| 15-L14 | Exception hierarchy | |
| 16-L15 | Constructors and methods in throwable classes | |
| 17-L16 | Unchecked and checked exceptions | |
| 18-L17 | Handling | |
| 19-L18 | Exceptions in Java | |
| 20-L19 | UNIT- III Multithreading: Creating threads | |
| 21-L20 | Thread life-cycle | |
| 22-L21 | Thread priorities | |
| 23-L22 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(30.07.2014) | |
| 24-L23 | thread scheduling | |
| 25-L24 | Thread synchronization | |
| 26-IT-1 | Internal Test-I | |
| 27-L25 | File and I/O streams | |
| 28-L26 | Java I/O – File streams | |
| 29-L27 | File Input Stream and File Output Stream | |
| 30-L28 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 31- L29 | Filter streams | |

| 32- L30 | UNIT- IV Applets: Java applications versus Java applets | |
|--------------------|-----------------------------------------------------------|--|
| 33- L31 | Applet Life-cycle | |
| 34-P2 | College level meeting/Cell function | |
| 35- L32 | Thread priorities and thread scheduling | |
| 36- L33 | - Thread synchronization | |
| 37- L34 | File and I/O streams | |
| 38- L35 | Java I/O – File streams | |
| 39- L36 | File Input Stream and File Output Stream | |
| 40- L37 | Filter streams | |
| 41- L38 | UNIT- IV Applets: Java applications versus Java applets | |
| 42- L39 | Applet Life-cycle | |
| 43- L40 | working with applets | |
| 44- L41 | the HTML APPLET tag | |
| 45- L42 | Database handling using JDBC | |
| 46- L43 | JDBC architecture | |
| 47- L44 | working with JDBC | |
| 48- L45 | Processing queries | |
| 49- L46 | Transaction commit and Rollback | |
| 50- L47 | – Handling exceptions | |
| 51- P3 | Department Seminar | |
| 52- L48 | Accessing Metadata | |
| 53- L49 | UNIT- V The Abstract Window Toolkit: Basic classes in AWT | |
| 54- L50 | Drawing with graphics class | |
| 55- L51 | Class hierarchy of AWT | |
| 56-L52 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(18.08.2014) | |
| 57-L53 | Event handling | |
| 58-L54 | AWT controls | |
| 59-IT-II | Internal Test-II | |
| 60- L55 | Layout managers. | |
| 61- L56 | Test Paper distribution and result analysis | |
| 60 X 55 | Entering Internal Test-II Marks into University portal | |
| 62- L57 | Literals | |
| 63- L58 | Applet skeleton | |
| 64- L59 | audio clip interface | |
| 65- L60 | applet display method | |
| 66- L61 67- L62 | Event handling mechanism AWT classes | |
| 68- L63 | Aw I classes Applet basics | |
| 69- L64 | event handling mechanisms | |
| 70- L65 | Bars and menus | |
| 70- L65 71- L66 | Understanding layout managers | |
| 71- L60 72- L67 | Inter thread communication | |
| 73- L68 | Java thread model | |
| 74-P4 | College level meeting/ function | |
| 75- L69 | writing console output | |
| 76- L70 | the printwriter class | |
| 77- L71 | using object as parameters | |
| | i υ j ''' ['' ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' | |

| 78- L72 | Argument passing | |
|-----------|---------------------------------------------------------------------------|--|
| 79- L73 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(15.09.2014) | |
| 80- L74 | Creating multiple threads | |
| 81- L75 | multiple catch clauses | |
| 82-IT-III | Internal Test-III | |
| 83- L76 | Stack class | |
| 84- L77 | Test Paper distribution and result analysis | |
| 85- L78 | Try and catch | |
| | Entering Internal Test-III Marks into University portal | |
| 86- L79 | Model Test begins(24.10.14) | |
| 87-MT | Model Test | |
| 88-MT | Model Test | |
| 89-MT | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 90-L-80 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 31.10.2014 | |

| Learning Outcomes | COs of the course " <java programming="">"</java> |
|--------------------------|---------------------------------------------------|
| | |
| CO1 | audio clip interface |
| CO2 | event handling mechanisms |
| CO3 | Bars and menus |
| Experimental | |
| Learning | |
| EL1 | AWT classes |
| EL2 | Thread synchronization |
| EL3 | audio clip interface |
| Integrated Activity | |
| IA1 | Inter thread communication |
| IA2 | using object as parameters |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2015-2016)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|---------------------|----------------------|
| Course Name | FINANCIAL ACCOUNTING |
| Course Code | GMCA32 |
| Class | II year (2015-2016) |
| Semester | Odd |
| Staff Name | Mr.B.EDWARD DANIEL |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |

College Meetings-2 Hrs Remaining 50Hrs (5 un

Dept. Meetings-2 Hrs

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To impart basic accounting knowledge
- > To provide knowledge on the fundamental of financial accounting.
- > To expose the student to various financial transaction and its current applications.

Syllabus

UNIT I BASIC CONCEPTS OF ACCOUNTING

Introduction to Accounting: Need for Accounting –Accounting as the language of business – Attributes and steps of Accounting –Book keeping Vs Accounting – Branches of Accounting – Methods of Accounting – Types of Accounting – Accounting Rules - Bases of Accounting – Accounting terminology. Basic Accounting Concepts: Meaning and classification of Accounting-Accounting Concepts – Accounting Conversion – Accounting equations. (10 L)

UNIT II JOURNAL AND LEDGER

Recording a Financial Data: Memorandum Book, business transaction, Journal, Rules for Debit and Credit, Compound Journal entry, Advantages of Journal, Ledger, Ledger Account,

Ledger Posting, Process of Posting, Balancing of An Account, Significance of Balances, Relation between Journal and edger-Subsidiary Books. (15 L)

UNIT III PREPARING TRIAL BALANCE

Trial Balance: Objects, Methods of Preparing Trial balance, how to locate errors, hints for the preparation of trial balance & problems. (11 L)

UNIT IV FINAL ACCOUNTS

Trading account – individual items posted to the debit of trading account – individual items credited to trading account – advantages of trading account – profit & loss account - advantages of profit & loss account - manufacturing account- balance sheet- classification of assets & liabilities. (12 L)

UNIT V ACCOUNTS FOR NON PROFIT ORGANISATION

Introduction – Final accounts of no trading concern- receipts and payments account – featuresincome& expenditure account – feature- distinction between the two – treatment of special items – some important adjustments – types of problems – Distinction between income and expenditure account and profit and loss account – accounts of professional men.

| Hour | Class Schedule | |
|-----------|------------------------------------------|--|
| allotment | 0.110 | |
| | Odd Semester Begin on 18.06.2015 | |
| 1-L1 | UNIT I BASIC CONCEPTS OF ACCOUNTING | |
| | Introduction to Accounting | |
| 2-L2 | Need for Accounting | |
| 3- L3 | Accounting as the language of business | |
| 4-L4 | Attributes and steps of Accounting | |
| 5-L5 | Book keeping Vs Accounting | |
| 6-L6 | Branches of Accounting | |
| 7-L7 | Methods of Accounting | |
| 8- P1 | Welcoming of First year and Inauguration | |
| 9- L8 | Types of Accounting | |
| 10- L9 | Accounting Rules | |
| 11-L10 | Bases of Accounting | |
| 12-L11 | Accounting terminology | |
| 13-L12 | Basic Accounting Concepts | |
| 14-L13 | Meaning and classification of Accounting | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(30.07.2014) | |
| 16-L15 | Accounting Concepts | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Accounting Conversion | |

| 19-L17 | Test Paper distribution and result analysis |
|---------------------|-------------------------------------------------------------------------|
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | Accounting equations. |
| 21- L19 | UNIT II JOURNAL AND LEDGER |
| | Recording a Financial Data |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | Memorandum Book |
| 24-L21 | business transaction |
| 25-L22 | Journals |
| 26-L23 | Rules for Debit and Credit |
| 27-L24 | Compound Journal entry, |
| 28-L25 | Advantages of Journal |
| 29-L26 | Ledger Account |
| 30-L27 | Ledger Posting |
| 31-L28 | Process of Posting |
| 32-L29 | Balancing of An Account, |
| 33-L30 | Significance of Balances, |
| 34- P3 | Department Seminar |
| 35-L31 | Relation between Journal and Ledger |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(18.08.2014) |
| 37- L33 | Subsidiary Books. |
| 38- IT-II | Internal Test-II |
| 39-L34 | UNIT III PREPARING TRIAL BALANCE |
| 10.7.07 | Trial Balance |
| 40-L35 | Test Paper distribution and result analysis |
| 41.1.26 | Entering Internal Test-II Marks into University portal |
| 41-L36 | Methods of Preparing Trial balance |
| 42- L37 | how to locate errors |
| 43- L38 | hints for the preparation of trial balance |
| 44- P4 | College level meeting/ function |
| 45-L39 | Problems LINET IV FINAL ACCOUNTS |
| 46-L40 | UNIT IV FINAL ACCOUNTS |
| 47-L41 | Trading account individual items posted to the debit of trading account |
| 47-L41 48-L42 | individual items credited to trading account |
| 49-L43 | advantages of trading account |
| 50-L44 | - Allotting portion for Internal Test-III |
| 30-L/ 11 | Internal Test III begins(15.09.2014) |
| 51 L45 | profit & loss account |
| 52- L46 | Advantage of profit |
| 53-IT-III | Internal Test-III |
| 54-L47 | loss account |
| 55-L48 | - Test Paper distribution and result analysis |
| 33 140 | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(24.10.14) |
| 57-MT | Model Test Model Test |
| 58-MT | Model Test |
| 20 1111 | ATACMOS A COV |

| 59- L49 | Model test paper distribution and previous year university question paper | |
|---------|---------------------------------------------------------------------------|--|
| | discussion | |
| 60-L50 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 29.10.2015 | |

| Learning Outcomes | COs of the course " <financial accounting="">"</financial> | |
|----------------------------|------------------------------------------------------------|--|
| | | |
| CO1 | Process of Posting | |
| CO2 | individual items posted to the debit of trading account | |
| CO3 | advantages of trading account | |
| Experimental | | |
| Learning | | |
| EL1 | Business transaction, Journal, Rules for Debit and Credit, | |
| | Compound Journal entry | |
| EL2 | Significance of Balances | |
| Integrated Activity | | |
| IA1 | Final accounts of no trading concern | |
| IA2 | manufacturing account | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|---------------------|-----------------------|
| Course Name | Software Engineering |
| Course Code | GMCA51 |
| Class | III year (2014-2015) |
| Semester | odd |
| Staff Name | MR.I.Thomas Jebasingh |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| Internal Test-3 Hrs | |
| M 11T (211 | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- To study the need and nature of mobile applications.
- To learn the tools and platforms required for mobile applications.
- To understand the design issues in mobile applications.

Syllabus

UNIT I SOFTWARE AND SOFTWARE ENGINEERING The Nature of Software – The Nature of Software? The Nature of Software – Stack holders in Software engineering – Activities common to Software projects – Difficult and risk in software engineering as a whole. Review of Object Orientation: What is object orientation/ - Classes and objects – Instance variables – Methods, Operations and Polymorphism – Concepts best define object orientation – Difficulties and risks in programming language choice and object – oriented programming. (12 L)
UNIT II DEVELOPING REQUIREMENTS Domain analysis – The starting point for software projects – Defining the problem and the scope – What is a requirement? – Types of

requirements – Some techniques for gathering and analyzing requirements – Managing changing requirements – Difficulties and risks in domain and requirements analysis. (12 L) UNIT III MODELING WITH CLASSES What is UML? – Essentials of UML class diagrams – Associations and Multiplicity – Generalization – Instance diagrams – More advanced features of class diagrams. Modeling Interactions and Behavior: Interaction diagram – State diagrams – Activity diagrams. (12 L)

UNIT IV ARCHITECTING AND DESIGNING SOFTWARE The process of design – Principles leading to good design – Techniques for making good design decisions – Software architecture – Architectural patterns – Writing a good designing document. (12 L)

UNIT V TESTING AND INSPECTING TO ENSURE HIGH QUALITY Basic definitions – Effective and efficient testing – Defects in ordinary Algorithms – Defects in numerical algorithms – Defects in timing and co-ordination. Managing the Software Process: What is project management? – Software process models – Cost estimation – building software engineering teams – Project scheduling and tracking. Course Calendar

| Hour | Class Schedule | | |
|-----------|------------------------------------------------------------------------------|--|--|
| allotment | | | |
| | Odd Semester Begin on 18.06.2014 | | |
| 1-L1 | UNIT I SOFTWARE AND SOFTWARE ENGINEERING: The Nature | | |
| | of Software | | |
| 2-L2 | Stack holders in Software engineering | | |
| 3- L3 | Activities common to Software projects | | |
| 4-L4 | Difficult and risk in software engineering as a whole. Review of Object | | |
| | Orientation | | |
| 5-L5 | What is object orientation. | | |
| 6-L6 | Classes and objects | | |
| 7-L7 | Instance variables. | | |
| 8- P1 | Methods, Operations and | | |
| 9- L8 | Concepts best define object orientation. | | |
| 10- L9 | Difficulties and risks in programming language choice and object | | |
| 11-L10 | Polymorphism. | | |
| 12-L11 | oriented programming. | | |
| 13-L12 | UNIT II DEVELOPING REQUIREMENTS Domain analysis | | |
| 14-L13 | The starting point for software projects ,Defining the problem and the scope | | |
| 15-L14 | Allotting portion for Internal Test-I | | |
| | Internal Test I begins(30.07.2014) | | |
| 16-L15 | What is a requirement | | |
| 17-IT-1 | Internal Test-I | | |
| 18-L16 | Some techniques for gathering | | |
| 19-L17 | Test Paper distribution and result analysis | | |
| | Entering Internal Test-I Marks into University portal | | |
| 20-L18 | Types of requirements | | |
| 21- L19 | and analyzing requirements | | |
| 22- P2 | College level meeting/ | | |
| 23-L20 | Managing changing requirements | | |
| 24-L21 | Difficulties and risks in domain | | |
| 25-L22 | Cell function | | |
| 26-L23 | analysis and requirements | | |

| 27-L24 | UNIT III MODELING WITH CLASSES What is UML | |
|----------------------------------------------------|----------------------------------------------------------------------------------------|--|
| 28-L25 | Essentials of UML class diagrams. | |
| 29-L26 | Associations and Multiplicity | |
| 30-L27 | Generalization | |
| 31-L28 | Instance diagrams | |
| 32-L29 | More advanced features of class diagrams. | |
| 33-L30 | Modeling Interactions and Behavior | |
| 34- P3 | Interaction diagram | |
| 35-L31 | State diagrams ,Activity diagrams. | |
| 36-L32 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(18.08.2014) | |
| 37- L33 | | |
| | of design: | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | – Principles leading to good design | |
| 40-L35 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Techniques for making good design decisions | |
| 42- L37 | Software architecture | |
| 43- L38 | Architectural patterns. | |
| 44- P4 | Writing a good designing document | |
| 45-L39 | UNIT V TESTING AND INSPECTING TO ENSURE HIGH QUALITY | |
| | Basic definitions. | |
| 46-L40 | Effective and efficient testing | |
| 47-L41 | Defects in ordinary Algorithms | |
| 48-L42 | Defects in numerical algorithms | |
| 49-L43 | Managing the Software Process | |
| 50-L44 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(15.09.2014) | |
| 51 L45 | Software process models | |
| 52- L46 | Cost estimation ,building software engineering teams | |
| 53-IT-III | Internal Test-III | |
| 54-L47 | Project scheduling and tracking. | |
| 55-L48 Test Paper distribution and result analysis | | |
| | Entering Internal Test-III Marks into University portal | |
| 56- MT | Model Test begins(24.10.14) | |
| 57-MT | Model Test | |
| 58-MT | Model Test | |
| 59- L49 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| | | |
| 60-L50 | Feedback of the Course, analysis and report preparation Last Working day on 31.10.2014 | |

| Learning Outcomes | Software Engineering |
|-------------------|--------------------------------|
| CO1 | Defects in ordinary Algorithms |

| CO2 | Software process models |
|-----------------------|---------------------------------------------|
| CO3 | Techniques for making good design decisions |
| CO4 | Concepts best define object orientation |
| Experimental Learning | |
| EL1 | Instance diagrams |
| EL2 | Classes and objects |
| Integrated Activity | |
| IA1 | Software process models |
| IA2 | Techniques for making good design decisions |

Blended Learning : using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for higher study.

For slow learner : special care taken, motivate the advanced learner to support the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2014-2015)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|---------------------|---------------------|
| Course Name | WEB TECHNOLOGY |
| Course Code | GMCA52 |
| Class | III YEAR(2014-2015) |
| Semester | Odd |
| Staff Name | MRS.G.PRISKILLAL |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |
| Total 75 Hrs/Sem | |
| Internal Test-3 Hrs | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 65 Hrs (5 units; 5×13=65; 13Hrs /unit)

Course Objectives

- To provide the conceptual and technological developments in the field of Internet and web designing with the emphasis on comprehensive knowledge of Internet, Describe the basic concepts for network implementation.
- To learn the basic working scheme of the Internet and World Wide Web.
- Understand fundamental tools and technologies for web design

Syllabus

UNIT I INTRODUCTION TO THE WEB Understanding the Internet and World Wide Web - History of the Web - Protocols Governing the Web - Creating Websites for Individuals and the Corporate World – Web Applications – Writing Web projects – Identification of Objects – Target Users – Web Team – Planning and Process Development – Web Architecture -Internet Standards - TCP/IP Protocol Suite - IP Address - MIME -Cyber Laws. Hyper Text Transfer Protocol (HTTP): Introduction – Web servers and clients – Resources – URL and its Anatomy – Message Format. (14 L)

UNIT II HYPER TEXT MARKUP LANGUAGE (HTML) History of HTML and W3C – HTML and its Flavors - HTML Basics - Elements, Attributes, and Tags - Basic Tags -Advanced Tags – Frames. (UNIT III JAVA SCRIPT Introduction – Variables – Literals – Operators – Control Structure – Conditional statements – Arrays – Functions – Objects. (10 L)

UNIT IV EXTENSIBLE MARKUP LANGUAGE (XML) Common Usage – Role of XML – Prolog – Body – Elements – Attributes – Validation – Displaying XML – Namespace.XML DTD: XML Schema Languages– Validation – Introduction to DTD– Purpose of DTD – Using a DTD in an XML Document. (12 L)

UNIT V COMMON GATEWAY INTERFACE (CGI) Internet Programming Paradigm – Server – side Programming – Languages for CGI – Applications – Server Environment – Environment Variables – CGI Building Blocks – CGI Scripting Using C, Shell Script – Writing CGI programs – CGI Security – Alternatives and Enhancements to CGI. Servlet: Server – Side Java – Advantages Over Applets - Servlet Alternatives – Servlet Strength – Servlet Architecture – Servlet Life Cycle. (12 L)

| Hour | Class Schedule |
|-----------|-------------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 18.06.2014 |
| 1-L1 | UNIT I INTRODUCTION TO THE WEB Understanding the Internet and |
| | World Wide Web |
| 2-L2 | History of the Web |
| 3- L3 | Protocols Governing the Web |
| 4-L4 | Creating Websites for Individuals and the Corporate World |
| 5-L5 | Web Applications |
| 6-L6 | Writing Web projects |
| 7-L7 | - Identification of Objects |
| 8- P1 | Welcoming of First year and Inauguration of BCA Association |
| 9- L8 | Target Users |
| 10- L9 | Web Team |
| 11-L10 | Planning and Process Development |
| 12-L11 | Web Architecture |
| 13-L12 | Internet Standards |
| 14-L13 | TCP/IP Protocol Suite |
| 15-L14 | IP Address |
| 16-L15 | MIME – Cyber Laws. Hyper Text Transfer Protocol (HTTP) |
| 17- L16 | UNIT II HYPER TEXT MARKUP LANGUAGE (HTML) History of HTML and W3C |
| 18- L17 | HTML and its Flavors |
| 19- L18 | - HTML Basics |
| 20- L19 | – Elements, Attributes, and Tags |
| 21- L20 | Allotting portion for Internal Test-I |
| | Internal Test I begins(30.07.2014) |
| 22- L21 | Basic Tags |
| 23- IT-1 | Internal Test-I |
| 24- L22 | Advanced Tags |
| 25- L23 | Frames |
| 26- L24 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 27- L25 | UNIT III JAVA SCRIPT Introduction |

| 28- L26 | Variables |
|--------------------|------------------------------------------------------------|
| 29- L27 | Literals |
| 30- P2 | College level meeting/Cell function |
| 31-L28 | Operators. |
| 32-L29 | Control Structure |
| 33-L30 | Conditional statements |
| 34- L31 | Arrays |
| 35- L32 | Functions |
| 36- L33 | Objects |
| 37- L34 | UNIT IV EXTENSIBLE MARKUP LANGUAGE (XML) Common Usage |
| 38-L35 | Role of XML |
| 39- L36 | Prolog |
| 40- L37 | Body – Elements |
| 41- L38 | Attributes |
| 42-P3 | Department Seminar |
| 43- L39 | Validation |
| 44- L40 | Displaying xml |
| 45- L41 | Namespace.XML DTD |
| 46- L42 | XML Schema Languages |
| 47- L43 | Allotting portion for Internal Test-II |
| | Internal Test II begins(18.08.2014) |
| 48- L44 | introduction of DTD |
| 49-IT-II | Internal Test-II |
| 50-L45 | Purpose of DTD |
| 51- L46 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 52- L47 | UNIT V COMMON GATEWAY INTERFACE (CGI) Internet Programming |
| 52 I 40 | Paradigm |
| 53- L48 | Server side Program |
| 54- L49 55- L50 | Client side Programming Languages for CGI |
| | |
| 56- L51 57- L52 | Applications Server environment |
| 58- L53 | Environment Variables |
| 59-P4 | College level meeting/ function |
| 60- L54 | CGI Building Blocks |
| 61- L55 | CGI Scripting Using C |
| 62- L56 | Shell Script |
| 63- L57 | Writing CGI programs |
| 64- L58 | Allotting portion for Internal Test-III |
| | Internal Test III begins(15.09.2014) |
| 65- L59 | CGI Security |
| 66- L60 | Alternatives and Enhancements to CGI |
| 67-IT-III | Internal Test-III |
| 68- L61 | Servlet: Server |
| 69- L62 | Side Java |
| 70- L63 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |

| 71-MT | Model Test begins(24.10.14) |
|--------|---------------------------------------------------------------------------|
| 72-MT | Model Test |
| 73-MT | Model Test |
| 74-L64 | Model test paper distribution and previous year university question paper |
| | discussion |
| 75-L65 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 31.10.2014 |

| Learning Outcomes | WEB TECHNOLOGY |
|--------------------------|--------------------------------------------------------------------|
| | |
| CO1 | Employ fundamental computer theory to basic programming |
| | techniques. |
| CO2 | Use fundamental skills to maintain web server services required to |
| | host a website |
| CO3 | Select and apply markup languages for processing, identifying, and |
| | presenting of information in web pages |
| CO4 | Use scripting languages and web services to transfer data and add |
| | interactive components to web pages. |
| Experimental | |
| Learning | |
| EL1 | Languages for CGI |
| EL2 | Client Side Programming |
| EL3 | Server Side Scripting Language |
| EL4 | DHTML |
| Integrated Activity | |
| IA1 | XML |
| IA2 | Script Language-VB,JAVA |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2014-2015)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------------------------------------|--------------------------|
| Course Name | RDBMS |
| Course Code | GMCA63 |
| Class | III year (2014-2015) |
| Semester | Odd |
| Staff Name | MRS.A.BATHSHEBA PARIMALA |
| Credits | 6 |
| L. Hours /P. Hours | 6 / WK |
| Total 90 Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |
| Dept. Meetings-2 Hrs | |
| College Meetings-2 Hrs | |
| Remaining 80 Hrs (5 units; 5×16=80; 16Hrs /unit) | |

Course Objectives

- To understand relational database concepts and transaction management concepts in database system.
- To write PL/SQL programs that use: procedure, function, package, cursor and Exceptions.
- To Use current techniques and tools necessary for complex computing practices.

Syllabus

UNIT I AN OVERVIEW: PERSONAL DATABASES Client server databases – Oracle 9i An introduction – The SQL*Plus Environment – SQL – SQL*PLUS commands – Sample Databases. Oracle Tables; Naming rules and conventions – Data types – Constraints – Creating an Oracle table – Displaying table information's – Altering and exiting table – Dropping a table – Renaming a table – Truncating a table. (12 L)

UNIT II WORKING WITH TABLES DML statements – Arithmetic operations – Where clause – sorting – Define command – Built in functions – Grouping data. (10 L)

UNIT III MULTIPLE TABLES Joints – Set operators – Subquery – Top – N Analysis .Advanced features: Views – Subsequences – Synonyms – Index. (12 L)

UNIT IV PL/SQL: FUNDAMENTALS PL/SQL: FUNDAMENTALS – Block structure – Comments – Data types –Variable declaration – Anchored declaration – Assignment operation – Bind variables – Substitution Variables – Arithmetic operators. Structures in PL/SQL: Control structures – Nested blocks – SQL in PL/SQL DML in PL/SQL – Transaction Control Statement.(14L)

UNIT V PL/SQL CURSORS & EXCEPTIONS PL/SQL Cursors & Exceptions - PL/SQL Composite data types: Records, Tables and VARRAYS. (12L)

| Hour | Class Schedule | |
|-----------|------------------------------------------------------|--|
| allotment | Odd Semester Begin on 18.06.2014 | |
| 1-L1 | UNIT I AN OVERVIEW: PERSONAL DATABASES Client server | |
| 1-L1 | databases | |
| 2-L2 | Oracle 9i An introduction | |
| 3- L3 | The SQL*Plus Environment | |
| 4-L4 | SQL , SQL*PLUS commands | |
| 5-L5 | Sample Databases | |
| 6-L6 | Naming rules and conventions | |
| 7-L7 | Displaying table information's | |
| 8-L8 | Creating an Oracletable | |
| 9-L9 | Altering and exiting table | |
| 10-P1 | BCA Association | |
| 11-L10 | Dropping a table | |
| 12-L11 | Renaming a table | |
| 13-L12 | Truncating a table | |
| 14-L13 | UNIT II WORKING WITH TABLES | |
| 15-L14 | DML statements | |
| 16-L15 | Arithmetic operations | |
| 17-L16 | Where clause | |
| 18-L17 | Sorting | |
| 19-L18 | Define command | |
| 20-L19 | Built in functions | |
| 21-L20 | Single row functions | |
| 22-L21 | Character functions | |
| 23-L22 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(30.07.2014) | |
| 24-L23 | Grouping data | |
| 25-L24 | UNIT III MULTIPLE TABLES: —(12 L) | |
| 26-IT-1 | Internal Test-I | |
| 27-L25 | Joints | |
| 28-L26 | Set operators | |
| 29-L27 | Subquery | |
| 30-L28 | Test Paper distribution and result analysis | |

| | Entering Internal Test-I Marks into University portal |
|----------|--------------------------------------------------------|
| 31- L29 | Top |
| 32- L30 | N Analysis |
| 33- L31 | Advanced features |
| 34-P2 | College level meeting/Cell function |
| 35- L32 | Views |
| 36- L33 | Subsequences |
| 37- L34 | Synonyms |
| 38- L35 | Select,insert,delete |
| 39- L36 | Index |
| 40- L37 | UNIT IV PL/SQL: FUNDAMENTALS PL/SQL: FUNDAMENTALS |
| 41- L38 | Blockstructure |
| 42- L39 | Comments |
| 43- L40 | Data types |
| 44- L41 | Variable declaration |
| 45- L42 | Anchored declaration |
| 46- L43 | Assignment operation |
| 47- L44 | Substitution Variables |
| 48- L45 | Arithmetic operator |
| 49- L46 | Structures in PL/SQL |
| 50- L47 | Control structures |
| 51- P3 | Department Seminar |
| 52- L48 | Nested blocks |
| 53- L49 | SQL in PL/SQL DML in PL/SQL |
| 54- L50 | Transaction Control Statement |
| 55- L51 | UNIT V PL/SQL CURSORS & EXCEPTIONS |
| 56-L52 | Allotting portion for Internal Test-II |
| | Internal Test II begins(18.08.2014) |
| 57-L53 | PL/SQL Cursors |
| 58-L54 | Exceptions |
| 59-IT-II | Internal Test-II |
| 60- L55 | Types of expections |
| 61- L56 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 62- L57 | An error code |
| 63- L58 | A message |
| 64- L59 | Types of cursor |
| 65- L60 | Implicit cursor |
| 66- L61 | Explicit cursor |
| 67- L62 | Attributes |
| 68- L63 | %found |
| 69- L64 | %isopen |
| 70- L65 | %notfound |
| 71- L66 | %rowcount |
| 72- L67 | %bulk_rowcount |

| 73- L68 | %bulkexceptions |
|-----------|---------------------------------------------------------------------|
| 74-P4 | Declaring the cursor |
| 75- L69 | Opening the cursor |
| 76- L70 | Fetching the cursor |
| 77- L71 | Closing the cursor |
| 78- L72 | |
| 79- L73 | Allotting portion for Internal Test-III |
| | Internal Test III begins(15.09.2014) |
| 80- L74 | PL/SQL Composite data types |
| 81- L75 | Records |
| 82-IT-III | Internal Test-III |
| 83- L76 | Tables |
| 84- L77 | Test Paper distribution and result analysis |
| 85- L78 | VARRAYS |
| | Entering Internal Test-III Marks into University portal |
| 86- L79 | Model Test begins(24.10.14) |
| 87-MT | Model Test |
| 88-MT | Model Test |
| 89-MT | Model test paper distribution and previous year university question |
| | paper discussion |
| 90-L-80 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 31.10.2014 |

| Learning Outcomes | RDBMS |
|----------------------------|---------------------------------------|
| | |
| CO1 | Query-PL/SQL |
| CO2 | To gain the Knowledge about DataBases |
| CO3 | Cursor Concepts |
| CO4 | Trigger |
| CO5 | Operators |
| Experimental | |
| Learning | |
| EL1 | Trigger |
| EL2 | Cursor |
| EL3 | Conditional Constructs |
| EL4 | Decision Making |
| Integrated Activity | |
| IA1 | SQL in PL/SQL DML in PL/SQL |
| IA2 | Transaction Control Statement |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

St. John's College, Palayamkottai

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2015-2016)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|--------------------------|
| Course Name | Personality Development |
| Course Code | GCSB5A |
| Class | IIIyear (2015-2016) |
| Semester | Even |
| Staff Name | Mrs.A.BATHSHEBA PARIMALA |
| Credits | 2 |
| L. Hours /P. Hours | 2 / WK |
| | |

Total 30Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 20 Hrs (5 units; 5×4=20; 4Hrs /unit)

Course Objectives

- Personality Traits
- > Effective goal setting
- ➤ Measurement of Attitudes

Syllabus

UNIT -I

PERSONALITY - Definition – Determinants – Personality Traits – Theories of Personality – Importance of Personality Development. SELF AWARENESS – Meaning – Benefits of Self – Awareness – Developing Self – Awareness. SWOT – Meaning – Importance – Application – Components. GOAL SETTING Meaning- Importance – Effective goal setting – Principles of goal setting – Goal setting at the Right level.

UNIT - II

SELF MONITORING – Meaning – High self – monitor versus low self monitor – Advantages and Disadvantages self monitor- Self –monitoring and job performance. PERCEPTION- Definition- Factor influencing perception- Perception process –Errors in perception – Avoiding perceptual errors. ATTITUDE – Meaning- Formation of attitude – Types of attitude - Measurement of Attitudes – Barriers to attitude change – Methods to attitude change. ASSERTIVENESS - Meaning – Assertiveness in Communication – Assertiveness Techniques – Benefits of being Assertive – Improving Assertiveness.

UNIT - III

TEAM BUILDING – Meaning – Types of teams – Importance of Team building- Creating Effective Team. LEADERSHIP – Definition – Leadership style- Theories of leadership – Qualities of an Effect leader. NEGOTIATION SKILLS – Meaning – Principles of Negotiation – Types of Negotiation – The Negotiation Process – Common mistakes in Negotiation process. CONFLICT MANAGEMENT – Definition- Types of Conflict- Levels of Conflict – Conflict Resolution – Conflict management .

UNIT-IV

COMMUNICATION – Definition – Importance of communication – Process of communication - Communication Symbols – Communication network – Barriers in communication – Overcoming Communication Barriers. TRANSACTIONAL ANALYSIS – Meaning – EGO States – Types of Transactions – Johari Window- Life Positions. EMOTIONAL INTELLIGENCE- Meaning – Components of Emotional Intelligence-Significance of managing Emotional intelligence – How to develop Emotional Quotient. STRESS MANAGEMENT – Meaning – Sources of Stress – Symptoms of Stress – Consequences of Stress – Managing Stress

UNIT - V

SOCIAL GRACES – Meaning – Social Grace at Work – Acquiring Social Graces. TABLE MANNERS – Meaning – Table Etiquettes in Multicultural Environment- Do's and Don'ts of Table Etiquettes. DRESS CODE – Meaning- Dress Code for selected Occasions – Dress Code for an Interview. GROUP DISCUSSION – Meaning – Personality traits required for Group Discussion- Process of Group Discussion- Group Discusson Topics. INTERVIEW – Definition- Types of skills – Employer Expectations – Planning for the Interview – Interview Questions- Critical Interview Questions

| Hour | Class Schedule |
|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| allotment | T G |
| 1 7 1 | Even Semester Begin on 02.12.2015 |
| 1-L1 | UNIT -I PERSONALITY - Definition – Determinants – Personality Traits – |
| | Theories of Personality – Importance of Personality Development. SELF AWARENESS – Meaning – Benefits of Self – Awareness – Developing Self – |
| | Awareness Awareness |
| 2-L2 | SWOT – Meaning – Importance- Application – Components. GOAL SETTING |
| | Meaning- Importance – Effective goal setting – Principles of goal setting – Goal |
| | setting at the Right level. |
| 3- P1 | BCAAssociation |
| 4-L3 | UNIT – II SELF MONITORING – Meaning – High self – monitor versus low |
| | self monitor – Advantages and Disadvantages self monitor- Self –monitoring |
| | and job performance. PERCEPTION- Definition- Factor influencing perception- |
| | Perception process –Errors in perception – Avoiding perceptual errors. ATTITUDE |
| 5-L4 | - Allotting portion for Internal Test-I |
| | Internal Test I begins(25.01.2016) |
| 6-IT-I | Internal Test-I |
| 7-L5 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 8-L6 | Meaning- Formation of attitude – Types of attitude - Measurement of Attitudes |
| | - Barriers to attitude change - Methods to attitude change. ASSERTIVENESS - |
| | Meaning – Assertiveness in Communication – Assertiveness Techniques – |
| 9-L7 | Benefits of being Assertive – Improving Assertiveness UNIT – III |
|)-L1 | TEAM BUILDING – Meaning – Types of teams – Importance of Team |
| | building- Creating Effective Team. LEADERSHIP – Definition – Leadership |
| | style- Theories of leadership – Qualities of an Effect leader. NEGOTIATION |
| | SKILLS |
| 10-P2 | College level meeting/Cell function |
| 11-L8 | Meaning – Principles of Negotiation – Types of Negotiation – The Negotiation |
| | Process – Common mistakes in Negotiation process. CONFLICT |
| | MANAGEMENT – Definition- Types of Conflict- Levels of Conflict – Conflict |
| 12-L9 | Resolution – Conflict management . UNIT –IV COMMUNICATION – Definition – Importance of communication – |
| 12-13 | Process of communication - Communication Symbols - Communication |
| | network – Barriers in communication – Overcoming Communication Barriers |
| 13-P3 | Department Seminar |
| 14-L10 | TRANSACTIONAL ANALYSIS – Meaning – EGO States – Types of |
| | Transactions – Johari Window- Life Positions. EMOTIONAL |
| | INTELLIGENCE- Meaning – Components of Emotional Intelligence- |
| | Significance of managing Emotional intelligence |
| 15-L11 | How to develop Emotional Quotient. STRESS MANAGEMENT – Meaning – |
| | Sources of Stress – Symptoms of Stress – Consequences of Stress – Managing |
| 16 I 12 | Stress Allotting portion for Internal Test II |
| 16-L12 | Allotting portion for Internal Test-II |

| | Internal Test II begins(22.02.2016) | |
|------------|-----------------------------------------------------------------------------|--|
| 17-IT-1 | Internal Test-II | |
| 18-L13 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 19-L14 | UNIT – V SOCIAL GRACES – Meaning – Social Grace at Work – Acquiring | |
| | Social Graces. TABLE MANNERS – Meaning – Table Etiquettes in | |
| | Multicultural Environment- Do's and Don'ts of Table Etiquettes. DRESS CODE | |
| 20- P2 | College level meeting/ function | |
| 21-L15 | – Meaning- Dress Code for selected Occasions – Dress Code for an Interview. | |
| | GROUP DISCUSSION - Meaning - Personality traits required for Group | |
| | Discussion- Process of Group Discussion | |
| 22-L16 | Group Discusson Topics. INTERVIEW – Definition- Types of skills – | |
| | Employer Expectations –Planning for the Interview – Interview Questions- | |
| | Critical Interview Questions | |
| 23- L17 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(28.03.2016) | |
| 24- IT-III | Internal Test-III | |
| 25-L18 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 26-MT | Model Test begins(11.04.16) | |
| 27-MT | Model Test | |
| 28-MT | Model Test | |
| 29-L19 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 30-L20 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 22.04.2016 | |

| Learning Outcomes | Personality Development |
|----------------------------|--------------------------------------------------------------|
| | |
| CO1 | How to develop Emotional Quotient. STRESS MANAGEMENT |
| CO2 | Group Discusson Topics. INTERVIEW – Definition- Types of |
| | skills – Employer Expectations |
| Experimental | |
| Learning | |
| EL1 | Process of Group Discussion |
| EL2 | Personality traits required for Group Discussion |
| Integrated Activity | |
| IA1 | GROUP DISCUSSION – Meaning – Personality traits required for |
| | Group Discussion- Process of Group Discussion |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2015-2016)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|-------------------------|
| Course Name | Personality Development |
| Course Code | GCSB5A |
| Class | IIIyear (2015-2016) |
| Semester | Even |
| Staff Name | Mr.B.Jefferson |
| Credits | 2 |
| L. Hours /P. Hours | 2 / WK |
| | |

Total 30Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 20Hrs (5 units; $5\times4=20$; 4Hrs /unit)

Course Objectives

- > Personality Traits
- > Effective goal setting
- ➤ Measurement of Attitudes

Syllabus

UNIT -I

PERSONALITY - Definition - Determinants - Personality Traits - Theories of Personality -Importance of Personality Development. SELF AWARENESS – Meaning – Benefits of Self - Awareness - Developing Self - Awareness. SWOT - Meaning - Importance- Application - Components. GOAL SETTING Meaning- Importance - Effective goal setting - Principles of goal setting – Goal setting at the Right level.

UNIT - II

SELF MONITORING - Meaning - High self - monitor versus low self monitor -Advantages and Disadvantages self monitor- Self -monitoring and job performance. PERCEPTION- Definition- Factor influencing perception- Perception process -Errors in perception - Avoiding perceptual errors. ATTITUDE - Meaning- Formation of attitude -Types of attitude - Measurement of Attitudes - Barriers to attitude change - Methods to attitude change. ASSERTIVENESS -Meaning - Assertiveness in Communication -Assertiveness Techniques – Benefits of being Assertive – Improving Assertiveness.

UNIT - III

TEAM BUILDING - Meaning - Types of teams - Importance of Team building- Creating Effective Team. LEADERSHIP - Definition - Leadership style- Theories of leadership -Qualities of an Effect leader. NEGOTIATION SKILLS - Meaning - Principles of Negotiation - Types of Negotiation - The Negotiation Process - Common mistakes in Negotiation process. CONFLICT MANAGEMENT – Definition- Types of Conflict- Levels of Conflict – Conflict Resolution – Conflict management .

UNIT –IV

COMMUNICATION – Definition – Importance of communication – Process of communication - Communication Symbols – Communication network – Barriers in communication – Overcoming Communication Barriers. TRANSACTIONAL ANALYSIS – Meaning – EGO States – Types of Transactions – Johari Window- Life Positions. EMOTIONAL INTELLIGENCE- Meaning – Components of Emotional Intelligence-Significance of managing Emotional intelligence – How to develop Emotional Quotient. STRESS MANAGEMENT – Meaning – Sources of Stress – Symptoms of Stress – Consequences of Stress – Managing Stress

SOCIAL GRACES – Meaning – Social Grace at Work – Acquiring Social Graces. TABLE MANNERS – Meaning – Table Etiquettes in Multicultural Environment- Do's and Don'ts of Table Etiquettes. DRESS CODE – Meaning- Dress Code for selected Occasions – Dress Code for an Interview. GROUP DISCUSSION – Meaning – Personality traits required for Group Discussion- Process of Group Discussion- Group Discusson Topics. INTERVIEW – Definition- Types of skills – Employer Expectations – Planning for the Interview – Interview Questions- Critical Interview Questions

Course Calendar

UNIT – V

| Hour | Class Schedule | |
|-----------|----------------------------------------------------------------------------------|--|
| allotment | | |
| | Even Semester Begin on 01.12.2016 | |
| 1-L1 | UNIT -I PERSONALITY - Definition – Determinants – Personality Traits – | |
| | Theories of Personality – Importance of Personality Development. SELF | |
| | AWARENESS – Meaning – Benefits of Self – Awareness – Developing Self – | |
| | Awareness | |
| 2-L2 | SWOT – Meaning – Importance- Application – Components. GOAL SETTING | |
| | Meaning- Importance – Effective goal setting – Principles of goal setting – Goal | |
| | setting at the Right level. | |
| 3- P1 | Welcoming of First year and Inauguration | |
| 4-L3 | UNIT – II SELF MONITORING – Meaning – High self – monitor versus low | |
| | self monitor - Advantages and Disadvantages self monitor- Self -monitoring | |
| | and job performance. PERCEPTION- Definition- Factor influencing perception- | |
| | Perception process –Errors in perception – Avoiding perceptual errors. | |
| | ATTITUDE | |
| 5-L4 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(25.01.2016) | |
| 6-IT-I | Internal Test-I | |
| 7-L5 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 8-L6 | Meaning- Formation of attitude – Types of attitude - Measurement of Attitudes | |
| | - Barriers to attitude change - Methods to attitude change. ASSERTIVENESS - | |
| | Meaning – Assertiveness in Communication – Assertiveness Techniques – | |
| | Benefits of being Assertive – Improving Assertiveness | |
| 9-L7 | UNIT – III | |
| | TEAM BUILDING - Meaning - Types of teams - Importance of Team | |

| 30 E20 | Last Working day on 21.04.2017 | | |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| 30-L20 | Feedback of the Course, analysis and report preparation | | |
| 20.7.20 | discussion | | |
| 29-L19 | Model test paper distribution and previous year university question paper | | |
| 28-MT | Model Test | | |
| 27-MT | Model Test | | |
| 26-MT | Model Test begins(11.04.16) | | |
| | Entering Internal Test-III Marks into University portal | | |
| 25-L18 | Test Paper distribution and result analysis | | |
| 24- IT-III | Internal Test-III | | |
| | Internal Test III begins(28.03.2016) | | |
| 23- L17 | - Allotting portion for Internal Test-III | | |
| | Critical Interview Questions | | |
| | Employer Expectations –Planning for the Interview – Interview Questions- | | |
| 22-L16 | Group Discusson Topics. INTERVIEW – Definition- Types of skills – | | |
| | Discussion- Process of Group Discussion | | |
| | GROUP DISCUSSION - Meaning - Personality traits required for Group | | |
| 21-L15 | - Meaning- Dress Code for selected Occasions - Dress Code for an Interview. | | |
| 20- P2 | College level meeting/ function | | |
| | Multicultural Environment- Do's and Don'ts of Table Etiquettes. DRESS CODE | | |
| | Social Graces. TABLE MANNERS – Meaning – Table Etiquettes in | | |
| 19-L14 | UNIT – V SOCIAL GRACES – Meaning – Social Grace at Work – Acquiring | | |
| | Entering Internal Test-II Marks into University portal | | |
| 18-L13 | - Test Paper distribution and result analysis | | |
| 17-IT-1 | Internal Test-II | | |
| | Internal Test II begins(22.02.2016) | | |
| 16-L12 | Allotting portion for Internal Test-II | | |
| | Stress | | |
| 10 111 | Sources of Stress – Symptoms of Stress – Consequences of Stress – Managing | | |
| 15-L11 | How to develop Emotional Quotient. STRESS MANAGEMENT – Meaning – | | |
| | Significance of managing Emotional intelligence | | |
| | INTELLIGENCE- Meaning – Components of Emotional Intelligence- | | |
| 1 1 -110 | Transactions – Johari Window- Life Positions. EMOTIONAL | | |
| 13-F3 14-L10 | TRANSACTIONAL ANALYSIS – Meaning – EGO States – Types of | | |
| 13-P3 | network – Barriers in communication – Overcoming Communication Barriers Department Seminar | | |
| | Process of communication - Communication Symbols - Communication | | |
| 12-L9 | UNIT –IV COMMUNICATION – Definition – Importance of communication – | | |
| 10.10 | Resolution – Conflict management . | | |
| | MANAGEMENT – Definition- Types of Conflict- Levels of Conflict – Conflict | | |
| | Process – Common mistakes in Negotiation process. CONFLICT | | |
| 11-L8 | Meaning – Principles of Negotiation – Types of Negotiation – The Negotiation | | |
| 10-P2 | College level meeting/Cell function | | |
| | SKILLS | | |
| | building- Creating Effective Team. LEADERSHIP – Definition – Leadership style- Theories of leadership – Qualities of an Effect leader. NEGOTIATION | | |
| | | | |

| Learning Outcomes | Personality Development |
|----------------------------------------------------------|--------------------------------------------------------------|
| | |
| CO1 | How to develop Emotional Quotient. STRESS MANAGEMENT |
| CO2 Group Discusson Topics. INTERVIEW – Definition- Type | |
| | skills – Employer Expectations |
| Experimental | |
| Learning | |
| EL1 | Process of Group Discussion |
| EL2 | Personality traits required for Group Discussion |
| Integrated Activity | |
| IA1 | GROUP DISCUSSION – Meaning – Personality traits required for |
| | Group Discussion- Process of Group Discussion |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2015-2016)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|---------------------|
| Course Name | COMPUTER NETWORK |
| Course Code | GMCA4C |
| Class | II year (2015-2016) |
| Semester | EVEN |
| Staff Name | MRS.G.PRISKILLAL |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |

Total 75 Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 65 Hrs (5 units; 5×13=65; 13Hrs /unit)

Course Objectives

- To understand the basic networking concepts, types of addresses, data communication, protocols etc.
- To understand wired and wireless networks, its types, functionality of each layer.
- To understand importance of network security and cryptography

Syllabus

UNIT I NETWORK HARDWARE& SOFTWARE LAN-WAN-MAN – Wireless – Home Networks. Network Software: Protocol Hierarchies – Design issues for the layers – connection oriented and connection less services – Service primitives – The relationship of services to protocols. Reference Models: OSI Reference Model - TCP/IP reference Model Comparison of OSI and TCP/IP Critique of OSI and protocols – Critique of TCP/IP reference Model (12 L)

UNIT II PHYSICAL LAYER Guided Transmission Media: Magnetic Media: Twisted-Pair Cable, Coaxial Cable, Fiber-Optic Cable, Wireless Transmission: Electro Magnetic Spectrum - Radio Transmission - Microwave Transmission - Infrared and Millimeter Waves - Light waves - Communication satellites: Geostationary, Medium- Earth orbit, Low earth Orbit Satellites - Satellites versus fiber. (12 L)

UNIT III DATA LINK LAYER Error Detection and corrections – Elementary Data – Link protocols - Sliding window protocols, Medium –access control – Sub Layer: Multiple Access Protocols – Ethernet –Wireless LANs – Broad band wireless – Bluetooth. **(12 L)**

UNIT IV NETWORK & TRANSPORT LAYER Network layers: Routing algorithms – congestion control algorithms. Transport layer: Elements of transport protocols – Internet Transfer protocols: TCP. (12 L)

UNIT V APPLICATIONLAYER Application Layer: DNS – Email, network security: cryptography – symmetric key algorithms – public key algorithms - digital signatures. (12 L)

| Hour | Class Schedule | |
|-----------|------------------------------------------------------------------|--|
| allotment | Even Semester Begin on 02.12.2015 | |
| 1 T 1 | | |
| 1-L1 | UNIT I NETWORK HARDWARE& SOFTWARE LAN, WAN, MAN | |
| 2-L2 | Wireless | |
| 3- L3 | Network Software: Protocol Hierarchies | |
| 4-L4 | Design issues for the layers | |
| 5-L5 | connection oriented and connection less services | |
| 6-L6 | Service primitives | |
| 7-L7 | The relationship of services to protocols | |
| 8- P1 | BCA Association | |
| 9- L8 | Reference Models | |
| 10- L9 | OSI Reference Model | |
| 11-L10 | TCP/IP reference Model Comparison of OSI | |
| 12-L11 | TCP/IP Critique of OSI and protocols | |
| 13-L12 | Critique of TCP/IP reference Model | |
| 14-L13 | UNIT II PHYSICAL LAYER | |
| 15-L14 | Guided Transmission Media | |
| 16-L15 | Magnetic Media | |
| 17- L16 | Twisted-Pair Cable, Coaxial Cable, Fiber-Optic Cable | |
| 18- L17 | Wireless Transmission | |
| 19- L18 | Electro Magnetic Spectrum | |
| 20- L19 | Radio Transmission | |
| 21- L20 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(25.01.2016) | |
| 22- L21 | Microwave Transmission | |
| 23- IT-1 | Internal Test-I | |
| 24- L22 | Infrared and Millimeter Waves | |
| 25- L23 | Light waves | |
| 26- L24 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 27- L25 | Communication satellites: Geostationary, Medium | |
| 28- L26 | Earth orbit, Low earth Orbit Satellites ,Satellites versus fiber | |
| 29- L27 | UNIT III DATA LINK LAYER Error Detection and corrections | |
| 30- P2 | College level meeting/Cell function | |
| 31-L28 | Elementary Data | |

| 22 7 20 | | |
|-----------|---------------------------------------------------------|--|
| 32-L29 | Link protocols | |
| 33-L30 | Sliding window protocols | |
| 34- L31 | Medium | |
| 35- L32 | access control | |
| 36- L33 | Sub Layer | |
| 37- L34 | Multipl Access Protocols | |
| 38- L35 | Ethernet | |
| 39- L36 | Wireless LANs | |
| 40- L37 | Broad band wireless | |
| 41- L38 | Bluetooth | |
| 42-P3 | Department Seminar | |
| 43- L39 | UNIT IV NETWORK & TRANSPORT LAYER | |
| 44- L40 | Network layers | |
| 45- L41 | Routing algorithms | |
| 46- L42 | congestion control algorithms | |
| 47- L43 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(22.02.2016) | |
| 48- L44 | Transport layer | |
| 49-IT-II | Internal Test-II | |
| 50-L45 | Elements of transport protocols | |
| 51- L46 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 52- L47 | Addressing | |
| 53- L48 | Connection Establishment | |
| 54- L49 | Connection Release | |
| 55- L50 | Multiplexing | |
| 56- L51 | Internet Transfer protocols | |
| 57- L52 | TCP | |
| 58- L53 | UNIT V APPLICATIONLAYER | |
| 59-P4 | College level meeting/ function | |
| 60- L54 | Application Layer | |
| 61- L55 | DNS | |
| 62- L56 | Email | |
| 63- L57 | network security | |
| 64- L58 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(28.03.2016) | |
| 65- L59 | Cryptography | |
| 66- L60 | symmetric key algorithms | |
| 67-IT-III | Internal Test-III | |
| 68- L61 | public key algorithms | |
| 69- L62 | digital signatures | |
| 70- L63 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 71-MT | Model Test begins(11.04.16) | |
| 72-MT | Model Test | |
| 73-MT | Model Test | |
| i | 1 | |

| 74-L64 | Model test paper distribution and previous year university question paper discussion | |
|--------|--------------------------------------------------------------------------------------|--|
| 75-L65 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 22.04.2016 | |

| Learning Outcomes | COMPUTER NETWORK |
|----------------------------|--------------------------------------------------------------|
| | |
| CO1 | Describe the functions of each Layer in OSI and TCP/IP model |
| CO2 | Functions of Application and Presentation Layer and Paradigm |
| CO3 | Routing Protocol Classification |
| CO4 | Functions of Data Link Layer |
| CO5 | Types of Transmission Medium |
| CO6 | Guides Media/Un guided Media |
| CO7 | Real Time Application |
| CO8 | Shortest Path Algorithm |
| CO9 | Network Layer Paradigm |
| Experimental | |
| Learning | |
| EL1 | LAN,MAN Connection |
| EL2 | Routing Connection |
| EL3 | Explore the Network Devices |
| EL4 | Trouble Shooting Devices |
| Integrated Activity | |
| IA1 | Sharing Resources |
| IA2 | Collabration/Discussion |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2015-2016)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|---------------------|--------------------------------------|
| Course Name | Object Oriented Programming with C++ |
| Course Code | GMCA21 |
| Class | I year (2015-2016) |
| Semester | EVEN |
| Staff Name | K.APPASAMY |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| Internal Test-3 Hrs | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To understand how C++ improves C with object-oriented features.
- > To learn how to write inline functions for efficiency and performance.
- ➤ To learn the syntax and semantics of the C++ programming language.
- > To learn how to design C++ classes for code reuse.

Syllabus

OBJECT ORIENTED PROGRAMMING WITH C++

UNIT I Principles of Object-oriented Programming: Software Evolution – A look at Procedure-Oriented Programming – Object-Oriented Programming Paradigm – Basic concepts of object-Oriented Programming – Benefits of OOP – Object-Oriented Languages- Applications of OOP **Beginning with C++**: What is C++? – Applications of C++ - A simple C++ Program – More C++ statements – An example with Class- Structure of C++ Program – Reference Variables – Operators in C++ - Scope Resolution Operator – Member De referencing Operators – Memory Management Operators – Manipulators – Type Cast Operators

UNIT II Functions in C++: Introduction – The Main Function – Function prototyping – Call by Reference – Return by reference – Inline Functions - Default Arguments – const Arguments – Function Overloading – Math Library Functions **Classes and Objects:** Introduction - C Structure Revisited – Specifying a Class – Defining Member Function-A C++ Program with Class - Making an outside Function Inline – Nesting of Member Function – Private member functions- Arrays with in a class – Memory allocation for objects – Static Data Members – Static Member Functions,

Arrays of objects – Objects as Function arguments – Friendly Functions – Returning Objects - Pointers to Members – Local Classes –

UNIT III Constructors and Destructors: Introduction – Constructors – Parameterized constructors – multiple constructors in a class – Constructors with Default arguments – Dynamic Initialization of Objects- Copy Constructors – Dynamic Constructors – Constructing two dimensional Arrays – Destructors **Operator Overloading and Type Conversion:** Introduction – Defining Operator Overloading – Overloading unary operators – Overloading Binary Operators – Overloading binary operators using Friends – Manipulation of strings using operators – Rules for overloading operators – Type conversions

UNIT IV Inheritance: Extending Classes: Introduction – Defining Derived Classes – Single inheritance – Making a Private Member Inheritable – Multilevel Inheritance – Multiple Inheritance – Hierarchical Inheritance – Hybrid Inheritance – Virtual Base Classes - Abstract Classes – Constructors in Derived Classes – Member Classes – Nesting of Classes

Unit V Managing Console I/O Operations: Introduction - C++ Streams – C++ Stream Classes – Unformatted I/O Operations – Formatted Console I/O Operation – Managing output with Manipulators **Working with Files:** Introduction – Classes for File Stream Operators – Opening and closing a File – Detecting end-of-file _ File Pointers and their Manipulators – Sequential Input and Output Operations – Error Handling during File Operations – Command – Line Arguments. **TOTAL: 60 HOURS**

Text Book: Object Oriented Programming C++ Third Edition – E Balagurusamy, Tata McGraw-Hill Publishing Company Limited

Reference Book:

- 1. Complete Reference C++ Herbert Schildt, Fourth Edition, Tata McGraw-Hill Publishing Company Limited
- 2. Object Oriented Programming with ANSI and Turbo C++ Ashok N. Kamthane, Pearson Edition
- 3. C++ How to Program Deitel, Fifth Edition Prentice Hall of India
- 4. Programming with C++ D.Ravichandran, Second Edition , Tata McGraw-Hill Publishing Company Limited

| Hour | Class Schedule |
|-----------|------------------------------------------------------------------------------------------|
| allotment | |
| | Even Semester Begin on 02.12.2015 |
| 1-L1 | UNIT I Principles of Object-oriented Programming : Software Evolution – A look at |
| | Procedure |
| 2-L2 | Oriented Programming, Object-Oriented Programming Paradigm |
| 3- L3 | Basic concepts of object-Oriented Programming , Benefits of OOP |
| 4-L4 | Object-Oriented Languages, Applications of OOP |
| 5-L5 | Beginning with C++: What is C++?, Applications of C++ |
| 6-L6 | A simple C++ Program , More C++ statements ,An example with Class |
| 7-L7 | Structure of C++ Program ,Reference Variables , Operators in C++ |
| 8- P1 | Welcoming of First year and Inauguration of BCAAssociation |
| 9- L8 | Scope Resolution Operator ,Member De referencing Operators |
| 10- L9 | Memory Management Operators , Manipulators, Type Cast Operators |
| 11-L10 | UNIT II Functions in C++: Introduction ,The Main Function |
| 12-L11 | Function prototyping ,Call by Reference ,Return by reference ,Inline Functions , |
| | Default Arguments |
| 13-L12 | const Arguments – Function Overloading – Math Library Functions |
| 14-L13 | Classes and Objects: Introduction ,C Structure Revisited, Specifying a Class , |
| | Defining Member Function |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins(25.01.2016) |
| 16-L15 | A C++ Program with Class ,Making an outside Function Inline,Nesting of Member |
| | Function |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Private member functions, Arrays with in a class, Memory allocation for objects |
| 19-L17 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | Static Data Members, Static Member Functions, Arrays of objects |
| 21- L19 | Objects as Function arguments, Friendly Functions |

| 22- P2 | College level meeting/Cell function | |
|-----------|----------------------------------------------------------------------------------|--|
| 23-L20 | Returning Objects, Pointers to Members ,Local Classes | |
| 24-L21 | UNIT III Constructors and Destructors: Introduction, Constructors, Parameterized | |
| | constructors | |
| 25-L22 | multiple constructors in a class , Constructors with Default arguments | |
| 26-L23 | Dynamic Initialization of Objects, Copy Constructors | |
| 27-L24 | Dynamic Constructors , Constructing two dimensional Arrays | |
| 28-L25 | Destructors Operator Overloading and Type Conversion: Introduction | |
| 29-L26 | Defining Operator Overloading , Overloading unary operators | |
| 30-L27 | Overloading Binary Operators ,Overloading binary operators using Friends | |
| 31-L28 | Manipulation of strings using operators ,Rules for overloading operators | |
| 32-L29 | Type Conversion | |
| 33-L30 | UNIT IV Inheritance: Extending Classes: Introduction | |
| 34- P3 | Department Seminar | |
| 35-L31 | Defining Derived Classes ,Single inheritance | |
| 36-L32 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(22.02.2016) | |
| 37- L33 | Making a Private Member Inheritable | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | Multilevel Inheritance , Multiple Inheritance | |
| 40-L35 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Hierarchical Inheritance , Hybrid Inheritance | |
| 42- L37 | Virtual Base Classes ,Abstract Classes | |
| 43- L38 | Constructors in Derived Classes | |
| 44- P4 | College level meeting/ function | |
| 45-L39 | Member Classes ,Nesting of Classes | |
| 46-L40 | Unit V Managing Console I/O Operations: Introduction, C++ Streams | |
| 47-L41 | C++ Stream Classes – Unformatted I/O Operations | |
| 48-L42 | Formatted Console I/O Operation ,Managing output with Manipulators | |
| 49-L43 | Working with Files: Introduction , Classes for File Stream Operators | |
| 50-L44 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(28.03.2016) | |
| 51 L45 | Detecting end-of-file, File Pointers and their Manipulators | |
| 52- L46 | Sequential Input and Output Operations | |
| 53-IT-III | Internal Test-III | |
| 54-L47 | Error Handling during File Operations ,Command ,Line Arguments. | |
| 55-L48 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 56- MT | Model Test begins(11.04.16) | |
| 57-MT | Model Test | |
| 58-MT | Model Test | |
| 59- L49 | Model test paper distribution and previous year university question paper | |
| CO 7 50 | discussion | |
| 60-L50 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 22.04.2016 | |

| Learning Outcomes | Object Oriented Programming with C++ |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------|
| CO1 | a) Describe the procedural and object oriented paradigm with |
| CO2 | |
| CO3 | pointers, constructors, destructors, etc Describe the concept of function overloading, operator |
| CO4 | overloading, virtual functions and polymorphism Classify inheritance with the understanding of early and late |
| CO5 | binding, usage of exception handling, generic programming Demonstrate the use of various OOPs concepts with the help of |
| | programs |
| Experimental Learning | |
| EL1 | Classes |
| EL2 | 3 |
| EL3 | |
| EL4 Integrated Activity | Inheritance |
| IA1 | Method Overriding |
| IA2 | Polymorphism |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2015-2016)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|--------------------------|
| Course Name | Operating system |
| Course Code | GMCA61 |
| Class | III year (2015-2016) |
| Semester | Even |
| Staff Name | Mrs.A.BATHSHEBA PARIMALA |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| T-4-1 (OII/C | |

Total 60Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- ➤ To understand design issues related to process management and various related algorithms.
- > To understand design issues related to memory management and various related algorithms.
- > To understand design issues related to File management and various related algorithms

Syllabus

CORE SUBJECT - I

OPERATING SYSTEMS

UNIT I INTRODUCTION What is an Operating System: Mainframe Systems – Desktop Systems – Multiprocessor Systems - Distributed Systems – Clustered Systems – Real – time Systems– Handheld Systems. (10 L)

UNIT II PROCESS CONCEPT Process Concept – Process Scheduling – Operations on Process – Co-operating processes – Inter Processes - Inter Process communication. CPU

Scheduling: Basic Concepts –Scheduling Criteria - Scheduling algorithms – Multi processor Scheduling - Real time Scheduling – Algorithms evaluation. (12 L)

UNIT III PROCESS SYNCHRONIZATION & DEADLOCKS Process Synchronization: Background – the critical section problem – Synchronization hardware – Semaphores – Classical problems of Synchronization – critical regions – Monitors – Atomic transaction. Deadlocks: System model – Deadlock Characterization – methods for handling Deadlocks – Deadlock prevention – Deadlock Avoidance – Deadlock detection – recovery from Deadlock.(14 L)

UNIT IV MEMORY MANAGEMENT Memory management: Background – Swapping – Contiguous memory allocation – paging – segmentation – segmentation with paging. Virtual Memory: Background – Demand paging – Page replacement – Allocation of frames. (12 L)

UNIT V File System Interface: File concept – Access methods– File system structure – File system implementation – File system structure – Filesystem implementation – Directories structure - Directory implementation – Allocation methods – Free space management – Efficiency and performance – Recovery. Mass Storage Structure: Disk Structure – Disk Scheduling – Disk management – Swap space management – RAID structure – Disk attachment – Stable Storage. (12 L)

| Hour | Class Schedule |
|-----------|----------------------------------------------------------|
| allotment | |
| | Even Semester Begin on 02.12.2015 |
| 1-L1 | INTRODUCTION- What is an Operating System |
| 2-L2 | Mainframe Systems |
| 3- L3 | Batchsystem - multiprogrammed system-time sharing system |
| 4-L4 | Desktop Systems |
| 5-L5 | Multiprocessor Systems |
| 6-L6 | Distributed Systems |
| 7-L7 | Client-server system, peer-to-peer system |
| 8- P1 | BCA Association |
| 9- L8 | Real |
| 10- L9 | Time Systems |
| 11-L10 | Handheld Systems. |
| 12-L11 | PROCESS CONCEPT Process Concept |
| 13-L12 | Process Scheduling |
| 14-L13 | Operations on Process |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins(25.01.2016) |

| 16-L15 | Inter Processes | |
|-----------|------------------------------------------------------------------------------|--|
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Inter Process communication. CPU Scheduling | |
| 19-L17 | - Test Paper distribution and result analysis | |
| 17 117 | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Basic Concepts | |
| 21- L19 | Scheduling Criteria | |
| 22- P2 | College level meeting/Cell function | |
| 23-L20 | Scheduling algorithms | |
| 24-L21 | Multi processor Scheduling | |
| 25-L22 | Real time Scheduling | |
| 26-L23 | Algorithms evaluation | |
| 27-L24 | PROCESS SYNCHRONIZATION & DEADLOCKS Process Synchronization: | |
| | Background | |
| 28-L25 | the critical section problem | |
| 29-L26 | Synchronization hardware | |
| 30-L27 | Semaphores | |
| 31-L28 | Classical problems of Synchronization | |
| 32-L29 | critical regions | |
| 33-L30 | Monitors | |
| 34- P3 | Department Seminar | |
| 35-L31 | Atomic transaction. Deadlocks: System model | |
| 36-L32 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(22.02.2016) | |
| 37- L33 | Deadlock Characterization | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | methods for handling Deadlocks | |
| 40-L35 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Deadlock prevention | |
| 42- L37 | Deadlock Avoidance | |
| 43- L38 | Deadlock detection, recovery from Deadlock. | |
| 44- P4 | College level meeting/ function | |
| 45-L39 | File System Interface: File concept ,Access methods | |
| 46-L40 | File system structure, File system implementation | |
| 47-L41 | Directories structure, Directory implementation | |
| 48-L42 | Allocation methods, Free space management | |
| 49-L43 | Efficiency and performance ,Recovery. Mass Storage Structure: Disk Structure | |
| 50-L44 | - Allotting portion for Internal Test-III | |
| 30 211 | Internal Test III begins(28.03.2016) | |
| 51 L45 | Disk Scheduling , Disk management | |
| 52- L46 | Swap space management, RAID structure | |
| 53-IT-III | Internal Test-III | |
| 54-L47 | Disk attachment, Stable Storage | |
| 55-L48 | - Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 56- MT | Model Test | |
| | | |

| 57-MT | Model Test begins(11.04.16) |
|---------|---------------------------------------------------------------------------|
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| 00 L30 | recuback of the Course, analysis and report preparation |

| Learning Outcomes | Operating system |
|--------------------------|---------------------------------------------------------------|
| | |
| CO1 | Process Synchronization |
| CO2 | Scheduling Algorithm |
| CO3 | DeadLock |
| CO4 | Dinning Philosopher Algorithm |
| CO5 | Page Allocation Algorithm |
| Experimental | |
| Learning | |
| EL1 | File System Interface: File concept ,Access methods |
| EL2 | Directories structure ,Directory implementation |
| EL3 | Efficiency and performance ,Recovery. Mass Storage Structure: |
| | Disk Structure |
| Integrated Activity | |
| IA1 | Deadlock Characterization |
| IA2 | Atomic transaction. Deadlocks: System model |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2015-2016)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. | |
|----------------------|----------------------|--|
| Course Name | CYBER SECURITY | |
| Course Code | GMCA62 | |
| Class | III year (2015-2016) | |
| Semester | Even | |
| Staff Name | K.APPASAMY | |
| Credits | 4 | |
| L. Hours /P. Hours | 4 / WK | |
| Total 60Hrs/Sem | | |
| Internal Test-3 Hrs | | |
| Model Test-3 Hrs | | |
| Dept. Meetings-2 Hrs | | |

Course Objectives

College Meetings-2 Hrs

> To describe different classes of attacks.

Remaining 50Hrs (5 units; $5\times10=50$; 10Hrs /unit)

- To describe new and emerging IT and IS technologies.
- To analyze threats and risks within context of the cyber security architecture.

Syllabus

UNIT I INTRODUCTION TO INFORMATION SECURITY Introduction – The History of Information Security – What is Security – Critical Characteristics of Information – NSTISSC Security Model – Components of an Information System – Securing Components – Balancing Information Security and Access – Approaches to Information Security Implementation – The Systems Development Life Cycle – The Security Systems development life cycle – Security Professional and the Organization – Communities of Interest - Information Security – Is it an Art or a Science. The Need for Security: Introduction – Business Needs First – Threats – Attacks – Secure Software Development. (12 L

UNIT II RISK MANAGEMENT & PLANNING Introduction – An overview of Risk Management – Risk Identification – Risk Assessment – Risk control Strategies – Selecting a Risk control Strategy – Quantitative versus qualitative risk control practices - Risk Management Discussion Points – Recommended Risk Control Practices. Planning for Security: Introduction – Information Security Policy, Standards and Practices – The Information Security Blueprint – Security Education, Training and Awareness Program –

Continuity Strategies. Security Technology: Firewalls and VPNs: Introduction – Physical Design – Firewalls – Protecting Remote Connections.

UNIT III SECURITY TECHNOLOGY: INTRUSION DETECTION, ACCESS CONTROL AND OTHER SECURITY TOOLS Introduction – Intrusion Detection and Prevention System (IDS and IPSs) – Honey Pots, Honey Nets and Padded Cell Systems – Scanning and Analysis Tools – Access Control Devices. Cryptography: Introduction – Foundations of Cryptology – Cipher Methods – Cryptographic Algorithms – Cryptographic Tools. (12 L) UNIT IV SECURITY IMPLEMENTATION Physical Security: Introduction – Physical Access Controls – Fire Security and Safety – Failure of Supporting Utilities and Structural Collapse – Interception of Data – Mobile and Portable Systems – Special Considerations for Physical Security Threats. Implementing Information Security: Introduction – Information Security Project Management – Technical Topics of Implementation – Non technical Aspects of Implementation – Information Systems Security Certification and Accreditation.

UNIT V SECURITY AND INFORMATION SECURITY Security and Personnel: Introduction – Positioning & Staffing the Security Function – Credentials of Information Security Professionals – Employment Policies and Practices – Security Considerations for Nonemployees – Internal Control Strategies – Privacy and the Security of Personal Data. Information Security Maintenance: Introduction – Security Management Models – The Maintenance Model – Digital Forensics.

| Hour | Class Schedule | |
|-----------|-----------------------------------------------------------------------------|--|
| allotment | | |
| | Even Semester Begin on 02.12.2015 | |
| 1-L1 | Introduction - The History of Information Security | |
| 2-L2 | What is Security - Critical Characteristics of Information | |
| 3- L3 | NSTISSC Security Model - Components of an Information System | |
| 4-L4 | Securing Components - Approaches to Information Security Implementation | |
| 5-L5 | The Systems Development Life Cycle - The Systems Development Life Cycle | |
| 6-L6 | The Security Systems development life cycle - Security Professional and the | |
| | Organization | |
| 7-L7 | Security Professional and the Organization - Communities of Interest | |
| 8- P1 | Welcoming of First year and Inauguration of BCAAssociation | |
| 9- L8 | Information Security - Is it an Art or a Science. The Need for Security: | |
| | Introduction | |
| 10- L9 | Business Needs First - | |
| 11-L10 | Threats | |
| 12-L11 | Attacks | |
| 13-L12 | Secure Software Development | |
| 14-L13 | Introduction – An overview of Risk Management | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(25.01.2016) | |
| 16-L15 | Risk Identification | |

| 17-IT-1 | Internal Test-I |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| 18-L16 | Risk Assessment |
| 19-L17 | Test Paper distribution and result analysis |
| 17-L17 | Entering Internal Test-I Marks into University portal |
| 20-L18 | Risk control Strategies |
| 21- L19 | Selecting a Risk control Strategy |
| 21- L19 22- P2 | College level meeting/Cell function |
| | 0 0 |
| 23-L20 | Quantitative versus qualitative risk control practices - Risk Management Discussion Points |
| 24-L21 | Recommended Risk Control Practices. Planning for Security: Introduction |
| 25-L22 | |
| 25-L22 26-L23 | Information Security Policy, Standards and Practices The Information Security Blueprint |
| | |
| 27-L24 | Security Education, Training and Awareness Program |
| 28-L25 | Continuity Strategies. Security Technology: Firewalls and VPNs: Introduction - |
| 20.1.26 | Physical Design Eigenvalle, Protecting Remote Connections |
| 29-L26 30-L27 | Firewalls- Protecting Remote Connections Introduction - Intrusion Detection and Prevention System (IDS and IPSs) |
| | |
| 31-L28 | Access Control Devices. Cryptography: Introduction - Honey Pots, Honey Nets and Padded Cell Systems |
| 32-L29 | Scanning and Analysis Tools - Access Control Devices. Cryptography: |
| 32-L29 | Introduction |
| 33-L30 | |
| 34- P3 | Foundations of Cryptology - Cipher Methods |
| | Department Seminar |
| 35-L31 | Cryptographic Algorithms - Cryptographic Tools |
| 36-L32 | Allotting portion for Internal Test-II |
| 27 1 22 | Internal Test II begins(22.02.2016) |
| 37- L33 | Physical Security: Introduction - Physical Access Controls |
| 38- IT-II | Internal Test-II |
| 39-L34 | Fire Security and Safety - Failure of Supporting Utilities and Structural Collapse |
| 40-L35 | Test Paper distribution and result analysis |
| 41 1 26 | Entering Internal Test-II Marks into University portal |
| 41-L36 | Interception of Data - Mobile and Portable Systems |
| 42- L37 | Special Considerations for Physical Security Threats. Implementing Information |
| 42 1 20 | Security: Introduction |
| 43- L38 | Information Security Project Management – Technical Topics of |
| 44 D4 | Implementation |
| 44- P4 | College level meeting/ function |
| 45-L39 | Non technical Aspects of Implementation – Information Systems Security |
| 16 T 10 | Certification and Accreditation Sequentry and Personnels Introduction Positioning & Stoffing the Sequentry |
| 46-L40 | Security and Personnel: Introduction – Positioning & Staffing the Security |
| 47-L41 | Function Cradentials of Information Security Professionals Employment Policies and |
| 4/-L41 | Credentials of Information Security Professionals – Employment Policies and Practices |
| 10 1 10 | |
| 48-L42 | Security Considerations for Nonemployees – Internal Control Strategies Privacy and the Socyrity of Personal Data Information Socyrity Maintenance |
| 49-L43 | Privacy and the Security of Personal Data. Information Security Maintenance: |
| 50 T 44 | Introduction Allotting portion for Internal Test III |
| 50-L44 | Allotting portion for Internal Test-III |
| £1 T 45 | Internal Test III begins(28.03.2016) |
| 51 L45 | Security Management Models |

| 52- L46 | The Maintenance Model |
|-----------|---------------------------------------------------------------------------|
| 53-IT-III | Internal Test-III |
| 54-L47 | Digital Forensics |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(11.04.16) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 22.04.2016 |

| Learning Outcomes | COs of the course " <cyber security="">"</cyber> | |
|--------------------------|--------------------------------------------------------------------|--|
| 601 | | |
| CO1 | | |
| | (CIA) in context of Information Assurance; | |
| CO2 | ζ ε | |
| | architecture, discern vulnerabilities, and recommend physical, | |
| | logical, or administrative controls to mitigate the threat; | |
| CO3 | Describe the hardware, software, and services that comprise an | |
| | enterprise network | |
| CO4 | Explain key networking protocols, and their hierarchical | |
| | relationship in the context of a conceptual model, such as the OSI | |
| | and TCP/IP framework; | |
| Experimental | | |
| Learning | | |
| EL1 | Fire Security and Safety - Failure of Supporting Utilities and | |
| | Structural Collapse | |
| EL2 | Security Considerations for Nonemployees – Internal Control | |
| | Strategies | |
| EL3 | Privacy and the Security of Personal Data. Information Security | |
| | Maintenance: Introduction | |
| EL4 | Cryptographic Algorithms - Cryptographic Tools | |
| Integrated Activity | VA U A | |
| IA1 | Foundations of Cryptology - Cipher Methods | |
| IA2 | ** ** ** | |
| | Professional and the Organization | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2015-2016)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|------------------------|----------------------|
| Course Name | CYBER SECURITY |
| Course Code | GMCA62 |
| Class | III year (2015-2016) |
| Semester | Even |
| Staff Name | K.APPASAMY |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Semester | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |
| Dept. Meetings-2 Hrs | |
| College Meetings-2 Hrs | |

Course Objectives

> To describe different classes of attacks.

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

- > To describe new and emerging IT and IS technologies.
- > To analyze threats and risks within context of the cyber security architecture.

Syllabus

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Security: Introduction – Information Security Policy, Standards and Practices – The Information Security Blueprint – Security Education, Training and Awareness Program – Continuity Strategies. Security Technology: Firewalls and VPNs: Introduction – Physical Design – Firewalls – Protecting Remote Connections.

UNIT III SECURITY TECHNOLOGY: INTRUSION DETECTION, ACCESS CONTROL AND OTHER SECURITY TOOLS Introduction – Intrusion Detection and Prevention System (IDS and IPSs) – Honey Pots, Honey Nets and Padded Cell Systems – Scanning and Analysis Tools – Access Control Devices. Cryptography: Introduction – Foundations of Cryptology – Cipher Methods – Cryptographic Algorithms – Cryptographic Tools. (12 L)

UNIT IV SECURITY IMPLEMENTATION Physical Security: Introduction – Physical Access Controls – Fire Security and Safety – Failure of Supporting Utilities and Structural Collapse – Interception of Data – Mobile and Portable Systems – Special Considerations for Physical Security Threats. Implementing Information Security: Introduction – Information Security Project Management – Technical Topics of Implementation – Non technical Aspects of Implementation – Information Systems Security Certification and Accreditation.

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| Hour | Class Schedule |
|-----------|-----------------------------------------------------------------------------|
| allotment | |
| | Even Semester Begin on 02.12.2015 |
| 1-L1 | Introduction - The History of Information Security |
| 2-L2 | What is Security - Critical Characteristics of Information |
| 3- L3 | NSTISSC Security Model - Components of an Information System |
| 4-L4 | Securing Components - Approaches to Information Security Implementation |
| 5-L5 | The Systems Development Life Cycle - The Systems Development Life Cycle |
| 6-L6 | The Security Systems development life cycle - Security Professional and the |
| | Organization |
| 7-L7 | Security Professional and the Organization - Communities of Interest |
| 8- P1 | Welcoming of First year and Inauguration of BCAAssociation |
| 9- L8 | Information Security - Is it an Art or a Science. The Need for Security: |
| | Introduction |
| 10- L9 | Business Needs First - |
| 11-L10 | Threats |
| 12-L11 | Attacks |
| 13-L12 | Secure Software Development |
| 14-L13 | Introduction – An overview of Risk Management |
| 15-L14 | Allotting portion for Internal Test-I |

| | Internal Test I begins(25.01.2016) | |
|-----------|------------------------------------------------------------------------------------|--|
| 16-L15 | Risk Identification | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Risk Assessment | |
| 19-L17 | | |
| 19-L1/ | Test Paper distribution and result analysis | |
| 20 1 10 | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Risk control Strategies | |
| 21- L19 | Selecting a Risk control Strategy | |
| 22- P2 | College level meeting/Cell function | |
| 23-L20 | Quantitative versus qualitative risk control practices - Risk Management | |
| 24 7 24 | Discussion Points | |
| 24-L21 | Recommended Risk Control Practices. Planning for Security: Introduction | |
| 25-L22 | Information Security Policy, Standards and Practices | |
| 26-L23 | The Information Security Blueprint | |
| 27-L24 | Security Education, Training and Awareness Program | |
| 28-L25 | Continuity Strategies. Security Technology: Firewalls and VPNs: Introduction - | |
| | Physical Design | |
| 29-L26 | Firewalls- Protecting Remote Connections | |
| 30-L27 | Introduction - Intrusion Detection and Prevention System (IDS and IPSs) | |
| 31-L28 | Access Control Devices. Cryptography: Introduction - Honey Pots, Honey Nets | |
| | and Padded Cell Systems | |
| 32-L29 | Scanning and Analysis Tools - Access Control Devices. Cryptography: | |
| | Introduction | |
| 33-L30 | Foundations of Cryptology - Cipher Methods | |
| 34- P3 | Department Seminar | |
| 35-L31 | Cryptographic Algorithms - Cryptographic Tools | |
| 36-L32 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(22.02.2016) | |
| 37- L33 | Physical Security: Introduction - Physical Access Controls | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | Fire Security and Safety - Failure of Supporting Utilities and Structural Collapse | |
| 40-L35 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Interception of Data - Mobile and Portable Systems | |
| 42- L37 | Special Considerations for Physical Security Threats. Implementing Information | |
| | Security: Introduction | |
| 43- L38 | Information Security Project Management - Technical Topics of | |
| | Implementation | |
| 44- P4 | College level meeting/ function | |
| 45-L39 | Non technical Aspects of Implementation - Information Systems Security | |
| | Certification and Accreditation | |
| 46-L40 | Security and Personnel: Introduction – Positioning & Staffing the Security | |
| | Function | |
| 47-L41 | Credentials of Information Security Professionals - Employment Policies and | |
| | Practices | |
| 48-L42 | Security Considerations for Nonemployees – Internal Control Strategies | |
| 49-L43 | Privacy and the Security of Personal Data. Information Security Maintenance: | |
| | Introduction | |
| | | |

| | Internal Test III begins(28.03.2016) | |
|-----------|---------------------------------------------------------------------------|--|
| 51 L45 | Security Management Models | |
| 52- L46 | The Maintenance Model | |
| 53-IT-III | Internal Test-III | |
| 54-L47 | Digital Forensics | |
| 55-L48 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 56- MT | Model Test begins(11.04.16) | |
| 57-MT | Model Test | |
| 58-MT | Model Test | |
| 59- L49 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 60-L50 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 22.04.2016 | |

| Learning Outcomes | COs of the course " <cyber security="">"</cyber> | |
|----------------------------|----------------------------------------------------------------------|--|
| | | |
| CO1 | Explain the concepts of confidentiality, availability, and integrity | |
| | (CIA) in context of Information Assurance; | |
| CO2 | Articulate the threats to CIA and be able to analyze a given | |
| | architecture, discern vulnerabilities, and recommend physical, | |
| | logical, or administrative controls to mitigate the threat; | |
| CO3 | Describe the hardware, software, and services that comprise an | |
| | enterprise network | |
| CO4 | Explain key networking protocols, and their hierarchical | |
| | relationship in the context of a conceptual model, such as the OSI | |
| | and TCP/IP framework; | |
| Experimental | | |
| Learning | | |
| EL1 | Fire Security and Safety - Failure of Supporting Utilities and | |
| | Structural Collapse | |
| EL2 | Security Considerations for Nonemployees – Internal Control | |
| | Strategies | |
| EL3 | Privacy and the Security of Personal Data. Information Security | |
| | Maintenance: Introduction | |
| EL4 | Cryptographic Algorithms - Cryptographic Tools | |
| Integrated Activity | | |
| IA1 | Foundations of Cryptology - Cipher Methods | |
| IA2 | The Security Systems development life cycle - Security | |
| | Professional and the Organization | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Application& Networking

COURSE ACADEMIC PLAN(2015-2016)

(Prepared by staff member handling the course)

| Programme Name | BCA |
|--------------------|----------------------|
| Course Name | Computer Graphics |
| Course Code | GMCA64 |
| Class | III year (2015-2016) |
| Semester | Even |
| Staff Name | Mrs. G. Priskillal |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| T + 1 (0 II /0 | |

Total 60 Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2Hrs

Practicals: 2Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- To understand the structure of modern computer graphics system.
- > To understand the basic principle of implementing computer graphics primitives.
- > To write algorithms for modelling and rendering graphical data.
- > To develop design and problem solving skills with application.
- To gain experience in constructing interactive computer graphics programs

Computer Graphics

UNIT I INPUT AND OUTPUT DEVICES

Introduction: Application and Operations of Computer Graphics - Graphics Packages – Requirements of a Graphical System – GUI. Common Input Devices – Graphical output Devices – Raster Scan Video Principle - Raster Scan CRT Monitors – Color Raster Scan System – Plasma Display – LCD – Hard copy Raster Devices - Raster Scan System – Memory Tube Displays – Plotters – Graphics Accelerators – Coprocessors.

UNIT II ALGORITHMS

Scan Conversion – Methods – Polynomial Method – DDA algorithms for line drawing Algorithm, Circle, Ellipse, Parabola – Bresenham's Line Drawing Algorithm - Bresenham's

Circle Drawing Algorithm – Problem of Scan Conversion – Solid Areas – Odd Even Methods – Winding Number Method - Solid Area Filling – Algorithms – Boundary, Flood Fill Algorithm.

UNIT III TRANSFORMATION

Two Dimension Transformations – Translation – Scaling – Rotation – Transformations of Points and Objects – Homogenous Coordinate System and Transformations – Reflection – Shearing – Three Dimension Transformations - Translation – Scaling – Rotation – Reflection – Shearing.

UNIT IV CLIPPING ALGORITHMS

2D Viewing and Clipping – Windows and View Ports – Viewing Transformations – Clipping of lines in 2D – Cohen Sutherland Clipping Algorithms – Visibility – Midpoint subdivision method – parametric Clipping – Polygon Clipping – Sutherland Hodgeman Algorithm – Clipping against Concave windows.

UNIT V HIDDEN SURFACE ALGORITHMS

Hidden Surface Elimination – Black Face Removable Algorithm Z buffer Algorithm.

| Hour | Class Schedule | |
|-----------|--------------------------------------------------------------------------|--|
| allotment | | |
| | Even Semester Begin on 02-12-2015 | |
| 1-L1 | UNIT I INPUT AND OUTPUT DEVICES – Introduction | |
| 2-L2 | Application and operations of computer graphics | |
| 3- L3 | Graphics packages | |
| 4-L4 | Requirements of graphical system | |
| 5-L5 | GUI – Common input devices | |
| 6-L6 | Graphical output devices | |
| 7-L7 | Raster scan video principle | |
| 8-L8 | Raster scan CRT monitor – color raster scan system | |
| 9-L9 | Plasma display | |
| 10-P1 | LCD – Hard copy raster devices | |
| 11-L10 | Memory tube displays | |
| 12-L11 | Plotters, graphics accelerator and coprocessor | |
| 13-L12 | UNIT II ALGORITHMS – Introduction | |
| 14-L13 | Scan conversion – Polynomial method - DDA line drawing algorithm | |
| 15-L14 | Circle, ellipse, parabola | |
| 16-L15 | Bresenham's line drawing algorithms | |
| | INTERNAL TEST I BEGINS(25.01.2016) | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Bresenham's circle drawing algorithms | |
| 19-L17 | Test Paper distribution and result analysis – Problem of scan conversion | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Solid Areas | |

| 22-L19 | Odd even method and winding number method |
|-----------|---------------------------------------------------------------------------|
| 23-L20 | Solid area filling |
| 24-L21 | Flood fill algorithms |
| 25-L22 | Boundary Fill algorithms |
| 26-L23 | UNIT – III TRANSFORMATIONS – Introduction |
| 27-L24 | Two dimensional transformations |
| 28-L25 | Translation and scaling |
| 29-L26 | Rotation |
| 30-L27 | Transformation of points and objects |
| 31-L28 | Homogeneous coordinate system and transformations |
| 32-L29 | Reflection – shearing |
| 33-L30 | 3D transformations |
| | Allotting portion for Internal Test-II |
| | INTERNAL TEST II BEGINS(22.02.2016) |
| 34- P3 | Department Seminar |
| 35-L31 | Translation, Scaling and rotation. |
| 36-L32 | Reflection – shearing |
| | Allotting portion for Assignment/seminar |
| 37-IT-II | Internal Test-II |
| 38-L33 | UNIT - IV CLIPPING ALGORITHMS – Introduction |
| 39-L34 | 2D viewing and clipping |
| 40-L35 | Windows and view ports |
| 41-L36 | Test Paper distribution and result analysis- Viewing Transformations |
| | Entering Internal Test-II Marks into University portal |
| 42-P4 | Department seminar |
| 43-L37 | Cohen – sutherland clipping algorithms – visibility |
| 44-L38 | Mid-point sub division method – Parametric clipping |
| 45-L39 | Polygon clipping – sutherlandHodgeman clipping |
| | Submission of Assignment/take the seminar |
| 46-L40 | Clipping against concave windows |
| 47-L41 | UNIT - V HIDDEN SURFACE ALGORITHMS - Introduction |
| 48-L42 | Hidden surface elimination |
| | Allotting portion for Internal Test-III |
| | INTERNAL TEST III BEGINS(28.03.2016) |
| 49-L43 | Backface removal algorithms |
| 50-L44 | Black dot removal algorithm |
| 51-IT-III | Internal Test-III |
| 52-L45 | Z buffer algorithms- Test Paper distribution and result analysis |
| 53-L46 | Model Test Announcement |
| 54-L47 | Over all view of the course by PPT |
| 55-L48 | Entering Internal Test-III Marks into University portal |
| 56-L49 | Model Test begins(11.04.16) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59-MT | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 22-04-2016 |
| | |

| Learning Outcomes | COs of the course "COMPUTER GRAPHICS" | |
|----------------------------|------------------------------------------------------------------------------|--|
| | | |
| CO1 | Understand the structure of modern computer graphics system. | |
| CO2 | Understand the basic principle of implementing computer graphics primitives. | |
| CO3 | Familiarity with key algorithms for modelling and rendering graphical data. | |
| CO4 | Gain experience in constructing interactive computer graphics | |
| | programs | |
| Experimental | | |
| Learning | | |
| EL1 | To write a program for graphics operations. | |
| EL2 | To perform 2D Transformations | |
| EL3 | To perform 3D Transformations | |
| Integrated Activity | | |
| IA1 | How transformations are used in animation | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

Forslow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2015-2016)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|---------------------|-----------------------|
| Course Name | Environmental Studies |
| Course Code | GVBE21 |
| Class | Iyear (2015-2016) |
| Semester | EVEN |
| Staff Name | Mr.K.APPASAMY |
| Credits | 2 |
| L. Hours /P. Hours | 2 / WK |
| Total 30Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |
| | |

Model Test-3 Hrs
Dept. Meetings-2 Hrs
College Meetings-2 Hrs

Remaining 20Hrs (5 units; 5×4=20; 4Hrs /unit)

Course Objectives

- ➤ Use and over-utilization of surface and ground water
- ➤ Mineral resources: Use and exploitation
- Growing energy needs

Syllabus

UNIT I: THE MULTIDISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES

Definition, scope and importance Natural resources and associated problems:Forest resources: Use and over-exploitation, deforestation, timber extraction, dams and their effects on forests and tribal people. – Water resources: Use and over-utilization of surface and ground water, floods, drought, dams-benefits and problems, water conservation and watershed management. -Mineral resources: Use and exploitation, environmental effects.-Food resources: World food problems, changes, effects of modern agriculture, fertilizer-pesticide problems. -Energy resources: Growing energy needs, renewablesndlnon renewable energy sources, alternate energy sources.- Land resources: Land as a resource, land degradation, man-induced landslides, soil erosion and desertification.

UNIT II: ECOSYSTEMS

Forest Ecosystem -Grassland Ecosystem -Desert ecosystem - Aquatic Ecosystem (Ponds, rivers, oceans, estuaries) -Energy flow in the ecosystem-Ecological succession-Food Chains, Food Webs and Ecological Pyramids.

UNIT III: BIODIVERSITY AND ITS CONSERVATION

Introduction Definition: Genetic, species and ecosystem diversity-Biogeographical classification of Jndia -Values of Biodiversity-Biodiversity at global, national and local levels- India as a mega-diversity nation- Hot-Spots of biodiversity -Threats to biodiversity - Endangered and endemic species of India -Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

UNIT IV: ENVIRONMENTAL POLLUTION

Definition- Causes, effects and control measures of:-Air Pollution -Water Pollution -Soil Pollution - Marine Pollution - Noise Pollution.- Thermal Pollution -Solid Waste Management - Disaster Management: Floods, earthquake, cyclone and landslides.

UNIT V: SOCIAL ISSUES AND THE ENVIRONMENT

Climatic change, global warming, acid rain, ozone depletion.- Wasteland reclamation - Consumerism and Waste products, use and through plastics Environment Protection Act- Air (Prevention and Control of Pollution) Act -Water (Prevention and Control of Pollution) Act - Wildlife Protection Act Forest Conservation Act -Population Explosion — Family Welfare Programme Human Rights

| Hour | Class Schedule |
|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| allotment | |
| | Even Semester Begin on 02.12.2015 |
| 1-L1 | Unit-1:Forest resources: Use and over-exploitation, deforestation, timber |
| | extraction, dams and their effects on forests and tribal people. Water resources: Use and over-utilization of surface and ground water, floods, drought, dams- |
| | benefits and problems, water conservation and watershed management. |
| 2-L2 | Energy resources: Growing energy needs, renewablesndlnon renewable energy |
| | sources, alternate energy sources- Land resources: Land as a resource, land |
| | degradation, man-induced landslides, soil erosion and desertification |
| 3- P1 | Welcoming of First year and Inauguration of BCA Association |
| 4-L3 | Mineral resources: Use and exploitation, environmental effects. |
| 5-L4 | Allotting portion for Internal Test-I |
| | Internal Test I begins(25.01.2016) |
| 6-IT-I | Internal Test-I |

| 7-L5 | Test Paper distribution and result analysis |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Entering Internal Test-I Marks into University portal |
| 8-L6 | Food resources: World food problems, changes, effects of modern |
| | agriculture, fertilizer-pesticide problems. |
| 9-L7 | Unit-2: Forest Ecosystem -Grassland Ecosystem -Desert ecosystem - Aquatic |
| | Ecosystem (Ponds, rivers, oceans, estuaries) |
| 10-P2 | College level meeting/Cell function |
| 11-L8 | Energy flow in the ecosystem-Ecological succession-Food Chains, Food Webs and Ecological Pyramids. |
| 12-L9 | Unit-3: Introduction Definition: Genetic, species and ecosystem diversity-Biogeographical classification of Judia -Values of Biodiversity-Biodiversity at global, national and local levels |
| 13-P3 | Department Seminar |
| 14-L10 | India as a mega-diversity nation- Hot-Spots of biodiversity -Threats to biodiversity -Endangered and endemic species of India -Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity. |
| 15-L11 | Unit-4: Definition- Causes, effects and control measures of:-Air Pollution - |
| | Water Pollution - Soil Pollution - Marine Pollution |
| 16-L12 | Allotting portion for Internal Test-II |
| | Internal Test II begins(22.02.2016) |
| 17-IT-1 | Internal Test-II |
| 18-L13 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 19-L14 | Noise Pollution Thermal Pollution -Solid Waste Management - Disaster |
| | Management: Floods, earthquake, cyclone and landslides. |
| 20- P2 | College level meeting/ function |
| 21-L15 | Unit-5: Climatic change, global warming, acid rain, ozone depletion Wasteland reclamation -Consumerism and Waste products, use and through plastics Environment Protection Act |
| 22-L16 | - Air (Prevention and Control of Pollution) Act -Water (Prevention and Control of Pollution) Act -Wildlife Protection Act Forest Conservation Act -Population Explosion — Family Welfare Programme Human Rights |
| 23- L17 | Allotting portion for Internal Test-III |
| | Internal Test III begins(28.03.2016) |
| 24- IT-III | Internal Test-III |
| 25-L18 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 26-MT | Model Test begins(11.04.16) |
| 27-MT | Model Test |
| 28-MT | Model Test |
| 29-L19 | Model test paper distribution and previous year university question paper |
| | discussion |
| 30-L20 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 22.04.2016 |
| | |

| Learning Outcomes Environmental Studies | |
|-----------------------------------------|-----------------------------------------------------------------|
| | |
| CO1 | Energy flow in the ecosystem-Ecological succession-Food Chains, |
| | Food Webs and Ecological Pyramids |
| CO2 | Noise Pollution Thermal Pollution -Solid Waste Management - |
| | Disaster Management: Floods, earthquake, cyclone and landslides |
| CO3 | Climatic change, global warming, acid rain, ozone depletion |
| | Wasteland reclamation |
| Experimental | |
| Learning | |
| EL1 | Soil Pollution |
| EL2 | Disaster Management |
| Integrated Activity | |
| IA1 | Field Work |
| IA2 | Village Visit |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Application

COURSE ACADEMIC PLAN(2015-2016)

(Prepared by staff member handling the course)

| Programme Name | BCA |
|---------------------|-----------------------------------|
| Course Name | Visual Basic |
| Course Code | SMCA41 |
| Class | II year (2015-2016) |
| Semester | Even |
| Staff Name | 1.Mr. B.Edward Daniel Christopher |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60 Hrs/Sem | |
| Internal Test-3 Hrs | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- ➤ To understand the benefits of using Visual Basic for windows as an application tool.
- ➤ To understand the Visual Basic event-driven programming concepts, terminology and available tools
- ➤ Learn the fundamentals of designing, implementing and distributing a vb application.
- ➤ Learn to use the Visual Basic toolbox
- > To study connectivity between VB and databases.

VISUAL BASIC

UNIT I GETTING STARTED WITH VISUAL BASIC 6.0 Introduction to Visual Basic, Visual Basic 6.0 Programming Environment, Working with Forms, Developing an Application, Variables, Data types and Modules, Procedure and Control Structures, Array in Visual Basic, Additional examples. Working with Controls: Introduction, Creating and Using Controls, Working with Control Arrays, Additional examples.

UNIT II MENUS & GRAPHICS Menus, Mouse Events and Dialog Boxes: Introduction, Mouse Events, Dialog Boxes, Additional examples. Graphics, MDI and Flex Grid: Introduction, Graphics

for Applications, Multiple Document Interface (MDI), Using the flex Grid Control, Additional examples.

UNIT III OPEN DATABASE CONNECTIVITY ODBC and Data Access Objects: Evolution of Computer Architecture, Data Options, Additional examples. ODBC Using Data Access Objects and Remote Data objects: Open Database Connectivity (ODBC), Remote Data objects, Additional examples.

UNIT IV REPORT CREATION Data Environment and Data Report: Introduction, Data Environment Designer, Data Report, Additional examples. Object Linking and Embedding: Introduction, OLE Fundamentals, Using OLE Container Controls, Using OLE Automation Objects, OLE Drag and Drop, Additional examples.

UNIT V ACTIVE X CONTROLS Built – in Active X Controls: Working with Built – In ActiveXControls, Additional examples. Working with Active X Data objects; An Overview of ADO and OLE DB, ADO Object Model, Additional examples. Files, and File System Controls: Introduction, File System Controls, Accessing Files, Interface with Windows, Additional examples.

| Hour allotment | Class Schedule |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| anountent | Even Semester Begin on 02.12-2015 |
| 1-L1 | UNIT I GETTING STARTED WITH VISUAL BASIC 6.0 Introduction to Visual Basic, |
| 1 121 | Visual Basic 6.0 Programming Environment. |
| 2-L2 | Working with Forms, Developing an Application, Variables, Data types |
| 3- L3 | Modules, Procedure and Control Structures |
| 4-L4 | Array in Visual Basic,1-D array, 2-D array- Additional examples. |
| 5-L5 | Working with Controls: Introduction-tool box – available controls |
| 6-L6 | Creating and Using Controls-command button, textbox control, dropdown listbox |
| 7-L7 | Picture box, option button, check box – scroll bars |
| 8-L8 | Common dialog control with examples |
| 9-L9 | Working with Control Arrays, Additional examples. |
| 10-L10 | Explanation for calculator programme |
| | 1 0 |
| 11-L11 | UNIT II MENUS & GRAPHICS Menus, popup menu-introduction- sample |
| | programme |
| 13-L12 | Mouse Events |
| 14-L13 | Dialog Boxes: Introduction – Input box- Additional examples. |
| 15-L14 | Graphics – Image box- picturebox-pixel manipulation |
| | -Allotting portion for Internal Test-I |
| | INTERNAL TEST I BEGINS(25.01.2016) |
| 16-L15 | MDI-Multiple document interface- creating MDI form and child form- sample |
| | programme and output |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Flex Grid - Using the flex Grid Control |
| 19-L17 | Test Paper distribution and result analysis - sample programme for flex grid control design a form with flex grid – setting properties . |

| | Entering Internal Test-I Marks into University portal |
|-----------|--------------------------------------------------------------------------------------|
| 20-L18 | Programme for matrix addition using flex grid. |
| 21-P2 | College level meeting |
| 22-L19 | Dir listbox, drive listbox – sample programme to explain Dir and drive list boxes |
| 23-L20 | Exlaining the calculator programme. – Designing form – using contol arrays. |
| 24-L21 | UNIT III OPEN DATABASE CONNECTIVITYODBC - introduction |
| 25-L22 | Data Access Objects: Evolution of Computer Architecture, |
| 26-L23 | Data Options, Additional examples. ODBC Using Data Access Objects |
| 27-L24 | Remote Data objects |
| 28-L25 | Creating DSN using Open Database Connectivity (ODBC) |
| 29-L26 | Remote Data objects using ODBC - Additional examples. |
| 30-L27 | Insert – Delete – Update- coding using DAO |
| 31-L28 | Creating a student database in MS Access – connecting the database – |
| | Manipulating the data using RDO |
| 32-L29 | Linking database with data grid – Bound data with grid. |
| 33-L30 | Seminar By Students – Topic: Open database connectivity and RDO |
| | Allotting portion for Internal Test-II |
| 24 72 | INTERNAL TEST II BEGINS(22.02.2016) |
| 34- P3 | Unit IV:Report CreationData Environment and Data Report: Introduction |
| 35-L31 | Data Environment Designer, Data Report, Additional Examples |
| 36-L32 | Object Linking and Embedding: Introduction |
| 37-IT-II | OLE Fundamentals |
| 38-L33 | Using OLE Container Controls |
| 39-L34 | Using OLE Automation Objects |
| 40-L35 | OLE Drag and Drop |
| 41-L36 | Additional examples. |
| 42-P4 | UNIT - V ACTIVE X CONTROLS Built – in Active X Controls: |
| 43-L37 | Working with Built in controls |
| 44-L38 | ActiveX Controls- using and creating controls |
| 45-L39 | Additional examples. |
| 46-L40 | Working with Active X Data objects |
| 47-L41 | An Overview of ADO and OLE DB |
| 48-L42 | ADO Object Model. |
| 49-L43 | Additional examples |
| | INTERNAL TEST III BEGINS(28.03.2016) |
| 50-L44 | Files, and File System Controls: Introduction |
| 51-IT-III | File System Controls |
| 52-L45 | Accessing Files |
| 53-L46 | Interface with Windows |
| 54-L47 | Additional Examples |
| 55-L48 | Entering Internal Test-III Marks into University portal |
| 56-L49 | Model Test begins(11.04.16) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59-MT | Model test paper distribution and previous year university question paper discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |

| Learning Outcomes | COs of the course "VISUAL BASIC" | | |
|--------------------------|--------------------------------------------------------|--|--|
| | | | |
| CO1 | Gain knowledge about GUI | | |
| CO2 | O2 Skilled in form design and event driven programming | | |
| CO3 | Usage of various tools in visual basic | | |
| CO4 | Able to connect and access database | | |
| CO5 | Able to connect external data base using ODBC | | |
| CO6 | How to prepare data report | | |
| Experimental | | | |
| Learning | | | |
| EL1 | To do working models to explain Database connectivity | | |
| EL2 | Getting resources about Visual basic through Internet | | |
| EL3 | GD on merit and demerit GUI | | |
| EL4 | Discussion about Facebook and its database maintenance | | |
| Integrated Activity | | | |
| IA1 | Designing a billing software for grocery shop | | |
| IA2 | | | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

Forslow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

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Department of Computer Application & Networking

1. Questionnaires for Course Feedback from Students

| Name of the student | |
|---------------------|--|
| Programme Name | |
| Course Name | |
| Course code | |
| Year of Joining | |
| Semester | |
| Date | |

Put a tick in the best represents your response to each statement.

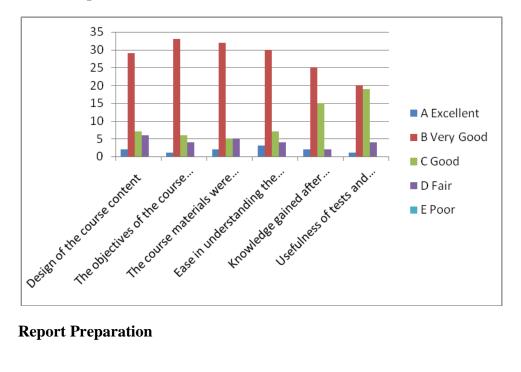
| No. | Parameters | A | В | С | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | The objectives of the course | A | В | C | D | Е |
| | were clearly stated. | | | | | |
| 3 | The course materials were | A | В | C | D | Е |
| | clearly explained. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | Е |
| | course content. | | | | | |
| 5 | Knowledge gained after | A | В | C | D | Е |
| | completion of the course. | | | | | |
| 6 | Usefulness of tests and | A | В | C | D | Е |
| | assignments | | | | | |
| 7 | Extent of efforts required by | A | В | C | D | Е |
| | students. | | | | | |

Course Feedback Analysis and Report Preparation

Number of responses: 44

| No. | Parameters | A | В | С | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 2 | 29 | 7 | 6 | 0 |
| 2 | The objectives of the course | 1 | 33 | 6 | 4 | 0 |
| | were clearly stated. | 1 | 33 | O | 4 | U |
| 3 | The course materials were | 2 | 32 | 5 | 5 | 0 |
| | clearly explained. | 2 | 32 | 3 | 3 | U |
| 4 | Ease in understanding the | 3 | 30 | 7 | 4 | 0 |
| | course content. | 3 | 30 | / | 4 | U |
| 5 | Knowledge gained after | 2 | 25 | 15 | 2 | 0 |
| | completion of the course. | 2 | 23 | 13 | 2 | U |
| 6 | Usefulness of tests and | 1 | 20 | 19 | 4 | 0 |
| | assignments | 1 | 20 | 19 | + | U |
| 7 | Extent of efforts required by | 2 | 25 | 10 | 7 | 0 |
| | students. | 2 | 23 | 10 | / | U |

Chart Preparation



Department of Computer Application & Networking

2. Questionnaires for Course Feedback from Teachers

| Name of the Teacher | |
|---------------------|--|
| Programme Name | |
| Course Name | |
| Course code | |
| Semester/Year | |
| Date | |

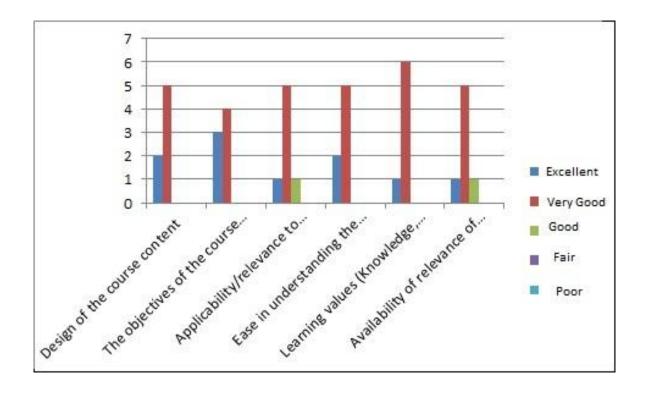
Put a tick in the best represents your response to each statement.

| No. | Parameters | A | В | С | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | E |
| 2 | The objectives of the course | A | В | C | D | Е |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | A | В | C | D | Е |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | Е |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | A | В | C | D | E |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | A | В | C | D | Е |
| | additional source materials | | | | | |

Number of Responses: 7

| No. | Parameters | A | В | С | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 2 | 5 | 0 | 0 | 0 |
| 2 | The objectives of the course | 3 | 4 | 0 | 0 | 0 |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | 1 | 5 | 1 | 0 | 0 |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | 2 | 5 | 0 | 0 | 0 |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | 1 | 6 | 0 | 0 | 0 |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | 1 | 5 | 1 | 0 | 0 |
| | additional source materials | | | | | |

Chart preparation



Department of Application & Networking

3. Questionnaires for Course Feedback from Alumni

| Name of the Alumni | |
|--------------------|--|
| Programme Name | |
| Course Name | |
| Contact No/Mail id | |
| Semester and year | |
| Date | |

Put a tick in the best represents your response to each statement.

| No. | Parameters | A | В | C | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | The objectives of the course | A | В | C | D | Е |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | A | В | C | D | Е |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | Е |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | A | В | C | D | Е |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | A | В | C | D | Е |
| | additional source materials | | | | | |

Number of Responses: 10

| No. | Parameters | A | В | С | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 5 | 1 | 5 | 3 | 0 |
| 2 | The objectives of the course | 2 | 7 | 4 | 4 | 0 |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | 2 | 5 | 2 | 1 | 0 |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | 1 | 4 | 1 | 8 | 0 |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | 5 | 2 | 1 | 5 | 0 |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | 4 | 2 | 8 | 5 | 0 |
| | additional source materials | | | | | |

4. Questionnaires for Course Feedback from Parents

| Name of the Parent | |
|--------------------------|--|
| Name of the Student | |
| Programme Name | |
| Course Name | |
| Contact Number/Mail id | |
| Year of Joining/Semester | |
| Date | |

Put a tick in the best represents your response to each statement. 15

| No. | Parameters | A | В | C | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | С | D | Е |
| 2 | Course materials available in | A | В | С | D | Е |
| | Library. | | | | | |
| 3 | The course materials were | A | В | C | D | Е |
| | clearly explained. | | | | | |
| 4 | Improvement in soft skills, | A | В | C | D | Е |
| | knowledge, observed by you in | | | | | |
| | your ward. | | | | | |
| 5 | Usefulness of the course for | A | В | C | D | Е |
| | getting job. | | | | | |
| 6 | Extent of efforts required by | A | В | С | D | Е |
| | students. | | | | | |

St. John's College, Palayamkottai

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2015-2016)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. | |
|--------------------|-------------------|--|
| Course Name | DIGITAL DESIGN | |
| Course Code | GACA11 | |
| Class | I YEAR(2015-2016) | |
| Semester | Odd | |
| Staff Name | Ms.G.Priskillal | |
| Credits | 4 | |
| L. Hours /P. Hours | 4 / WK | |
| Total 60Hrs/Sem | | |

Internal Test-3 Hrs Model Test-3 Hrs

Dept. Meetings-2 Hrs College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- To acquire the basic Knowledge of digital logic levels
- ➤ Application of knowledge to understand digital Electronic circuits
- > To perform the analysis and design of various digital electronic circuits

Syllabus

Unit I : Digital System and binary numbers: Digital systems – binary numbers – number base conversion – Octal and hexa decimal numbers – complements – signed binary numbers – binary codes – binary storage and registers – binary logic **Boolean algebra:** Introduction – basic definition – axiomatic definition of Boolean algebra

Unit II : Logic gates: Canonical and standard forms – other logic operations – digital logic gates and integrated - Don't conditions

Unit III: NAND and NOR implementation- other two level implementations – Exclusive OR Functions **Combinational Logic:** Introduction – Combinational circuits – Analysis Proceure - Design Procedure – Binary Adder – Subtractor – Decimal Adder - Binary Multiplier - Magnitude Comparator

Unit IV : Decoders - Encoders - Multiplexers **Synchronous Sequential Logic:** Introduction -Sequential Circuits - Storage Element Latches - Storage Element Flip- Flops - Analysis of Clocked Sequential Circuits

Unit V : Registers and Counters: Registers – Shift Registers – Ripple Counters – Synchronous Counters – Other counters Memory : Introduction – Random access memory – Memory Decoding – Error Detection and Correction – Read Only Memory.

| Hour allotment | Class Schedule | |
|-------------------|-------------------------------------------------------------|---|
| | Odd Semester Begin on 18.06.2015 | |
| 1-L1 | Unit I : Digital System and binary numbers: Digital systems | 1 |

| 2-L2 | binary numbers |
|-----------------|-------------------------------------------------------------------------|
| 3- L3 | number base conversion |
| 4-L4 | Octal and hexa decimal numbers |
| 5-L5 | - complements |
| 6-L6 | signed binary numbers |
| 7-L7 | binary codes |
| 8- P1 | Welcoming of First year and Inauguration of BCA Association |
| 9- L8 | binary storage and registers |
| 10- L9 | binary logic Boolean algebra |
| 11-L10 | basic definition |
| 12-L11 | axiomatic definition of Boolean algebra |
| 13-L12 | Unit II : Logic gates: Canonical and standard forms |
| 14-L13 | other logic operations |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins(20.07.2015) |
| 16-L15 | digital logic gates |
| 17-IT-1 | Internal Test-I |
| 18-L16 | integrated circuits |
| 19-L17 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | other logic operations |
| 21- L19 | Integrated operations |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | Don't conditions |
| 24-L21 | Unit III : NAND and NOR implementation- other two level implementations |
| 25-L22 | Exclusive OR Functions |
| 26-L23 | Combinational Logic: Introduction |
| 27-L24 | Combinational circuits |
| 28-L25 | Analysis Proceure |
| 29-L26 | Design Procedure |
| 30-L27 | Binary Adder |
| 31-L28 | Subtractor |
| 32-L29 | Decimal Adder |
| 33-L30 | Binary Multiplier |
| 34- P3 | Department Seminar |
| 35-L31 | Magnitude Comparator |
| 36-L32 | Allotting portion for Internal Test-II |
| 25. 7.55 | Internal Test II begins(31.08.2015) |
| 37- L33 | Unit IV : Decoders |
| 38- IT-II | Internal Test-II |
| 39-L34 | Encoders |
| 40-L35 | Test Paper distribution and result analysis |
| 41 7 26 | Entering Internal Test-II Marks into University portal |
| 41-L36 | Multiplexers |
| 42- L37 | Synchronous Sequential Logic: Introduction |
| 43- L38 | Sequential Circuits |
| 44- P4 | College level meeting/ function |
| 45-L39 | Storage Element Latches |

| 46-L40 | Storage Element Flip flops |
|-----------|---------------------------------------------------------------------------|
| 47-L41 | Flops |
| 48-L42 | Analysis of Clocked Sequential Circuits |
| 49-L43 | Unit V: Registers and Counters: Registers |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(05.10.2015) |
| 51 L45 | Shift Registers |
| 52- L46 | Ripple Counters |
| 53-IT-III | Internal Test-III |
| 54-L47 | Synchronous Counters |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(16.10.15) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 29.10.2015 |

| Learning Outcomes | DIGITAL DESIGN |
|----------------------------|------------------------------------------------------------------------|
| | |
| CO1 | Examine the structure of various number system |
| CO2 | Examine the application the digital design |
| CO3 | Ability to understand, Analyse and design various combinational |
| | and sequential circuits. |
| Experimental | |
| Learning | |
| EL1 | Basic Gates:OR,NOT,AND,NAND,NOR |
| EL2 | Integrated circuits |
| EL3 | K-map circuit diagram |
| EL4 | Parity checker |
| Integrated Activity | |
| IA1 | Integration of the four circuit activity, in one combinational circuit |
| IA2 | The aim of the course is to make the students to be able to |
| | synthesize simple login circuits in one logic circuits. |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2015-2016)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|---------------------|---------------------|
| Course Name | DATA STRUCTRUE |
| Course Code | GACA31 |
| Class | II year (2015-2016) |
| Semester | Odd |
| Staff Name | Ms.G.PRISKILLAL |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| Internal Test-3 Hrs | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To understand different methods of organizing large amounts of data.
- > To efficiently implement different data structure.
- > To efficiently implement solution for different problems.

Syllabus

UNIT I DATATYPES INTRODUCTION

Introduction: Pseudo code – The Abstract Data Type – A Model for an Abstract Data Type – Algorithms Efficiency. Searching: List Searches – Hashed List Searches – Collision Resolution. (10 L)

UNIT II LINKED LISTS

Linear List Concepts – Linked List Concepts – linked List Algorithms – Processing a Linked List – Complex Linked List Structures. (10 L)

UNIT III STACKS AND QUEUES

Basic Stacks Operations – Stack Linked List Implementation – Stack Applications – Queue operations – Queue Linked List Design. (10L)

UNIT IV TREES

Basic Tree Concepts – Binary Tree - Binary Tree Traversals – Expression Trees- General Trees – Binary Search Trees – Heap definition – Heap Structure – Basic Heap Algorithm. (8L)

UNIT V INTRODUCTION TO GRAPHS

Sorting And Graphs: General Sort Concepts – Quick sort – External sorts. Graphs: Terminology – Operations – Graph storage Structure – Networks.

| Hour allotment | Class Schedule | |
|-------------------|-------------------------------------------------------------|--|
| anountent | Odd Semester Begin on 18.06.2015 | |
| 1-L1 | UNIT I DATATYPES INTRODUCTION | |
| | Pseudo Code | |
| 2-L2 | The Abstract Data Type | |
| 3- L3 | A Model For An Abstract Data Type | |
| 4-L4 | Algorithm Efficiency | |
| 5-L5 | Searching | |
| 6-L6 | List Searches | |
| 7-L7 | Hashed List Searches | |
| 8- P1 | Welcoming of First year and Inauguration of BCA Association | |
| 9- L8 | Collision Resolution | |
| 10- L9 | UNIT II LINKED LISTS | |
| | Linear List Concepts | |
| 11-L10 | Linked List Concept | |
| 12-L11 | Linked List Algorithm | |
| 13-L12 | Processing A Link List | |
| 14-L13 | Complex Linked List Structrue | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(20.07.2015) | |
| 16-L15 | UNIT III STACKS AND QUEUES | |
| | Basic Stacks Operations | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Stack Linked List Implementation | |
| 19-L17 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Stack Application | |
| 21- L19 | Queue Operation | |
| 22- P2 | College level meeting/Cell function | |

| 23-L20 | Queue Linked List Design |
|-----------|---------------------------------------------------------------------------|
| 24-L21 | UNIT IV TREES |
| 27-1221 | Basic Tree Concepts |
| 25-L22 | Binary Tree |
| 26-L23 | Binary Tree Traversal |
| 27-L24 | Expression Trees |
| 28-L25 | General Trees |
| 29-L26 | Binary Search Tree |
| 30-L27 | Heap Definition |
| 31-L28 | Heap Structrue |
| 32-L29 | Basic Heap Algorithm |
| 33-L30 | UNIT V INTRODUCTION TO GRAPHS |
| | Sorting And Graphs |
| 34- P3 | Department Seminar |
| 35-L31 | General Sort Concept |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(31.08.2015) |
| 37- L33 | Quick Sort |
| 38- IT-II | Internal Test-II |
| 39-L34 | External Sort |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Graphs |
| 42- L37 | Terminology |
| 43- L38 | Operation |
| 44- P4 | College level meeting/ function |
| 45-L39 | Graph Storage Structrue |
| 46-L40 | Network |
| 47-L41 | Abstract Data Type |
| 48-L42 | Pseudo Code |
| 49-L43 | List Searches |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(05.10.2015) |
| 51 L45 | Hashed List Searches |
| 52- L46 | Stack Application |
| 53-IT-III | Internal Test-III |
| 54-L47 | Heap Definition |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(16.10.15) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| 10 7 7 7 | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 29.10.2015 |

| Learning Outcomes | DATA STRUCTRUE |
|--------------------------|--------------------------------------------------------------------|
| CO1 | Select appropriate data structures as applied to specified problem |
| | definition |
| CO2 | To Implement operations |
| CO3 | To implement linear and non-linear data structure |
| CO4 | Determine complexity of the given algorithm |
| Experimental | |
| Learning | |
| EL1 | To implement sorting |
| EL2 | To implement the search operations |
| EL3 | Implementation of the Queue and Stack |
| EL4 | Implementation of Binary Trees |
| Integrated Activity | |
| IA1 | IT system integration |
| IA2 | Alternation mode choices shared about data structure |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2015-2016)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|----------------------|-----------------------|
| Course Name | Environmental Studies |
| Course Code | GEVS11 |
| Class | Iyear (2015-2016) |
| Semester | ODD |
| Staff Name | Mr.K.APPASAMY |
| Credits | 2 |
| L. Hours /P. Hours | 2 / WK |
| Total 30Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |
| Dept. Meetings-2 Hrs | |

Course Objectives

College Meetings-2 Hrs

- ➤ Use and over-utilization of surface and ground water
- ➤ Mineral resources: Use and exploitation
- Growing energy needs

Remaining 20Hrs (5 units; 5×4=20; 4Hrs /unit)

Syllabus

UNIT I: THE MULTIDISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES

Definition, scope and importance Natural resources and associated problems:Forest resources: Use and over-exploitation, deforestation, timber extraction, dams and their effects on forests and tribal people. — Water resources: Use and over-utilization of surface and ground water, floods, drought, dams-benefits and problems, water conservation and watershed management. -Mineral resources: Use and exploitation, environmental effects.-Food resources: World food problems, changes, effects of modern agriculture, fertilizer-pesticide problems. -Energy resources: Growing energy needs, renewablesndlnon renewable energy sources, alternate energy sources.- Land resources: Land as a resource, land degradation, man-induced landslides, soil erosion and desertification.

UNIT II: ECOSYSTEMS

Forest Ecosystem -Grassland Ecosystem -Desert ecosystem - Aquatic Ecosystem (Ponds, rivers, oceans, estuaries) -Energy flow in the ecosystem-Ecological succession-Food Chains, Food Webs and Ecological Pyramids.

UNIT III: BIODIVERSITY AND ITS CONSERVATION

Introduction Definition: Genetic, species and ecosystem diversity-Biogeographical classification of Jndia -Values of Biodiversity-Biodiversity at global, national and local levels- India as a mega-diversity nation- Hot-Spots of biodiversity -Threats to biodiversity - Endangered and endemic species of India -Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

UNIT IV: ENVIRONMENTAL POLLUTION

Definition- Causes, effects and control measures of:-Air Pollution -Water Pollution -Soil Pollution - Marine Pollution - Noise Pollution.- Thermal Pollution -Solid Waste Management - Disaster Management: Floods, earthquake, cyclone and landslides.

UNIT V: SOCIAL ISSUES AND THE ENVIRONMENT

Climatic change, global warming, acid rain, ozone depletion.- Wasteland reclamation - Consumerism and Waste products, use and through plastics Environment Protection Act- Air (Prevention and Control of Pollution) Act -Water (Prevention and Control of Pollution) Act - Wildlife Protection Act Forest Conservation Act -Population Explosion — Family Welfare Programme Human Rights

| Hour | Class Schedule | |
|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| allotment | | |
| | ODD Semester Begin on 18.06.2015 | |
| 1-L1 | Unit-1 :Forest resources: Use and over-exploitation, deforestation, timber extraction, dams and their effects on forests and tribal people. Water resources: Use and over-utilization of surface and ground water, floods, drought, damsbenefits and problems, water conservation and watershed management. | |
| 2-L2 | Energy resources: Growing energy needs, renewablesndlnon renewable energy sources, alternate energy sources- Land resources: Land as a resource, land degradation, man-induced landslides, soil erosion and desertification | |
| 3- P1 | Welcoming of First year and Inauguration of BCA Association | |
| 4-L3 | Mineral resources: Use and exploitation, environmental effects. | |
| 5-L4 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(20.07.2015) | |
| 6-IT-I | Internal Test-I | |

| 7-L5 | Test Paper distribution and result analysis | |
|------------|----------------------------------------------------------------------------------------------------|--|
| | Entering Internal Test-I Marks into University portal | |
| 8-L6 | Food resources: World food problems, changes, effects of modern | |
| | agriculture, fertilizer-pesticide problems. | |
| 9-L7 | Unit-2: Forest Ecosystem -Grassland Ecosystem -Desert ecosystem - Aquatic | |
| | Ecosystem (Ponds, rivers, oceans, estuaries) | |
| 10-P2 | College level meeting/Cell function | |
| 11-L8 | Energy flow in the ecosystem-Ecological succession-Food Chains, Food Webs and Ecological Pyramids. | |
| 12-L9 | Unit-3: Introduction Definition: Genetic, species and ecosystem diversity- | |
| 12 2) | Biogeographical classification of Jndia -Values of Biodiversity- Biodiversity at | |
| | global, national and local levels | |
| 13-P3 | Department Seminar | |
| 14-L10 | India as a mega-diversity nation- Hot-Spots of biodiversity -Threats to | |
| I I LIO | biodiversity -Endangered and endemic species of India -Conservation of | |
| | biodiversity: In-situ and Ex-situ conservation of biodiversity. | |
| 15-L11 | Unit-4: Definition- Causes, effects and control measures of:-Air Pollution - | |
| 10 211 | Water Pollution - Soil Pollution - Marine Pollution | |
| 16-L12 | Allotting portion for Internal Test-II | |
| 10 212 | Internal Test II begins(31.08.2015) | |
| 17-IT-1 | Internal Test-II | |
| 18-L13 | Test Paper distribution and result analysis | |
| 10 210 | Entering Internal Test-II Marks into University portal | |
| 19-L14 | Noise Pollution Thermal Pollution -Solid Waste Management - Disaster | |
| | Management: Floods, earthquake, cyclone and landslides. | |
| 20- P2 | College level meeting/ function | |
| 21-L15 | Unit-5: Climatic change, global warming, acid rain, ozone depletion Wasteland | |
| | reclamation -Consumerism and Waste products, use and through plastics | |
| | Environment Protection Act | |
| 22-L16 | - Air (Prevention and Control of Pollution) Act -Water (Prevention and Control | |
| | of Pollution) Act -Wildlife Protection Act Forest Conservation Act -Population | |
| | Explosion — Family Welfare Programme Human Rights | |
| 23- L17 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(05.10.2015) | |
| 24- IT-III | Internal Test-III | |
| 25-L18 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 26-MT | Model Test begins(16.10.15) | |
| 27-MT | Model Test | |
| 28-MT | Model Test | |
| 29-L19 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 30-L20 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 29.10.2015 | |
| L | | |

| Learning Outcomes | Environmental Studies |
|--------------------------|-----------------------------------------------------------------|
| | |
| CO1 | Energy flow in the ecosystem-Ecological succession-Food Chains, |
| | Food Webs and Ecological Pyramids |
| CO2 | Noise Pollution Thermal Pollution -Solid Waste Management - |
| | Disaster Management: Floods, earthquake, cyclone and landslides |
| CO3 | Climatic change, global warming, acid rain, ozone depletion |
| | Wasteland reclamation |
| Experimental | |
| Learning | |
| EL1 | Soil Pollution |
| EL2 | Disaster Management |
| Integrated Activity | |
| IA1 | Field Work |
| IA2 | Village Visit |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2015-2016)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|----------------------|
| Course Name | Software Engineering |
| Course Code | GMCA51 |
| Class | III year (2015-2016) |
| Semester | odd |
| Staff Name | MR.L.Abraham David |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | <u> </u> |

Total 60Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- To study the need and nature of mobile applications.
- To learn the tools and platforms required for mobile applications.
- To understand the design issues in mobile applications.

Syllabus:

UNIT I SOFTWARE AND SOFTWARE ENGINEERING The Nature of Software – The Nature of Software? The Nature of Software – Stack holders in Software engineering - Stack holders in Software engineering – Activities common to Software projects – Difficult and risk in software engineering as a whole. Review of Object Orientation: What is object orientation/ - Classes and objects - Instance variables - Methods, Operations and Polymorphism – Concepts best define object orientation – Difficulties and risks in programming language choice and object – oriented programming. (12 L)

UNIT II DEVELOPING REQUIREMENTS Domain analysis – The starting point for software projects – Defining the problem and the scope – What is a requirement? – Types of requirements – Some techniques for gathering and analyzing requirements – Managing changing requirements – Difficulties and risks in domain and requirements analysis. (12 L)

UNIT III MODELING WITH CLASSES What is UML? – Essentials of UML class diagrams – Associations and Multiplicity – Generalization – Instance diagrams – More advanced features of class diagrams. Modeling Interactions and Behavior: Interaction diagram – State diagrams – Activity diagrams. (12 L)

UNIT IV ARCHITECTING AND DESIGNING SOFTWARE The process of design – Principles leading to good design – Techniques for making good design decisions – Software architecture – Architectural patterns – Writing a good designing document. **(12 L)**

UNIT V TESTING AND INSPECTING TO ENSURE HIGH QUALITY Basic definitions – Effective and efficient testing – Defects in ordinary Algorithms – Defects in numerical algorithms – Defects in timing and co-ordination. Managing the Software Process: What is project management? – Software process models – Cost estimation – building software engineering teams – Project scheduling and tracking.

| Hour | Class Schedule |
|-----------|-------------------------------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 18.06.2015 |
| 1-L1 | UNIT I SOFTWARE AND SOFTWARE ENGINEERING: The Nature |
| | of Software |
| 2-L2 | Stack holders in Software engineering |
| 3- L3 | Activities common to Software projects |
| 4-L4 | Difficult and risk in software engineering as a whole. Review of Object Orientation |
| 5-L5 | What is object orientation. |
| 6-L6 | Classes and objects |
| 7-L7 | Instance variables. |
| 8- P1 | Methods, Operations and |
| 9- L8 | Concepts best define object orientation. |
| 10- L9 | Difficulties and risks in programming language choice and object |
| 11-L10 | Polymorphism. |
| 12-L11 | oriented programming. |
| 13-L12 | UNIT II DEVELOPING REQUIREMENTS Domain analysis |
| 14-L13 | The starting point for software projects ,Defining the problem and the scope |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins |
| 16-L15 | What is a requirement |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Some techniques for gathering |
| 19-L17 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | Types of requirements |
| 21- L19 | analyzing requirements |

| 22- P2 | College level meeting/ |
|------------------|---------------------------------------------------------------------------|
| 23-L20 | Managing changing requirements |
| 24-L21 | Difficulties and risks in domain |
| 25-L22 | Cell function |
| 26-L23 | analysis and requirements |
| 27-L24 | UNIT III MODELING WITH CLASSES What is UML |
| 28-L25 | Essentials of UML class diagrams. |
| 29-L26 | Associations and Multiplicity |
| 30-L27 | Generalization |
| 31-L28 | Instance diagrams |
| 31-L28 32-L29 | More advanced features of class diagrams. |
| 33-L30 | Modeling Interactions and Behavior |
| 34- P3 | Interaction diagram |
| 35-L31 | State diagrams ,Activity diagrams. |
| 36-L32 | Allotting portion for Internal Test-II |
| 30-L32 | Internal Test II begins |
| 37- L33 | UNIT IV ARCHITECTING AND DESIGNING SOFTWARE The process |
| 37- L33 | of design: |
| 38- IT-II | Internal Test-II |
| 39-L34 | Principles leading to good design |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Techniques for making good design decisions |
| 42- L37 | Software architecture |
| 43- L38 | Architectural patterns. |
| 44- P4 | Writing a good designing document |
| 45-L39 | UNIT V TESTING AND INSPECTING TO ENSURE HIGH QUALITY |
| | Basic definitions. |
| 46-L40 | Effective and efficient testing |
| 47-L41 | Defects in ordinary Algorithms |
| 48-L42 | Defects in numerical algorithms |
| 49-L43 | Managing the Software Process |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins |
| 51 L45 | Software process models |
| 52- L46 | Cost estimation ,building software engineering teams |
| 53-IT-III | Internal Test-III |
| 54-L47 | Project scheduling and tracking. |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(16.10.15) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| 1 | Last Working day on 16.10.2015 |
| | g,g, |

| Learning Outcomes | COs of the course " <software engineering="">"</software> |
|-----------------------|-----------------------------------------------------------|
| | |
| CO1 | Defects in ordinary Algorithms |
| CO2 | Software process models |
| CO3 | Techniques for making good design decisions |
| CO4 | Concepts best define object orientation |
| Experimental Learning | |
| EL1 | Instance diagrams |
| EL2 | Classes and objects |
| Integrated Activity | |
| IA1 | Software process models |
| IA2 | Techniques for making good design decisions |

Blended Learning : using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for higher study.

For slow learner : special care taken, motivate the advanced learner to support the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2015-2016)

(Prepared by staff member handling the course)

Remaining 50 Hrs (5 units; $5\times10=50$; 10Hrs /unit)

| Programme Name | B.C.A. |
|----------------------|----------------------|
| Course Name | Mobile Communication |
| Course Code | GMCA5C |
| Class | III year (2015-2016) |
| Semester | odd |
| Staff Name | MR .S.IMMANUEL |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |
| Dept. Meetings-2 Hrs | |

Course Objectives

College Meetings-2 Hrs

- To study the need and nature of mobile applications.
- To learn the tools and platforms required for mobile applications.
- To understand the design issues in mobile applications.

Syllabus

UNIT I INTRODUCTION Mobile Communication: Need for Mobile Communication – Requirements of Mobile Communication – History of Mobile Communication – Properties of Wireless Medium – Radio Propagation – Propagation Coverage Calculation. Introduction to Cellular Mobile Communication: Cellular Structure – Frequency Reuse – System Architecture – Authentication Centre (AUC) – Home Location Register (HLR) – Visiting Location Register (VLR) – Equipment Identify Register (EIR) – Base Station System - Cellular Mobile Communication Switching. (12 L)

UNIT I INTRODUCTION Mobile Communication Standards: First generation Wireless Networks – Second generation Wireless System – Third generation and Beyond Wireless

Systems – Implementation Organization – Regional Organization – Global Organization – Global System for Mobile communication (GSM) – GSM Architecture – Advanced Mobile Phone Service (AMPS) – Digital Advanced Mobile Phone Service. Cordless Telephony Standards: - Personal Access Communication Standards (PACS) – EIA/TIA IS-136-EIA TIA IS – 95 Standards – Digital European Cordless Telephone (DECT) – Personal Handy Phone System (PHS) – IEEE 802.11 - Other Standards – Handoff Techniques - Handoff Detection and Assignment – Types of Handoff – Mobile controlled Handoff – Network controlled Handoff – Mobile Assisted handoff – Radio Link Transfer – Roaming Management – Connection to Public Telephone Network – Connection from Mobile Unit to a Fixer User, Cellular. System Spectrum: Adaptive channel allocation – Frequency Division – Spectrum Utilization – Channel Reservation for Handoff Calls – Control Channels – Channel Assignment Methods – Channel Borrowing and Sharing – Non – Fixed Assignment Methods – Permanent Cell Splitting – Temporary Cell Splitting. (12 L)

UNIT I INTRODUCTIONCOrdless Mobile Communication System: Cordless Telephone
Home – Multichannel Cordless Telephone System – Wireless Private Box Exchange History
of Data networks – Classification of Mobile Data Networks – Independent Data networks –
Shared Mobile Data – Overlay Mobile Data – Cellular Digital Part data (CDPD) System –
Architecture of CDPD – Satellite Classification – Earth Orbit Satellites – Medium Earth
Orbit Satellite, Low Earth Orbit Global Satellite Communication. Changeover from One
Satellite to Requirements of Global Mobile Communication - Global User Number –
Configuration – Third Generation Global Mobile System Satellite System for mobility. (12
L)

UNIT IV INTERFERENCES Interferences in Cellular Mobile Communication: Nature of Co- Channel Interference – Measurement of Co- Channel Interference - Measurement of Co- Channel Interference with mobile Unit – Frequency Reuse - Co- Channel Interference Omni directional Radiation – directional Antennas for Co- Channel Interference Reduction – Other Methods of Co- Channel Reduction – Non-Co- Channel Interference – Measurement of Signal to Noise and Distortion Ratio (SINAD) – Design Objective – Basic Specification - Co- Channel Interference Reduction Factor – Adjacent Channel Interference – Propagation Attenuation – Fading – Factors to be Considered at the Base Station – Working of Mobile IP – Wireless Threads – Authentication and Access control –to Communication – Anonymity – Security Arrangement in CDMA – Security of Wireless Data Networks. (12 L) Secrecy

UNIT V WIRELESS LOCAL LOOP ARCHITECTURE Components in Will —
Problems in WLL — Modern Wireless Local Loop — Local Multipoint Distribution Service
(LMDS) - Properties of WAP — Beater Services — Wireless Datagram Protocol (WDP) —
Wireless Transport Layer Security (WTLS) — WAP Transaction Protocol (WTP) Wireless
Session Protocol (WSP) Wireless Application Environment (WAE) — Components
Integration — Bearer Adaptation — WAP Client Supporting Networks — System Description —
Advantages of Microcellular — Layout of the Optical Fiber Microcellular Communication
System — Need for Ad hoc Networks — MANET and Technical Factors Affecting Ad hoc
Network - Ad hoc Nodes System Description — Routing in Ad hoc Network — Bluetooth
Technology — Limitation on the Bluetooth Physical Layer — Types of Intelligent Cells —
Power Delivery Intelligent Cells — Processing Gain Intelligent Cells — User Controlled

Services – Reconfigurable Technology – Vision of 4G-4G Mobile System Convergence. (12 L)

| Hour | Class Schedule |
|-----------|---------------------------------------------------------------------------|
| allotment | |
| | odd Semester Begin on 16.06.2016 |
| 1-L1 | UNIT I:INTRODUCTION Mobile Communication |
| 2-L2 | Need for Mobile Communication. |
| 3- L3 | Requirements of Mobile Communication. |
| 4-L4 | History of Mobile Communication. |
| 5-L5 | Properties of wireless medium. |
| 6-L6 | Radio Propagation. |
| 7-L7 | Propagation Coverage Calculation |
| 8- P1 | Welcoming of First year and Inauguration of BCAAssociation |
| 9- L8 | Introduction to Cellular Mobile Communication. |
| 10- L9 | Cellular Structure. |
| 11-L10 | Frequency Reuse. |
| 12-L11 | System Architecture |
| 13-L12 | Authentication Centre (AUC) |
| 14-L13 | Home Location Register (HLR). |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins(20.07.2015) |
| 16-L15 | UNIT II: INTRODUCTION Mobile communication Standards. |
| 17-IT-1 | Internal Test-I |
| 18-L16 | First generation Wireless Networks. |
| 19-L17 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | Second generation Wireless System. |
| 21- L19 | Third generation and Beyond Wireless system. |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | Implementation Organization |
| 24-L21 | Regional Organization. |
| 25-L22 | Global Organization. |
| 26-L23 | Global System for Mobile communication (GSM). |
| 27-L24 | GSM Architecture. |
| 28-L25 | Advanced Mobile Phone Service (AMPS). |
| 29-L26 | Digital Advanced Mobile Phone Service. |
| 30-L27 | Telephony Standards. |
| 31-L28 | Personal Access Communication Standards (PACS), TIA IS-136-EIA TIA IS, 95 |
| | Standards. |
| 32-L29 | Digital European Cordless Telephone (DECT). |
| 33-L30 | Personal Handy Phone System (PHS). |
| 34- P3 | Department Seminar |

| 35-L31 | UNIT III INTRODUCTION |
|-----------|-------------------------------------------------------------------------------|
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(31.08.2015) |
| 37- L33 | Cordless Telephone Home. |
| 38- IT-II | Internal Test-II |
| 39-L34 | Multichannel Cordless Telephone System. |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Global User Number, Configuration, Third Generation Global Mobile System |
| | Satellite System for mobility. |
| 42- L37 | UNIT IV INTERFERENCES Interferences in Cellular Mobile |
| | Communication: Nature of Co, Channel Interference ,Measurement of Co- |
| | Channel Interference |
| 43- L38 | Frequency Reuse ,Co- Channel Interference Omni directional Radiation |
| | directional Antennas for Co. |
| 44- P4 | College level meeting/ function |
| 45-L39 | Channel Interference Reduction ,Other Methods of Co,Channel Reduction ,Non- |
| | Co- Channel Interference. |
| 46-L40 | Adjacent Channel Interference ,Propagation Attenuation ,Fading ,Factors to be |
| | Considered. |
| 47-L41 | Working of Mobile IP, Wireless Threads, Authentication and Access control –to |
| | Communication. |
| 48-L42 | UNIT V WIRELESS LOCAL LOOP ARCHITECTURE Components in |
| | Will, Problems in WLL, Modern Wireless Local Loop. |
| 49-L43 | Advantages of Microcellular, Layout of the Optical Fiber Microcellular |
| | Communication System. |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(05.10.2015) |
| 51 L45 | Need for Ad hoc Networks ,MANET and Technical Factors Affecting Ad hoc |
| | Network -,Ad hoc Nodes System Description |
| 52- L46 | Limitation on the Bluetooth Physical Layer ,Types of Intelligent Cells |
| 53-IT-III | Internal Test-III |
| 54-L47 | Reconfigurable Technology ,Vision of 4G,4G Mobile System Convergence. |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(16.10.15) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 30.11.2016 |
| | |

| Learning Outcomes | COs of the course " <software engineering="">"</software> |
|-------------------|-----------------------------------------------------------|
| | |

| CO1 | Channel Interference Reduction ,Other Methods of Co,Channel |
|-----------------------|------------------------------------------------------------------|
| | Reduction ,Non-Co- Channel Interference. |
| CO2 | Authentication Centre (AUC) |
| CO3 | GSM Architecture |
| Experimental Learning | |
| EL1 | Properties of wireless medium. |
| EL2 | Channel Interference Reduction ,Other Methods of Co,Channel |
| | Reduction ,Non-Co- Channel Interference |
| Integrated Activity | |
| IA1 | Adjacent Channel Interference ,Propagation Attenuation ,Fading |
| | ,Factors to be Considered . |
| IA2 | Limitation on the Bluetooth Physical Layer ,Types of Intelligent |
| | Cells |

Blended Learning : using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for higher study.

For slow learner : special care taken, motivate the advanced learner to support the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2015-2016)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|----------------------|
| Course Name | Mobile Communication |
| Course Code | GMCA5C |
| Class | III year (2015-2016) |
| Semester | odd |
| Staff Name | MR . K. APPASAMY |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| T . 1 | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- To study the need and nature of mobile applications.
- To learn the tools and platforms required for mobile applications.
- To understand the design issues in mobile applications.

Syllabus

UNIT I INTRODUCTION Mobile Communication: Need for Mobile Communication – Requirements of Mobile Communication – History of Mobile Communication – Properties of Wireless Medium – Radio Propagation – Propagation Coverage Calculation. Introduction to Cellular Mobile Communication: Cellular Structure – Frequency Reuse – System Architecture – Authentication Centre (AUC) – Home Location Register (HLR) – Visiting Location Register (VLR) – Equipment Identify Register (EIR) – Base Station System - Cellular Mobile Communication Switching. (12 L)

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UNIT I INTRODUCTIONCordless Mobile Communication System: Cordless Telephone Home – Multichannel Cordless Telephone System – Wireless Private Box Exchange History of Data networks – Classification of Mobile Data Networks – Independent Data networks – Shared Mobile Data – Overlay Mobile Data – Cellular Digital Part data (CDPD) System – Architecture of CDPD – Satellite Classification – Earth Orbit Satellites – Medium Earth Orbit Satellite, Low Earth Orbit Global Satellite Communication. Changeover from One Satellite to Requirements of Global Mobile Communication - Global User Number – Configuration – Third Generation Global Mobile System Satellite System for mobility. (12 L)

UNIT IV INTERFERENCES Interferences in Cellular Mobile Communication: Nature of Co- Channel Interference – Measurement of Co- Channel Interference - Measurement of Co- Channel Interference with mobile Unit – Frequency Reuse - Co- Channel Interference Omni directional Radiation – directional Antennas for Co- Channel Interference Reduction – Other Methods of Co- Channel Reduction – Non-Co- Channel Interference – Measurement of Signal to Noise and Distortion Ratio (SINAD) – Design Objective – Basic Specification - Co- Channel Interference Reduction Factor – Adjacent Channel Interference – Propagation Attenuation – Fading – Factors to be Considered at the Base Station – Working of Mobile IP – Wireless Threads – Authentication and Access control –to Communication – Anonymity – Security Arrangement in CDMA – Security of Wireless Data Networks. (12 L) Secrecy

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Problems in WLL — Modern Wireless Local Loop — Local Multipoint Distribution Service
(LMDS) - Properties of WAP — Beater Services — Wireless Datagram Protocol (WDP) —
Wireless Transport Layer Security (WTLS) — WAP Transaction Protocol (WTP) Wireless
Session Protocol (WSP) Wireless Application Environment (WAE) — Components
Integration — Bearer Adaptation — WAP Client Supporting Networks — System Description —
Advantages of Microcellular — Layout of the Optical Fiber Microcellular Communication
System — Need for Ad hoc Networks — MANET and Technical Factors Affecting Ad hoc
Network - Ad hoc Nodes System Description — Routing in Ad hoc Network — Bluetooth
Technology — Limitation on the Bluetooth Physical Layer — Types of Intelligent Cells —
Power Delivery Intelligent Cells — Processing Gain Intelligent Cells — User Controlled

Services – Reconfigurable Technology – Vision of 4G-4G Mobile System Convergence. (12 L)

| Hour | Class Schedule |
|-------------|---------------------------------------------------------------------------|
| allotment | Class Schedule |
| differincia | odd Semester Begin on 18.06.2015 |
| 1-L1 | UNIT I:INTRODUCTION Mobile Communication |
| 2-L2 | Need for Mobile Communication. |
| 3- L3 | Requirements of Mobile Communication. |
| 4-L4 | History of Mobile Communication. |
| 5-L5 | Properties of wireless medium. |
| 6-L6 | Radio Propagation. |
| 7-L7 | Propagation Coverage Calculation |
| 8- P1 | Welcoming of First year and Inauguration of BCAAssociation |
| 9- L8 | Introduction to Cellular Mobile Communication. |
| 10- L9 | Cellular Structure. |
| 11-L10 | Frequency Reuse. |
| 12-L11 | System Architecture |
| 13-L12 | Authentication Centre (AUC) |
| 14-L13 | Home Location Register (HLR). |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins |
| 16-L15 | UNIT II: INTRODUCTION Mobile communication Standards. |
| 17-IT-1 | Internal Test-I |
| 18-L16 | First generation Wireless Networks. |
| 19-L17 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | Second generation Wireless System. |
| 21- L19 | Third generation and Beyond Wireless system. |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | Implementation Organization |
| 24-L21 | Regional Organization. |
| 25-L22 | Global Organization. |
| 26-L23 | Global System for Mobile communication (GSM). |
| 27-L24 | GSM Architecture. |
| 28-L25 | Advanced Mobile Phone Service (AMPS). |
| 29-L26 | Digital Advanced Mobile Phone Service. |
| 30-L27 | Telephony Standards. |
| 31-L28 | Personal Access Communication Standards (PACS), TIA IS-136-EIA TIA IS, 95 |
| | Standards. |
| 32-L29 | Digital European Cordless Telephone (DECT). |
| 33-L30 | Personal Handy Phone System (PHS). |
| 34- P3 | Department Seminar |

| 35-L31 | UNIT III INTRODUCTION |
|-----------|-------------------------------------------------------------------------------|
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins |
| 37- L33 | Cordless Telephone Home. |
| 38- IT-II | Internal Test-II |
| 39-L34 | Multichannel Cordless Telephone System. |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Global User Number, Configuration, Third Generation Global Mobile System |
| | Satellite System for mobility. |
| 42- L37 | UNIT IV INTERFERENCES Interferences in Cellular Mobile |
| | Communication: Nature of Co, Channel Interference ,Measurement of Co- |
| | Channel Interference |
| 43- L38 | Frequency Reuse ,Co- Channel Interference Omni directional Radiation |
| | directional Antennas for Co. |
| 44- P4 | College level meeting/ function |
| 45-L39 | Channel Interference Reduction ,Other Methods of Co,Channel Reduction ,Non- |
| | Co- Channel Interference. |
| 46-L40 | Adjacent Channel Interference ,Propagation Attenuation ,Fading ,Factors to be |
| | Considered . |
| 47-L41 | Working of Mobile IP, Wireless Threads, Authentication and Access control –to |
| | Communication. |
| 48-L42 | UNIT V WIRELESS LOCAL LOOP ARCHITECTURE Components in |
| | Will, Problems in WLL, Modern Wireless Local Loop. |
| 49-L43 | Advantages of Microcellular, Layout of the Optical Fiber Microcellular |
| | Communication System. |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins |
| 51 L45 | Need for Ad hoc Networks ,MANET and Technical Factors Affecting Ad hoc |
| | Network -,Ad hoc Nodes System Description |
| 52- L46 | Limitation on the Bluetooth Physical Layer ,Types of Intelligent Cells |
| 53-IT-III | Internal Test-III |
| 54-L47 | Reconfigurable Technology ,Vision of 4G,4G Mobile System Convergence. |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(16.10.15) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 29.10.2015 |

| Learning Outcomes | COs of the course " <mobile communication="">"</mobile> |
|-------------------|-------------------------------------------------------------|
| CO1 | Channel Interference Reduction ,Other Methods of Co,Channel |

| | Reduction ,Non-Co- Channel Interference. |
|-----------------------|------------------------------------------------------------------|
| CO2 | Authentication Centre (AUC) |
| CO3 | GSM Architecture |
| Experimental Learning | |
| EL1 | Properties of wireless medium. |
| EL2 | Channel Interference Reduction ,Other Methods of Co,Channel |
| | Reduction ,Non-Co- Channel Interference |
| Integrated Activity | |
| IA1 | Adjacent Channel Interference ,Propagation Attenuation ,Fading |
| | ,Factors to be Considered . |
| IA2 | Limitation on the Bluetooth Physical Layer ,Types of Intelligent |
| | Cells |

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For Advanced Learner : use library books, E- books, motivate student to prepare for higher study.

For slow learner : special care taken, motivate the advanced learner to support the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2015-2016)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|--------------------|
| Course Name | Programming in C |
| Course Code | GMCA11 |
| Class | I year (2015-2016) |
| Semester | Odd |
| Staff Name | Mr.K.Appasamy |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |

Total 60Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > Importance of C
- Decision making and looping
- User defined functions
- > Arrays

Syllabus

Programming in C

Unit I Overview of C: Introduction- Importance of C - Sample C Programs - Basic structure of C -Executing C program Constant, variables and data types: Introduction- Character set - tokens keywords and identifiers – constants – variables- data types –declaration of variables – assigning values of variables. Operators and expressions: Introduction – arithmetic of operationsrelational operator – assignment operator – increment and decrement operator – conditional operator – bitwise operator – special operator – evaluation of expressions – precedence of arithmetic operators – type conversion in expression- operator precedence and associativelymathematical functions

Unit II Managing input and output operators: Introduction: Reading a character- writing a character – formatted input – formatted output Decision making and branching: Introduction – decision making with IF statement- simple IF statement - The IF ELSE statement- nesting of IF -

ELSE statement –ELSE IF ladders- The switch statement – The?: operators – The GOTO statement **Decision making and looping:** The While statement – The Do statement – The for statement- Jump in loops

Unit III Arrays: One dimensional arrays – two dimensional arrays -Initializing two dimensional arrays – multi dimensional arrays Page **4** of **12**

Handling of character strings: Introduction: declaring and Initializing string variables- Reading string from terminal- writing string to screen – arithmetic operation on characters – putting strings together – comparison of two strings together – string handling functions

Unit IV User defined functions: Introduction – need for user- define functions- A multi- function program – The form of C functions- return values and their types – calling a function- category of function – no argument and no return values – argument with no return values –argument with return values – handling of non integer functions – nesting of functions – recursion – function with arrays – the scope and life time of variables in functions.

Unit V Pointers Introduction: understanding pointers – accessing the address of variables – declaring and initializing pointers – accessing a variable through its pointer – pointer expressions – pointer increments and scale factor – pointers and character strings – pointers and functions – points on pointer.

TOTAL: 60 HOURS Text Book: Programming in ANSI C – By E.Balagurusamy, Tata McGraw-Hill Publishing Company Reference Book: Programming with ANSI and TURBO C – by Ashok N. Kamthane

| Hour allotment | Class Schedule |
|-------------------|----------------------------------------------------------------------------------------------|
| | Odd Semester Begin on 18.06.2015 |
| 1-L1 | Introduction- Importance of C, Sample C Programs |
| 2-L2 | Basic structure of C, Executing C program |
| 3- L3 | Executing C program |
| 4-L4 | Constant, variables and data types: Introduction |
| 5-L5 | Character set, tokens , keywords and identifiers |
| 6-L6 | constants ,variables, data types |
| 7-L7 | declaration of variables , assigning values of variables. |
| 8- P1 | Welcoming of First year and Inauguration of BCAAssociation |
| 9- L8 | Operators and expressions: Introduction , arithmetic of operations |
| 10- L9 | relational operator ,assignment operator ,increment and decrement operator |
| 11-L10 | conditional operator ,bitwise operator ,special operator |
| 12-L11 | evaluation of expressions, precedence of arithmetic operators ,type conversion in expression |
| 13-L12 | Type conversion in expression ,operator precedence and associatively,mathematical functions |
| 14-L13 | Unit II Managing input and output operators: Introduction: Reading a character |

| 15-L14 | Allotting portion for Internal Test I |
|----------------------|----------------------------------------------------------------------------------------------------------|
| 13-L14 | - Allotting portion for Internal Test-I |
| 16-L15 | Internal Test I begins(20.07.2015) writing a character , formatted input, formatted output |
| 17-IT-1 | Internal Test-I |
| 17-11-1 18-L16 | Decision making and branching: Introduction – decision making with IF statement |
| 19-L17 | - Test Paper distribution and result analysis |
| 19-L1/ | Entering Internal Test-I Marks into University portal |
| 20-L18 | simple IF statement ,The IF ELSE statement, nesting of IF –ELSE statement |
| 21- L19 | ELSE IF ladders |
| 21- L19 22- P2 | |
| 23-L20 | College level meeting/Cell function The switch statement, The?: operators |
| 24-L21 | The GOTO statement |
| 25-L22 | Decision making and looping: The While statement |
| 26-L23 | - The Do statement, The for statement- Jump in loops |
| 27-L24 | Unit III Arrays: One dimensional arrays , two dimensional arrays , |
| 28-L25 | Initializing two dimensional arrays ,multi dimensional arrays |
| 29-L26 | Handling of character strings: Introduction: declaring and Initializing string |
| | variables |
| 30-L27 | Reading string from terminal, writing string to screen, arithmetic operation on characters |
| 31-L28 | putting strings together, comparison of two strings together, multi dimensional |
| | arrays |
| 32-L29 | string handling functions, Unit IV User defined functions : Introduction |
| 33-L30 | need for user- define functions, A multi- function program |
| 34- P3 | Department Seminar |
| 35-L31 | The form of C functions, return values and their types , calling a function, category |
| 36-L32 | of function Allotting portion for Internal Test II |
| 30-L32 | - Allotting portion for Internal Test-II |
| 37- L33 | Internal Test II begins(31.08.2015) |
| 37- L33 38- IT-II | no argument and no return values Internal Test-II |
| 39-L34 | |
| 40-L35 | argument with no return values, argument with return values Test Pener distribution and result analysis |
| 40-L33 | - Test Paper distribution and result analysis Entering Internal Test II Monks into University partel |
| 41-L36 | Entering Internal Test-II Marks into University portal handling of non integer functions, |
| 41-L30 42- L37 | recursion, function with arrays, the scope and life time of variables in functions. |
| 42- L37 43- L38 | Unit V Pointers Introduction: understanding pointers |
| 43- L38 44- P4 | College level meeting/ function |
| 45-L39 | understanding pointers |
| 45-L39 46-L40 | accessing the address of variables , declaring and initializing pointers |
| 40-L40 47-L41 | accessing a variable through its pointer |
| 47-L41 48-L42 | pointer expressions |
| 49-L43 | pointer expressions pointer increments and scale factor |
| 50-L44 | |
| JU-L/44 | - Allotting portion for Internal Test-III Internal Test III begins(05.10.2015) |
| 51 L45 | pointers and character strings |
| 52- L46 | pointers and functions |
| 53-IT-III | Internal Test-III |
| JJ-11-III | Internal Test-III |

| 54-L47 | points on pointer. |
|---------|---------------------------------------------------------------------------|
| | |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(16.10.15) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 29.10.2015 |

| Learning Outcomes | COs of the course " <programming c="" in="">"</programming> | |
|----------------------------|----------------------------------------------------------------|--|
| CO1 | Basic structure of C, Executing C program | |
| CO2 | , , , , , , , , , , , , , , , , , , , , | |
| | function,category of function | |
| CO3 | pointer expressions | |
| Experimental | | |
| Learning | | |
| EL1 | accessing the address of variables ,declaring and initializing | |
| | pointers | |
| EL2 | pointer increments and scale factor | |
| Integrated Activity | | |
| IA1 | understanding pointers – accessing the address of variables | |
| IA2 | Array-Various Dimensions | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2015-2016)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|---------------------|
| Course Name | Java programming |
| Course Code | GMCA31 |
| Class | II year (2015-2016) |
| Semester | Odd |
| Staff Name | Miss.P.SUDHA |
| Credits | 6 |
| L. Hours /P. Hours | 6 / WK |
| - | • |

Total 90 Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 80Hrs (5 units; 5×16=80; 16Hrs /unit)

Course Objectives

- Wrapper classes
- Control structures
- Constructors and methods in throwable classes
- > File and I/O streams

Syllabus

UNIT -I Java language fundamentals: The building blocks of Java – Data types – Variable declarations – Wrapper classes – Operators and assignment – Control structures – Arrays – Strings.

UNIT- II Java as an OOP language: Defining classes – Modifiers – Packages – Interfaces **Exception handling:** Introduction – Basics of exception handling in JAVA – Exception hierarchy – Constructors and methods in throwable classes – Unchecked and checked exceptions – Handling Exceptions in Java

UNIT- III Multithreading: Creating threads – Thread life-cycle – Thread priorities and thread scheduling – Thread synchronization. File and I/O streams: Java I/O – File streams – File Input Stream and File Output Stream – Filter streams

UNIT- IV Applets: Java applications versus Java applets – Applet Life-cycle – working with applets – the HTML APPLET tag. Database handling using JDBC: JDBC architecture – working with JDBC – Processing queries – Transaction commit and Rollback – Handling exceptions – Accessing Metadata

UNIT- V The Abstract Window Toolkit: Basic classes in AWT – Drawing with graphics class – Class hierarchy of AWT – Event handling – AWT controls – Layout managers.

| Hour allotment | Class Schedule |
|-------------------|-------------------------------------------------------|
| anotment | Odd Semester Begin on 18.06.2015 |
| 1-L1 | UNIT -I Java language fundamentals |
| 2-L2 | Data types |
| 3- L3 | Variable declarations |
| 4-L4 | Wrapper classes |
| 5-L5 | Operators and assignment |
| 6-L6 | Control structures |
| 7-L7 | Arrays |
| 8-L8 | Strings |
| 9-L9 | UNIT- II Java as an OOP language: Defining classes |
| 10-P1 | Welcoming of First year and Inauguration |
| 11-L10 | Modifiers |
| 12-L11 | Interfaces |
| 13-L12 | Exception handling: Introduction |
| 14-L13 | Basics of exception handling in JAVA |
| 15-L14 | Exception hierarchy |
| 16-L15 | Constructors and methods in throwable classes |
| 17-L16 | Unchecked and checked exceptions |
| 18-L17 | Handling |
| 19-L18 | Exceptions in Java |
| 20-L19 | UNIT- III Multithreading: Creating threads |
| 21-L20 | Thread life-cycle |
| 22-L21 | Thread priorities |
| 23-L22 | Allotting portion for Internal Test-I |
| | Internal Test I begins(20.07.2015) |
| 24-L23 | thread scheduling |
| 25-L24 | Thread synchronization |
| 26-IT-1 | Internal Test-I |
| 27-L25 | File and I/O streams |
| 28-L26 | Java I/O – File streams |
| 29-L27 | File Input Stream and File Output Stream |
| 30-L28 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 31- L29 | Filter streams |

| 32- L30 | LINIT IV Applets, lava applications versus lava applets | |
|--------------------|---------------------------------------------------------------------------|--|
| 32- L30 33- L31 | UNIT- IV Applets: Java applications versus Java applets Applet Life-cycle | |
| 34-P2 | College level meeting/Cell function | |
| 35- L32 | Thread priorities and thread scheduling | |
| 36- L32 | - Thread synchronization | |
| 37- L34 | File and I/O streams | |
| 38- L35 | Java I/O – File streams | |
| 39- L36 | File Input Stream and File Output Stream | |
| 40- L37 | Filter streams | |
| 41- L38 | UNIT- IV Applets: Java applications versus Java applets | |
| 42- L39 | Applet Life-cycle | |
| 43- L40 | working with applets | |
| 44- L41 | the HTML APPLET tag | |
| 45- L42 | Database handling using JDBC | |
| 46- L43 | JDBC architecture | |
| 47- L44 | working with JDBC | |
| 48- L45 | Processing queries | |
| 49- L46 | Transaction commit and Rollback | |
| 50- L47 | - Handling exceptions | |
| 51- P3 | Department Seminar | |
| 52- L48 | Accessing Metadata | |
| 53- L49 | UNIT- V The Abstract Window Toolkit: Basic classes in AWT | |
| 54- L50 | Drawing with graphics class | |
| 55- L51 | Class hierarchy of AWT | |
| 56-L52 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(31.08.2015) | |
| 57-L53 | Event handling | |
| 58-L54 | AWT controls | |
| 59-IT-II | Internal Test-II | |
| 60- L55 | Layout managers. | |
| 61- L56 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 62- L57 | Literals | |
| 63- L58 | Applet skeleton | |
| 64- L59 | audio clip interface | |
| 65- L60 | applet display method | |
| 66- L61 | Event handling mechanism | |
| 67- L62 | AWT classes | |
| 68- L63 69- L64 | Applet basics event handling mechanisms | |
| 70- L65 | Bars and menus | |
| 70- L03 71- L66 | Understanding layout managers | |
| 71- L60 72- L67 | Inter thread communication | |
| 72- L67 73- L68 | Java thread model | |
| 73- L08 | College level meeting/ function | |
| 75- L69 | writing console output | |
| 76- L70 | the printwriter class | |
| 77- L71 | using object as parameters | |
| | , – , | |

| Argument passing |
|---------------------------------------------------------------------------|
| Allotting portion for Internal Test-III |
| Internal Test III begins(05.10.2015) |
| Creating multiple threads |
| multiple catch clauses |
| Internal Test-III |
| Stack class |
| Test Paper distribution and result analysis |
| Try and catch |
| Entering Internal Test-III Marks into University portal |
| Model Test begins(16.10.15) |
| Model Test |
| Model Test |
| Model test paper distribution and previous year university question paper |
| discussion |
| Feedback of the Course, analysis and report preparation |
| Last Working day on 29.10.2015 |
| |

| Learning Outcomes | COs of the course " <java programming="">"</java> |
|----------------------------|---------------------------------------------------|
| | |
| CO1 | audio clip interface |
| CO2 | event handling mechanisms |
| CO3 | Bars and menus |
| Experimental | |
| Learning | |
| EL1 | AWT classes |
| EL2 | Thread synchronization |
| EL3 | audio clip interface |
| Integrated Activity | |
| IA1 | Inter thread communication |
| IA2 | using object as parameters |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2015-2016)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|----------------------|----------------------|
| Course Name | FINANCIAL ACCOUNTING |
| Course Code | GMCA32 |
| Class | II year (2015-2016) |
| Semester | Odd |
| Staff Name | Mr.B.EDWARD DANIEL |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |
| Dept. Meetings-2 Hrs | |

Course Objectives

College Meetings-2 Hrs

- > To impart basic accounting knowledge
- ➤ To provide knowledge on the fundamental of financial accounting.
- > To expose the student to various financial transaction and its current applications.

Syllabus

UNIT I BASIC CONCEPTS OF ACCOUNTING

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Introduction to Accounting: Need for Accounting –Accounting as the language of business – Attributes and steps of Accounting –Book keeping Vs Accounting – Branches of Accounting – Methods of Accounting – Types of Accounting – Accounting Rules - Bases of Accounting – Accounting terminology. Basic Accounting Concepts: Meaning and classification of Accounting-Accounting Concepts – Accounting Conversion – Accounting equations. (10 L)

UNIT II JOURNAL AND LEDGER

Recording a Financial Data: Memorandum Book, business transaction, Journal, Rules for Debit and Credit, Compound Journal entry, Advantages of Journal, Ledger, Ledger Account,

Ledger Posting, Process of Posting, Balancing of An Account, Significance of Balances, Relation between Journal and edger-Subsidiary Books. (15 L)

UNIT III PREPARING TRIAL BALANCE

Trial Balance: Objects, Methods of Preparing Trial balance, how to locate errors, hints for the preparation of trial balance & problems. (11 L)

UNIT IV FINAL ACCOUNTS

Trading account – individual items posted to the debit of trading account – individual items credited to trading account – advantages of trading account – profit & loss account - advantages of profit & loss account - manufacturing account- balance sheet- classification of assets & liabilities. (12 L)

UNIT V ACCOUNTS FOR NON PROFIT ORGANISATION

Introduction – Final accounts of no trading concern- receipts and payments account – featuresincome& expenditure account – feature- distinction between the two – treatment of special items – some important adjustments – types of problems – Distinction between income and expenditure account and profit and loss account – accounts of professional men.

| Hour | Class Schedule | |
|-----------|------------------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 18.06.2015 | |
| 1-L1 | UNIT I BASIC CONCEPTS OF ACCOUNTING | |
| | Introduction to Accounting | |
| 2-L2 | Need for Accounting | |
| 3- L3 | Accounting as the language of business | |
| 4-L4 | Attributes and steps of Accounting | |
| 5-L5 | Book keeping Vs Accounting | |
| 6-L6 | Branches of Accounting | |
| 7-L7 | Methods of Accounting | |
| 8- P1 | Welcoming of First year and Inauguration | |
| 9- L8 | Types of Accounting | |
| 10- L9 | Accounting Rules | |
| 11-L10 | Bases of Accounting | |
| 12-L11 | Accounting terminology | |
| 13-L12 | Basic Accounting Concepts | |
| 14-L13 | Meaning and classification of Accounting | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(20.07.2015) | |
| 16-L15 | Accounting Concepts | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Accounting Conversion | |

| 19-L17 | Test Paper distribution and result analysis |
|-----------|-----------------------------------------------------------|
| , | Entering Internal Test-I Marks into University portal |
| 20-L18 | Accounting equations. |
| 21- L19 | UNIT II JOURNAL AND LEDGER |
| | Recording a Financial Data |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | Memorandum Book |
| 24-L21 | business transaction |
| 25-L22 | Journals |
| 26-L23 | Rules for Debit and Credit |
| 27-L24 | Compound Journal entry, |
| 28-L25 | Advantages of Journal |
| 29-L26 | Ledger Account |
| 30-L27 | Ledger Posting |
| 31-L28 | Process of Posting |
| 32-L29 | Balancing of An Account, |
| 33-L30 | Significance of Balances, |
| 34- P3 | Department Seminar |
| 35-L31 | Relation between Journal and Ledger |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(31.08.2015) |
| 37- L33 | Subsidiary Books. |
| 38- IT-II | Internal Test-II |
| 39-L34 | UNIT III PREPARING TRIAL BALANCE |
| | Trial Balance |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Methods of Preparing Trial balance |
| 42- L37 | how to locate errors |
| 43- L38 | hints for the preparation of trial balance |
| 44- P4 | College level meeting/ function |
| 45-L39 | Problems A GGOLDYEG |
| 46-L40 | UNIT IV FINAL ACCOUNTS |
| A7 T 41 | Trading account |
| 47-L41 | individual items posted to the debit of trading account |
| 48-L42 | individual items credited to trading account |
| 49-L43 | advantages of trading account |
| 50-L44 | - Allotting portion for Internal Test-III |
| 51 T 45 | Internal Test III begins(05.10.2015) |
| 51 L45 | profit & loss account |
| 52- L46 | Advantage of profit |
| 53-IT-III | Internal Test-III |
| 54-L47 | loss account Test Pener distribution and regult analysis |
| 55-L48 | - Test Paper distribution and result analysis |
| 56 MT | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(16.10.15) |
| 57-MT | Model Test |
| 58-MT | Model Test |

| 59- L49 | Model test paper distribution and previous year university question paper discussion |
|---------|--------------------------------------------------------------------------------------|
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 29.10.2015 |

| Learning Outcomes | COs of the course "FINANCIAL ACCOUNTING" | |
|----------------------------|------------------------------------------------------------|--|
| | | |
| CO1 | Process of Posting | |
| CO2 | individual items posted to the debit of trading account | |
| CO3 | advantages of trading account | |
| Experimental | | |
| Learning | | |
| EL1 | Business transaction, Journal, Rules for Debit and Credit, | |
| | Compound Journal entry | |
| EL2 | Significance of Balances | |
| Integrated Activity | | |
| IA1 | Final accounts of no trading concern | |
| IA2 | manufacturing account | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2015-2016)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|----------------------|
| Course Name | RDBMS |
| Course Code | GMCA63 |
| Class | III year (2015-2016) |
| Semester | Odd |
| Staff Name | MR.B.JEFFERSON |
| Credits | 6 |
| L. Hours /P. Hours | 6 / WK |
| TD + 1 00 TT /C | · |

Total 90 Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 80Hrs (5 units; 5×16=80; 16Hrs /unit)

Course Objectives

- To understand relational database concepts and transaction management concepts in database system.
- To write PL/SQL programs that use: procedure, function, package, cursor and Exceptions.
- To Use current techniques and tools necessary for complex computing practices.

Syllabus

UNIT I AN OVERVIEW: PERSONAL DATABASES Client server databases – Oracle 9i An introduction – The SQL*Plus Environment – SQL – SQL*PLUS commands – Sample Databases. Oracle Tables; Naming rules and conventions – Data types – Constraints – Creating an Oracle table – Displaying table information's – Altering and exiting table – Dropping a table – Renaming a table – Truncating a table. **(12 L)**

UNIT II WORKING WITH TABLES DML statements – Arithmetic operations – Where clause – sorting – Define command – Built in functions – Grouping data. **(10 L)**

UNIT III MULTIPLE TABLES Joints – Set operators – Subquery – Top – N Analysis .Advanced features: Views – Subsequences – Synonyms – Index. **(12 L)**

UNIT IV PL/SQL: FUNDAMENTALS PL/SQL: FUNDAMENTALS — Block structure — Comments — Data types —Variable declaration — Anchored declaration — Assignment operation — Bind

variables – Substitution Variables – Arithmetic operators. Structures in PL/SQL: Control structures – Nested blocks – SQL in PL/SQL DML in PL/SQL – Transaction Control Statement. (14L)

UNIT V PL/SQL CURSORS & EXCEPTIONS PL/SQL Cursors & Exceptions - PL/SQL Composite data types: Records, Tables and VARRAYS. **(12L)**

| Hour allotment | Class Schedule |
|----------------|----------------------------------------------------------------|
| | Odd Semester Begin on 18.06.2015 |
| 1-L1 | UNIT I AN OVERVIEW: PERSONAL DATABASES Client server databases |
| 2-L2 | Oracle 9i An introduction |
| 3- L3 | The SQL*Plus Environment |
| 4-L4 | SQL , SQL*PLUS commands |
| 5-L5 | Sample Databases |
| 6-L6 | Naming rules and conventions |
| 7-L7 | Displaying table information's |
| 8-L8 | Creating an Oracletable |
| 9-L9 | Altering and exiting table |
| 10-P1 | Welcoming of First year and Inauguration |
| 11-L10 | Dropping a table |
| 12-L11 | Renaming a table |
| 13-L12 | Truncating a table |
| 14-L13 | UNIT II WORKING WITH TABLES |
| 15-L14 | DML statements |
| 16-L15 | Arithmetic operations |
| 17-L16 | Where clause |
| 18-L17 | Sorting |
| 19-L18 | Define command |
| 20-L19 | Built in functions |
| 21-L20 | Single row functions |
| 22-L21 | Character functions |
| 23-L22 | Allotting portion for Internal Test-I |
| | Internal Test I begins(20.07.2015) |
| 24-L23 | Grouping data |
| 25-L24 | UNIT III MULTIPLE TABLES: ——(12 L) |
| 26-IT-1 | Internal Test-I |
| 27-L25 | Joints |
| 28-L26 | Set operators |
| 29-L27 | Subquery |
| 30-L28 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 31- L29 | Тор |
| 32- L30 | N Analysis |
| 33- L31 | Advanced features |

| 34-P2 | College level meeting/Cell function |
|--------------------|--------------------------------------------------------|
| 35- L32 | Views |
| 36- L33 | Subsequences |
| 37- L34 | Synonyms |
| 38- L35 | Select,insert,delete |
| 39- L36 | Index |
| 40- L37 | UNIT IV PL/SQL: FUNDAMENTALS PL/SQL: FUNDAMENTALS |
| 41- L38 | Blockstructure |
| 42- L39 | Comments |
| 43- L40 | Data types |
| 44- L41 | Variable declaration |
| 45- L42 | Anchored declaration |
| 46- L43 | Assignment operation |
| 47- L44 | Substitution Variables |
| 48- L45 | Arithmetic operator |
| 49- L46 | Structures in PL/SQL |
| 50- L47 | Control structures |
| 51- P3 | Department Seminar |
| 52- L48 | Nested blocks |
| 53- L49 | SQL in PL/SQL DML in PL/SQL |
| 54- L50 | Transaction Control Statement |
| 55- L51 | UNIT V PL/SQL CURSORS & EXCEPTIONS |
| 56-L52 | Allotting portion for Internal Test-II |
| | Internal Test II begins(31.08.2015) |
| 57-L53 | PL/SQL Cursors |
| 58-L54 | Exceptions |
| 59-IT-II | Internal Test-II |
| 60- L55 | Types of expections |
| 61- L56 | - Test Paper distribution and result analysis |
| 62 157 | Entering Internal Test-II Marks into University portal |
| 62- L57 63- L58 | An error code |
| 64- L59 | A message Types of cursor |
| 65- L60 | Implicit cursor |
| 66- L61 | Explicit cursor |
| 67- L62 | Attributes |
| 68- L63 | %found |
| 69- L64 | %isopen |
| 70- L65 | %notfound |
| 71- L66 | %rowcount |
| 72- L67 | %bulk_rowcount |
| 73- L68 | %bulkexceptions |
| 74-P4 | Declaring the cursor |
| 75- L69 | Opening the cursor |
| 76- L70 | Fetching the cursor |
| 77- L71 | Closing the cursor |
| 78- L72 | |
| 79- L73 | Allotting portion for Internal Test-III |

| | Internal Test III begins(05.10.2015) |
|-----------|---------------------------------------------------------------------|
| 80- L74 | PL/SQL Composite data types |
| 81- L75 | Records |
| 82-IT-III | Internal Test-III |
| 83- L76 | Tables |
| 84- L77 | - Test Paper distribution and result analysis |
| 85- L78 | VARRAYS |
| | Entering Internal Test-III Marks into University portal |
| 86- L79 | Model Test begins(16.10.15) |
| 87-MT | Model Test |
| 88-MT | Model Test |
| 89-MT | Model test paper distribution and previous year university question |
| | paper discussion |
| 90-L-80 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 29.10.2015 |

| Learning Outcomes | COs of the course " <rdbms>"</rdbms> | |
|----------------------------|---------------------------------------|--|
| | | |
| CO1 | Query-PL/SQL | |
| CO2 | To gain the Knowledge about DataBases | |
| CO3 | Cursor Concepts | |
| CO4 | Trigger | |
| CO5 | Operators | |
| Experimental | | |
| Learning | | |
| EL1 | Trigger | |
| EL2 | Cursor | |
| EL3 | Conditional Constructs | |
| EL4 | Decision Making | |
| Integrated Activity | | |
| IA1 | SQL in PL/SQL DML in PL/SQL | |
| IA2 | Transaction Control Statement | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2015-2016)

(Prepared by staff member handling the course)

Remaining 65 Hrs (5 units; $5\times13=65$; 13Hrs /unit)

| Programme Name | B.C.A. |
|------------------------|---------------------|
| Course Name | WEB TECHNOLOGY |
| Course Code | GMCA52 |
| Class | III YEAR(2015-2016) |
| Semester | Odd |
| Staff Name | MRS.G.PRISKILLAL |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |
| Total 75 Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |
| Dept. Meetings-2 Hrs | |
| College Meetings-2 Hrs | |

Course Objectives

- To provide the conceptual and technological developments in the field of Internet and web designing with the emphasis on comprehensive knowledge of Internet, Describe the basic concepts for network implementation.
- To learn the basic working scheme of the Internet and World Wide Web.
- Understand fundamental tools and technologies for web design

Syllabus

UNIT I INTRODUCTION TO THE WEB Understanding the Internet and World Wide Web – History of the Web – Protocols Governing the Web – Creating Websites for Individuals and the Corporate World – Web Applications – Writing Web projects – Identification of Objects – Target Users – Web Team – Planning and Process Development – Web Architecture –Internet Standards – TCP/IP Protocol Suite – IP Address – MIME – Cyber Laws. Hyper Text Transfer Protocol (HTTP): Introduction – Web servers and clients – Resources – URL and its Anatomy – Message Format. (**14 L**)

UNIT II HYPER TEXT MARKUP LANGUAGE (HTML) History of HTML and W3C – HTML and its Flavors – HTML Basics – Elements, Attributes, and Tags – Basic Tags – Advanced Tags – Frames. (UNIT III JAVA SCRIPT Introduction – Variables – Literals –

Operators – Control Structure – Conditional statements – Arrays – Functions – Objects. (10 L)

UNIT IV EXTENSIBLE MARKUP LANGUAGE (XML) Common Usage – Role of XML – Prolog – Body – Elements – Attributes – Validation – Displaying XML – Namespace.XML DTD: XML Schema Languages– Validation – Introduction to DTD–Purpose of DTD – Using a DTD in an XML Document. (12 L)

UNIT V COMMON GATEWAY INTERFACE (CGI) Internet Programming Paradigm – Server – side Programming – Languages for CGI – Applications – Server Environment – Environment Variables – CGI Building Blocks – CGI Scripting Using C, Shell Script – Writing CGI programs – CGI Security – Alternatives and Enhancements to CGI. Servlet: Server – Side Java – Advantages Over Applets - Servlet Alternatives – Servlet Strength – Servlet Architecture – Servlet Life Cycle. (12 L)

| Hour | Class Schedule |
|-----------|---------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 18.06.2015 |
| 1-L1 | UNIT I INTRODUCTION TO THE WEB Understanding the Internet and |
| | World Wide Web |
| 2-L2 | History of the Web |
| 3- L3 | Protocols Governing the Web |
| 4-L4 | Creating Websites for Individuals and the Corporate World |
| 5-L5 | Web Applications |
| 6-L6 | Writing Web projects |
| 7-L7 | - Identification of Objects |
| 8- P1 | Welcoming of First year and Inauguration of BCA Association |
| 9- L8 | Target Users |
| 10- L9 | Web Team |
| 11-L10 | Planning and Process Development |
| 12-L11 | Web Architecture |
| 13-L12 | Internet Standards |
| 14-L13 | TCP/IP Protocol Suite |
| 15-L14 | IP Address |
| 16-L15 | MIME – Cyber Laws. Hyper Text Transfer Protocol (HTTP) |
| 17- L16 | UNIT II HYPER TEXT MARKUP LANGUAGE (HTML) History of HTML |
| | and W3C |
| 18- L17 | HTML and its Flavors |
| 19- L18 | – HTML Basics |
| 20- L19 | – Elements, Attributes, and Tags |
| 21- L20 | Allotting portion for Internal Test-I |
| | Internal Test I begins(20.07.2015) |
| 22- L21 | Basic Tags |
| 23- IT-1 | Internal Test-I |
| 24- L22 | Advanced Tags |
| 25- L23 | Frames |

| 26- L24 | Test Paper distribution and result analysis |
|-----------|------------------------------------------------------------|
| 23 22: | Entering Internal Test-I Marks into University portal |
| 27- L25 | UNIT III JAVA SCRIPT Introduction |
| 28- L26 | Variables |
| 29- L27 | Literals |
| 30- P2 | College level meeting/Cell function |
| 31-L28 | Operators. |
| 32-L29 | Control Structure |
| 33-L30 | Conditional statements |
| 34- L31 | Arrays |
| 35- L32 | Functions |
| 36- L33 | Objects |
| 37- L34 | UNIT IV EXTENSIBLE MARKUP LANGUAGE (XML) Common Usage |
| 38-L35 | Role of XML |
| 39- L36 | Prolog |
| 40- L37 | Body – Elements |
| 41- L38 | Attributes |
| 42-P3 | Department Seminar |
| 43- L39 | Validation |
| 44- L40 | Displaying xml |
| 45- L41 | Namespace.XML DTD |
| 46- L42 | XML Schema Languages |
| 47- L43 | Allotting portion for Internal Test-II |
| | Internal Test II begins(31.08.2015) |
| 48- L44 | introduction of DTD |
| 49-IT-II | Internal Test-II |
| 50-L45 | Purpose of DTD |
| 51- L46 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 52- L47 | UNIT V COMMON GATEWAY INTERFACE (CGI) Internet Programming |
| | Paradigm |
| 53- L48 | Server side Program |
| 54- L49 | Client side Programming |
| 55- L50 | Languages for CGI |
| 56- L51 | Applications |
| 57- L52 | Server environment |
| 58- L53 | Environment Variables |
| 59-P4 | College level meeting/ function |
| 60- L54 | CGI Building Blocks |
| 61- L55 | CGI Scripting Using C |
| 62- L56 | Shell Script |
| 63- L57 | Writing CGI programs |
| 64- L58 | Allotting portion for Internal Test-III |
| | Internal Test III begins(05.10.2015) |
| 65- L59 | CGI Security |
| 66- L60 | Alternatives and Enhancements to CGI |
| 67-IT-III | Internal Test-III |
| 68- L61 | Servlet: Server |

| 69- L62 | Side Java |
|---------|---------------------------------------------------------------------------|
| 70- L63 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 71-MT | Model Test begins(16.10.15) |
| 72-MT | Model Test |
| 73-MT | Model Test |
| 74-L64 | Model test paper distribution and previous year university question paper |
| | discussion |
| 75-L65 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 16.10.2015 |

| Learning Outcomes | WEB TECHNOLOGY |
|--------------------------|-----------------------------------------------------------------------------------------------------------|
| CO1 | Employ fundamental computer theory to basic programming techniques. |
| CO2 | Use fundamental skills to maintain web server services required to host a website |
| CO3 | Select and apply markup languages for processing, identifying, and presenting of information in web pages |
| CO4 | Use scripting languages and web services to transfer data and add interactive components to web pages. |
| Experimental Learning | |
| EL1 | Languages for CGI |
| EL2 | Client Side Programming |
| EL3 | Server Side Scripting Language |
| EL4 | DHTML |
| Integrated Activity | |
| IA1 | XML |
| IA2 | Script Language-VB,JAVA |

Blended Learning : using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for higher study.

For slow learner : special care taken, motivate the advanced learner to support the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

St. John's College, Palayamkottai

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2016-2017)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|---------------------|
| Course Name | COMPUTER NETWORK |
| Course Code | GMCA4C |
| Class | II year (2016-2017) |
| Semester | EVEN |
| Staff Name | MRS.G.PRISKILLAL |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |

Total 75 Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 65 Hrs (5 units; 5×13=65; 13Hrs /unit)

Course Objectives

- To understand the basic networking concepts, types of addresses, data communication, protocols etc.
- To understand wired and wireless networks, its types, functionality of each layer.
- To understand importance of network security and cryptography

Syllabus

UNIT I NETWORK HARDWARE& SOFTWARE LAN-WAN-MAN — Wireless — Home Networks. Network Software: Protocol Hierarchies — Design issues for the layers — connection oriented and connection less services — Service primitives — The relationship of services to protocols. Reference Models: OSI Reference Model - TCP/IP reference Model Comparison of OSI and TCP/IP Critique of OSI and protocols — Critique of TCP/IP reference Model (12 L)

UNIT II PHYSICAL LAYER Guided Transmission Media: Magnetic Media: Twisted-Pair Cable, Coaxial Cable, Fiber-Optic Cable, Wireless Transmission: Electro Magnetic Spectrum - Radio Transmission - Microwave Transmission - Infrared and Millimeter Waves - Light waves - Communication satellites: Geostationary, Medium- Earth orbit, Low earth Orbit Satellites - Satellites versus fiber. **(12 L)**

UNIT III DATA LINK LAYER Error Detection and corrections – Elementary Data – Link protocols – Sliding window protocols, Medium –access control – Sub Layer: Multiple Access Protocols – Ethernet –Wireless LANs – Broad band wireless – Bluetooth. **(12 L)**

UNIT IV NETWORK & TRANSPORT LAYER Network layers: Routing algorithms – congestion control algorithms. Transport layer: Elements of transport protocols – Internet Transfer protocols: TCP. **(12 L)**

UNIT V APPLICATIONLAYER Application Layer: DNS – Email, network security: cryptography – symmetric key algorithms – public key algorithms - digital signatures. **(12 L)**

| Hour | Class Schedule |
|-------------------------------------------------------|------------------------------------------------------------------|
| allotment | |
| | Even Semester Begin on 01.12.2016 |
| 1-L1 | UNIT I NETWORK HARDWARE& SOFTWARE LAN, WAN, MAN |
| 2-L2 | Wireless |
| 3- L3 | Network Software: Protocol Hierarchies |
| 4-L4 | Design issues for the layers |
| 5-L5 | connection oriented and connection less services |
| 6-L6 | Service primitives |
| 7-L7 | The relationship of services to protocols |
| 8- P1 | BCA Association |
| 9- L8 | Reference Models |
| 10- L9 | OSI Reference Model |
| 11-L10 | TCP/IP reference Model Comparison of OSI |
| 12-L11 | TCP/IP Critique of OSI and protocols |
| 13-L12 | Critique of TCP/IP reference Model |
| 14-L13 | UNIT II PHYSICAL LAYER |
| 15-L14 | Guided Transmission Media |
| 16-L15 | Magnetic Media |
| 17- L16 | Twisted-Pair Cable, Coaxial Cable, Fiber-Optic Cable |
| 18- L17 | Wireless Transmission |
| 19- L18 | Electro Magnetic Spectrum |
| 20- L19 | Radio Transmission |
| 21- L20 | Allotting portion for Internal Test-I |
| | Internal Test I begins(24.01.2017) |
| 22- L21 | Microwave Transmission |
| 23- IT-1 | Internal Test-I |
| 24- L22 | Infrared and Millimeter Waves |
| 25- L23 | Light waves |
| 26- L24 | Test Paper distribution and result analysis |
| Entering Internal Test-I Marks into University portal | |
| 27- L25 | Communication satellites: Geostationary, Medium |
| 28- L26 | Earth orbit, Low earth Orbit Satellites ,Satellites versus fiber |
| 29- L27 | UNIT III DATA LINK LAYER Error Detection and corrections |
| 30- P2 | College level meeting/Cell function |

| 21 1 20 | |
|-----------|---------------------------------------------------------|
| 31-L28 | Elementary Data |
| 32-L29 | Link protocols |
| 33-L30 | Sliding window protocols |
| 34- L31 | Medium |
| 35- L32 | access control |
| 36- L33 | Sub Layer |
| 37- L34 | Multipl Access Protocols |
| 38- L35 | Ethernet |
| 39- L36 | Wireless LANs |
| 40- L37 | Broad band wireless |
| 41- L38 | Bluetooth |
| 42-P3 | Department Seminar |
| 43- L39 | UNIT IV NETWORK & TRANSPORT LAYER |
| 44- L40 | Network layers |
| 45- L41 | Routing algorithms |
| 46- L42 | congestion control algorithms |
| 47- L43 | Allotting portion for Internal Test-II |
| | Internal Test II begins(24.02.2017) |
| 48- L44 | Transport layer |
| 49-IT-II | Internal Test-II |
| 50-L45 | Elements of transport protocols |
| 51- L46 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 52- L47 | Addressing |
| 53- L48 | Connection Establishment |
| 54- L49 | Connection Release |
| 55- L50 | Multiplexing |
| 56- L51 | Internet Transfer protocols |
| 57- L52 | TCP |
| 58- L53 | UNIT V APPLICATIONLAYER |
| 59-P4 | College level meeting/ function |
| 60- L54 | Application Layer |
| 61- L55 | DNS |
| 62- L56 | Email |
| 63- L57 | network security |
| 64- L58 | Allotting portion for Internal Test-III |
| | Internal Test III begins(24.03.2017) |
| 65- L59 | Cryptography |
| 66- L60 | symmetric key algorithms |
| 67-IT-III | Internal Test-III |
| 68- L61 | public key algorithms |
| 69- L62 | digital signatures |
| 70- L63 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 71-MT | Model Test begins(05.04.17) |
| 72-MT | Model Test |

| 73-MT | Model Test | |
|--------|--------------------------------------------------------------------------------------|--|
| 74-L64 | Model test paper distribution and previous year university question paper discussion | |
| 75-L65 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 21.04.2017 | |

| Learning Outcomes | COs of the course " <computer network="">"</computer> |
|----------------------------|--------------------------------------------------------------|
| | |
| CO1 | Describe the functions of each Layer in OSI and TCP/IP model |
| CO2 | Functions of Application and Presentation Layer and Paradigm |
| CO3 | Routing Protocol Classification |
| CO4 | Functions of Data Link Layer |
| CO5 | Types of Transmission Medium |
| CO6 | Guides Media/Un guided Media |
| CO7 | Real Time Application |
| CO8 | Shortest Path Algorithm |
| CO9 | Network Layer Paradigm |
| Experimental | |
| Learning | |
| EL1 | LAN,MAN Connection |
| EL2 | Routing Connection |
| EL3 | Explore the Network Devices |
| EL4 | Trouble Shooting Devices |
| Integrated Activity | |
| IA1 | Sharing Resources |
| IA2 | Collabration/Discussion |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2016-2017)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|--------------------------|
| Course Name | Operating system |
| Course Code | GMCA61 |
| Class | III year (2016-2017) |
| Semester | Even |
| Staff Name | Mrs.A.BATHSHEBA PARIMALA |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- ➤ To understand design issues related to process management and various related algorithms.
- > To understand design issues related to memory management and various related algorithms.
- > To understand design issues related to File management and various related algorithms

Syllabus

CORE SUBJECT - I

OPERATING SYSTEMS

UNIT I INTRODUCTION What is an Operating System: Mainframe Systems – Desktop Systems – Multiprocessor Systems - Distributed Systems – Clustered Systems – Real – time Systems– Handheld Systems. (10 L)

UNIT II PROCESS CONCEPT Process Concept – Process Scheduling – Operations on Process – Co-operating processes – Inter Processes - Inter Process communication. CPU Scheduling: Basic Concepts –Scheduling Criteria - Scheduling algorithms – Multi processor Scheduling - Real time Scheduling – Algorithms evaluation. (12 L)

UNIT III PROCESS SYNCHRONIZATION & DEADLOCKS Process Synchronization: Background – the critical section problem – Synchronization hardware – Semaphores – Classical problems of Synchronization – critical regions – Monitors – Atomic transaction. Deadlocks: System model – Deadlock Characterization – methods for handling Deadlocks – Deadlock prevention – Deadlock Avoidance – Deadlock detection – recovery from Deadlock.(14 L)

UNIT IV MEMORY MANAGEMENT Memory management: Background – Swapping – Contiguous memory allocation – paging – segmentation – segmentation with paging. Virtual Memory: Background – Demand paging – Page replacement – Allocation of frames. (12 L)

UNIT V File System Interface: File concept – Access methods– File system structure – File system implementation – File system structure – Filesystem implementation – Directories structure – Directory implementation – Allocation methods – Free space management – Efficiency and performance – Recovery. Mass Storage Structure: Disk Structure – Disk Scheduling – Disk management – Swap space management – RAID structure – Disk attachment – Stable Storage. (12 L)

| Hour | Class Schedule |
|-----------|----------------------------------------------------------|
| allotment | |
| | Even Semester Begin on 01.12.2016 |
| 1-L1 | INTRODUCTION- What is an Operating System |
| 2-L2 | Mainframe Systems |
| 3- L3 | Batchsystem - multiprogrammed system-time sharing system |
| 4-L4 | Desktop Systems |
| 5-L5 | Multiprocessor Systems |
| 6-L6 | Distributed Systems |
| 7-L7 | Client-server system, peer-to-peer system |
| 8- P1 | BCA Association |
| 9- L8 | Real |
| 10- L9 | Time Systems |
| 11-L10 | Handheld Systems. |
| 12-L11 | PROCESS CONCEPT Process Concept |
| 13-L12 | Process Scheduling |
| 14-L13 | Operations on Process |

| 15-L14 | Allotting portion for Internal Test-I | |
|-------------------------------------|--------------------------------------------------------------------------------------------|--|
| | Internal Test I begins(24.01.2017) | |
| 16-L15 | Inter Processes | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Inter Process communication. CPU Scheduling | |
| 19-L17 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Basic Concepts | |
| 21- L19 | Scheduling Criteria | |
| 22- P2 | College level meeting/Cell function | |
| 23-L20 | Scheduling algorithms | |
| 24-L21 | Multi processor Scheduling | |
| 25-L22 | Real time Scheduling | |
| 26-L23 | Algorithms evaluation | |
| 27-L24 | PROCESS SYNCHRONIZATION & DEADLOCKS Process Synchronization: | |
| | Background | |
| 28-L25 | the critical section problem | |
| 29-L26 | Synchronization hardware | |
| 30-L27 | Semaphores | |
| 31-L28 | Classical problems of Synchronization | |
| 32-L29 | critical regions | |
| 33-L30 | Monitors | |
| 34- P3 | Department Seminar | |
| 35-L31 | Atomic transaction. Deadlocks: System model | |
| 36-L32 | 01 | |
| Internal Test II begins(24.02.2017) | | |
| 37- L33 | Deadlock Characterization | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | methods for handling Deadlocks | |
| 40-L35 | Test Paper distribution and result analysis | |
| 41 1 26 | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Deadlock prevention | |
| 42- L37 | Deadlock Avoidance | |
| 43- L38 | Deadlock detection, recovery from Deadlock. | |
| 44- P4 | College level meeting/ function | |
| 45-L39 | File System Interface: File concept ,Access methods | |
| 46-L40 | File system structure, File system implementation | |
| 47-L41 | Directories structure ,Directory implementation | |
| 48-L42 | Allocation methods, Free space management | |
| 49-L43 | Efficiency and performance ,Recovery. Mass Storage Structure: Disk Structure | |
| 50-L44 | Allotting portion for Internal Test-III | |
| JU LITT | Internal Test III begins(24.03.2017) | |
| | | |
| 51 L45 | Disk Scheduling, Disk management | |
| 51 L45 52- L46 | Disk Scheduling , Disk management Swap space management , RAID structure | |
| 51 L45 52- L46 53-IT-III | Disk Scheduling , Disk management Swap space management , RAID structure Internal Test-III | |
| 51 L45 52- L46 | Disk Scheduling , Disk management Swap space management , RAID structure | |

| | Entering Internal Test-III Marks into University portal |
|---------|---------------------------------------------------------------------------|
| 56- MT | Model Test begins(05.04.17) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 21.04.2017 |

| Learning Outcomes | Operating system |
|----------------------------|---------------------------------------------------------------|
| | |
| CO1 | Process Synchronization |
| CO2 | Scheduling Algorithm |
| CO3 | DeadLock |
| CO4 | Dinning Philosopher Algorithm |
| CO5 | Page Allocation Algorithm |
| Experimental | |
| Learning | |
| EL1 | File System Interface: File concept ,Access methods |
| EL2 | Directories structure ,Directory implementation |
| EL3 | Efficiency and performance ,Recovery. Mass Storage Structure: |
| | Disk Structure |
| Integrated Activity | |
| IA1 | Deadlock Characterization |
| IA2 | Atomic transaction. Deadlocks: System model |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2016-2017)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|-------------------------------------------------|----------------------|
| Course Name | CYBER SECURITY |
| Course Code | GMCA62 |
| Class | III year (2016-2017) |
| Semester | Even |
| Staff Name | K.APPASAMY |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |
| Dept. Meetings-2 Hrs | |
| College Meetings-2 Hrs | |
| Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit) | |

Course Objectives

- > To describe different classes of attacks.
- > To describe new and emerging IT and IS technologies.
- > To analyze threats and risks within context of the cyber security architecture.

Syllabus

UNIT I INTRODUCTION TO INFORMATION SECURITY Introduction – The History of Information Security – What is Security – Critical Characteristics of Information – NSTISSC Security Model – Components of an Information System – Securing Components – Balancing Information Security and Access – Approaches to Information Security Implementation – The Systems Development Life Cycle – The Security Systems development life cycle – Security Professional and the Organization – Communities of Interest - Information Security – Is it an Art or a Science. The Need for Security: Introduction – Business Needs First – Threats – Attacks – Secure Software Development. (12 L

UNIT II RISK MANAGEMENT & PLANNING Introduction – An overview of Risk Management – Risk Identification – Risk Assessment – Risk control Strategies – Selecting a Risk control Strategy – Quantitative versus qualitative risk control practices – Risk Management Discussion Points – Recommended Risk Control Practices. Planning for Security: Introduction – Information Security Policy, Standards and Practices – The Information Security Blueprint – Security Education, Training and Awareness Program –

Continuity Strategies. Security Technology: Firewalls and VPNs: Introduction – Physical Design – Firewalls – Protecting Remote Connections.

UNIT III SECURITY TECHNOLOGY: INTRUSION DETECTION, ACCESS CONTROL AND OTHER SECURITY TOOLS Introduction – Intrusion Detection and Prevention System (IDS and IPSs) – Honey Pots, Honey Nets and Padded Cell Systems – Scanning and Analysis Tools – Access Control Devices. Cryptography: Introduction – Foundations of Cryptology – Cipher Methods – Cryptographic Algorithms – Cryptographic Tools. (12 L) UNIT IV SECURITY IMPLEMENTATION Physical Security: Introduction – Physical Access Controls – Fire Security and Safety – Failure of Supporting Utilities and Structural Collapse – Interception of Data – Mobile and Portable Systems – Special Considerations for Physical Security Threats. Implementing Information Security: Introduction – Information Security Project Management – Technical Topics of Implementation – Non technical Aspects of Implementation – Information Systems Security Certification and Accreditation.

UNIT V SECURITY AND INFORMATION SECURITY Security and Personnel: Introduction – Positioning & Staffing the Security Function – Credentials of Information Security Professionals – Employment Policies and Practices – Security Considerations for Nonemployees – Internal Control Strategies – Privacy and the Security of Personal Data. Information Security Maintenance: Introduction – Security Management Models – The Maintenance Model – Digital Forensics.

| Hour | Class Schedule | |
|-----------|-----------------------------------------------------------------------------|--|
| allotment | | |
| | Even Semester Begin on 01.12.2016 | |
| 1-L1 | Introduction - The History of Information Security | |
| 2-L2 | What is Security - Critical Characteristics of Information | |
| 3- L3 | NSTISSC Security Model - Components of an Information System | |
| 4-L4 | Securing Components - Approaches to Information Security Implementation | |
| 5-L5 | The Systems Development Life Cycle - The Systems Development Life Cycle | |
| 6-L6 | The Security Systems development life cycle - Security Professional and the | |
| | Organization | |
| 7-L7 | Security Professional and the Organization - Communities of Interest | |
| 8- P1 | Welcoming of First year and Inauguration of BCAAssociation | |
| 9- L8 | Information Security - Is it an Art or a Science. The Need for Security: | |
| | Introduction | |
| 10- L9 | Business Needs First | |
| 11-L10 | Threats | |
| 12-L11 | Attacks | |
| 13-L12 | Secure Software Development | |
| 14-L13 | Introduction – An overview of Risk Management | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(24.01.2017) | |
| 16-L15 | Risk Identification | |

| 17-IT-1 | Internal Test-I | |
|----------------|------------------------------------------------------------------------------------|--|
| 18-L16 | Risk Assessment | |
| 19-L17 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Risk control Strategies | |
| 21- L19 | Selecting a Risk control Strategy | |
| 22- P2 | College level meeting/Cell function | |
| 23-L20 | Quantitative versus qualitative risk control practices - Risk Management | |
| 25 220 | Discussion Points | |
| 24-L21 | Recommended Risk Control Practices. Planning for Security: Introduction | |
| 25-L22 | Information Security Policy, Standards and Practices | |
| 26-L23 | The Information Security Blueprint | |
| 27-L24 | Security Education, Training and Awareness Program | |
| 28-L25 | Continuity Strategies. Security Technology: Firewalls and VPNs: Introduction - | |
| 20 220 | Physical Design | |
| 29-L26 | Firewalls- Protecting Remote Connections | |
| 30-L27 | Introduction - Intrusion Detection and Prevention System (IDS and IPSs) | |
| 31-L28 | Access Control Devices. Cryptography: Introduction - Honey Pots, Honey Nets | |
| 01 22 0 | and Padded Cell Systems | |
| 32-L29 | Scanning and Analysis Tools - Access Control Devices. Cryptography: | |
| | Introduction | |
| 33-L30 | Foundations of Cryptology - Cipher Methods | |
| 34- P3 | Department Seminar | |
| 35-L31 | Cryptographic Algorithms - Cryptographic Tools | |
| 36-L32 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(24.02.17) | |
| 37- L33 | Physical Security: Introduction - Physical Access Controls | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | Fire Security and Safety - Failure of Supporting Utilities and Structural Collapse | |
| 40-L35 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Interception of Data - Mobile and Portable Systems | |
| 42- L37 | Special Considerations for Physical Security Threats. Implementing Information | |
| | Security: Introduction | |
| 43- L38 | Information Security Project Management – Technical Topics of | |
| | Implementation | |
| 44- P4 | College level meeting/ function | |
| 45-L39 | Non technical Aspects of Implementation – Information Systems Security | |
| | Certification and Accreditation | |
| 46-L40 | Security and Personnel: Introduction – Positioning & Staffing the Security | |
| | Function | |
| 47-L41 | Credentials of Information Security Professionals – Employment Policies and | |
| | Practices | |
| 48-L42 | Security Considerations for Nonemployees – Internal Control Strategies | |
| 49-L43 | Privacy and the Security of Personal Data. Information Security Maintenance: | |
| | Introduction | |
| 50-L44 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(24.03.2017) | |
| 51 L45 | Security Management Models | |
| | | |

| 52- L46 | The Maintenance Model |
|-----------|---------------------------------------------------------------------------|
| 53-IT-III | Internal Test-III |
| 54-L47 | Digital Forensics |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(05.04.17) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 21.04.2017 |

| Learning Outcomes | COs of the course " <cyber security="">"</cyber> | |
|--------------------------|----------------------------------------------------------------------|--|
| CO1 | Explain the concepts of confidentiality, availability, and integrity | |
| COI | | |
| G02 | (CIA) in context of Information Assurance; | |
| CO2 | Articulate the threats to CIA and be able to analyze a given | |
| | architecture, discern vulnerabilities, and recommend physical, | |
| | logical, or administrative controls to mitigate the threat; | |
| CO3 | , , , , , , , , , , , , , , , , , , , | |
| | enterprise network | |
| CO4 | Explain key networking protocols, and their hierarchical | |
| | relationship in the context of a conceptual model, such as the OSI | |
| | and TCP/IP framework; | |
| Experimental | | |
| Learning | | |
| EL1 | Fire Security and Safety - Failure of Supporting Utilities and | |
| | Structural Collapse | |
| EL2 | Security Considerations for Nonemployees – Internal Control | |
| | Strategies | |
| EL3 | Privacy and the Security of Personal Data. Information Security | |
| | Maintenance: Introduction | |
| EL4 | | |
| Integrated Activity | V1 | |
| IA1 | Foundations of Cryptology - Cipher Methods | |
| IA2 | The Security Systems development life cycle - Security | |
| | Professional and the Organization | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Application& Networking

COURSE ACADEMIC PLAN(2016-2017)

(Prepared by staff member handling the course)

| Programme Name | BCA |
|--------------------|----------------------|
| Course Name | Computer Graphics |
| Course Code | GMCA64 |
| Class | III year (2016-2017) |
| Semester | Even |
| Staff Name | Mrs. G. Priskillal |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60 Hrs/Sem | · |

Total 60 Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2Hrs

Practicals: 2Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- To understand the structure of modern computer graphics system.
- To understand the basic principle of implementing computer graphics primitives.
- > To write algorithms for modelling and rendering graphical data.
- > To develop design and problem solving skills with application.
- To gain experience in constructing interactive computer graphics programs

Computer Graphics

UNIT I INPUT AND OUTPUT DEVICES

Introduction: Application and Operations of Computer Graphics - Graphics Packages -Requirements of a Graphical System – GUI. Common Input Devices – Graphical output Devices – Raster Scan Video Principle - Raster Scan CRT Monitors – Color Raster Scan System - Plasma Display - LCD - Hard copy Raster Devices - Raster Scan System - Memory Tube Displays - Plotters - Graphics Accelerators - Coprocessors.

UNIT II ALGORITHMS

Scan Conversion – Methods – Polynomial Method – DDA algorithms for line drawing Algorithm, Circle, Ellipse, Parabola - Bresenham's Line Drawing Algorithm - Bresenham's Circle Drawing Algorithm – Problem of Scan Conversion – Solid Areas – Odd Even Methods – Winding Number Method - Solid Area Filling – Algorithms – Boundary, Flood Fill Algorithm.

UNIT III TRANSFORMATION

Two Dimension Transformations – Translation – Scaling – Rotation – Transformations of Points and Objects – Homogenous Coordinate System and Transformations – Reflection – Shearing – Three Dimension Transformations - Translation – Scaling – Rotation – Reflection – Shearing.

UNIT IV CLIPPING ALGORITHMS

2D Viewing and Clipping – Windows and View Ports – Viewing Transformations – Clipping of lines in 2D – Cohen Sutherland Clipping Algorithms – Visibility – Midpoint subdivision method – parametric Clipping – Polygon Clipping – Sutherland Hodgeman Algorithm – Clipping against Concave windows.

UNIT V HIDDEN SURFACE ALGORITHMS

Hidden Surface Elimination – Black Face Removable Algorithm Z buffer Algorithm.

| Hour allotment | Class Schedule |
|-------------------|--------------------------------------------------------------------------|
| anouncii | Even Semester Begin on 01-12-2016 |
| 1-L1 | UNIT I INPUT AND OUTPUT DEVICES – Introduction |
| 2-L2 | Application and operations of computer graphics |
| 3- L3 | Graphics packages |
| 4-L4 | Requirements of graphical system |
| 5-L5 | GUI – Common input devices |
| 6-L6 | Graphical output devices |
| 7-L7 | Raster scan video principle |
| 8-L8 | Raster scan CRT monitor – color raster scan system |
| 9-L9 | Plasma display |
| 10-P1 | LCD – Hard copy raster devices |
| 11-L10 | Memory tube displays |
| 12-L11 | Plotters, graphics accelerator and coprocessor |
| 13-L12 | UNIT II ALGORITHMS – Introduction |
| 14-L13 | Scan conversion – Polynomial method - DDA line drawing algorithm |
| 15-L14 | Circle, ellipse, parabola |
| 16-L15 | Bresenham's line drawing algorithms |
| | Internal test II begins(24.01.2017) |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Bresenham's circle drawing algorithms |
| 19-L17 | Test Paper distribution and result analysis – Problem of scan conversion |
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | Solid Areas |

| 22 1 10 | |
|-----------|---------------------------------------------------------------------------|
| 22-L19 | Odd even method and winding number method |
| 23-L20 | Solid area filling |
| 24-L21 | Flood fill algorithms |
| 25-L22 | Boundary Fill algorithms |
| 26-L23 | UNIT – III TRANSFORMATIONS – Introduction |
| 27-L24 | Two dimensional transformations |
| 28-L25 | Translation and scaling |
| 29-L26 | Rotation |
| 30-L27 | Transformation of points and objects |
| 31-L28 | Homogeneous coordinate system and transformations |
| 32-L29 | Reflection – shearing |
| 33-L30 | 3D transformations |
| | Allotting portion for Internal Test-II |
| | Internal testIIbegims(24.02.17) |
| 34- P3 | Department Seminar |
| 35-L31 | Translation, Scaling and rotation. |
| 36-L32 | Reflection – shearing |
| | Allotting portion for Assignment/seminar |
| 37-IT-II | Internal Test-II |
| 38-L33 | UNIT - IV CLIPPING ALGORITHMS – Introduction |
| 39-L34 | 2D viewing and clipping |
| 40-L35 | Windows and view ports |
| 41-L36 | Test Paper distribution and result analysis- Viewing Transformations |
| | Entering Internal Test-II Marks into University portal |
| 42-P4 | Department seminar |
| 43-L37 | Cohen – sutherland clipping algorithms – visibility |
| 44-L38 | Mid-point sub division method – Parametric clipping |
| 45-L39 | Polygon clipping – sutherlandHodgeman clipping |
| | Submission of Assignment/take the seminar |
| 46-L40 | Clipping against concave windows |
| 47-L41 | UNIT - V HIDDEN SURFACE ALGORITHMS - Introduction |
| 48-L42 | Hidden surface elimination |
| | Allotting portion for Internal Test-II |
| | Internal exam III begins(24.03.17) |
| 49-L43 | Backface removal algorithms |
| 50-L44 | Black dot removal algorithm |
| 51-IT-III | Internal Test-III |
| 52-L45 | Z buffer algorithms- Test Paper distribution and result analysis |
| 53-L46 | Model Test Announcement |
| 54-L47 | Over all view of the course by PPT |
| 55-L48 | Entering Internal Test-III Marks into University portal |
| 56-L49 | Model Test begins(05.04.17) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59-MT | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 21-04-2017 |
| L | 1 |

| Learning Outcomes | COs of the course "COMPUTER GRAPHICS" | |
|--------------------------|------------------------------------------------------------------------------|--|
| CO1 | Understand the structure of modern computer graphics system. | |
| CO2 | Understand the basic principle of implementing computer graphics primitives. | |
| CO3 | Familiarity with key algorithms for modelling and rendering graphical data. | |
| CO4 | Gain experience in constructing interactive computer graphics | |
| | programs | |
| Experimental | | |
| Learning | | |
| EL1 | To write a program for graphics operations. | |
| EL2 | To perform 2D Transformations | |
| EL3 | To perform 3D Transformations | |
| Integrated Activity | | |
| IA1 | How transformations are used in animation | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

Forslow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2016-2017)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|--------------------------------------|
| Course Name | Object Oriented Programming with C++ |
| Course Code | JMCA21 |
| Class | I year (2016-2017) |
| Semester | EVEN |
| Staff Name | S.IMMANUEL |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; $5\times10=50$; 10Hrs /unit)

Course Objectives

- > To understand how C++ improves C with object-oriented features.
- > To learn how to write inline functions for efficiency and performance.
- ➤ To learn the syntax and semantics of the C++ programming language.
- > To learn how to design C++ classes for code reuse.

Syllabus

OBJECT ORIENTED PROGRAMMING WITH C++

UNIT I Principles of Object-oriented Programming: Software Evolution – A look at Procedure-Oriented Programming – Object-Oriented Programming Paradigm – Basic concepts of object-Oriented Programming – Benefits of OOP – Object-Oriented Languages- Applications of OOP **Beginning with C++**: What is C++? – Applications of C++ - A simple C++ Program – More C++ statements – An example with Class- Structure of C++ Program – Reference Variables – Operators in C++ - Scope Resolution Operator – Member De referencing Operators – Memory Management Operators – Manipulators – Type Cast Operators

UNIT II Functions in C++: Introduction – The Main Function – Function prototyping – Call by Reference – Return by reference – Inline Functions - Default Arguments – const Arguments – Function Overloading – Math Library Functions **Classes and Objects:** Introduction - C Structure Revisited – Specifying a Class – Defining Member Function-A C++ Program with Class - Making an outside Function Inline –Nesting of Member Function – Private member functions- Arrays with in a class – Memory allocation for objects – Static Data Members – Static Member Functions,

Arrays of objects – Objects as Function arguments – Friendly Functions – Returning Objects - Pointers to Members – Local Classes –

UNIT III Constructors and Destructors: Introduction – Constructors – Parameterized constructors – multiple constructors in a class – Constructors with Default arguments – Dynamic Initialization of Objects- Copy Constructors – Dynamic Constructors – Constructing two dimensional Arrays – Destructors **Operator Overloading and Type Conversion:** Introduction – Defining Operator Overloading – Overloading unary operators – Overloading Binary Operators – Overloading binary operators using Friends – Manipulation of strings using operators – Rules for overloading operators – Type conversions

UNIT IV Inheritance: Extending Classes: Introduction – Defining Derived Classes – Single inheritance – Making a Private Member Inheritable – Multilevel Inheritance – Multiple Inheritance – Hierarchical Inheritance – Hybrid Inheritance – Virtual Base Classes - Abstract Classes – Constructors in Derived Classes – Member Classes – Nesting of Classes

Unit V Managing Console I/O Operations: Introduction - C++ Streams - C++ Stream Classes - Unformatted I/O Operations - Formatted Console I/O Operation - Managing output with Manipulators **Working with Files:** Introduction - Classes for File Stream Operators - Opening and closing a File - Detecting end-of-file _ File Pointers and their Manipulators - Sequential Input and Output Operations - Error Handling during File Operations - Command - Line Arguments. **TOTAL: 60 HOURS**

Text Book: Object Oriented Programming C++ Third Edition – E Balagurusamy, Tata McGraw-Hill Publishing Company Limited

Reference Book:

- 1. Complete Reference C++ Herbert Schildt, Fourth Edition, Tata McGraw-Hill Publishing Company Limited
- 2. Object Oriented Programming with ANSI and Turbo C++ Ashok N. Kamthane, Pearson Edition
- 3. C++ How to Program Deitel, Fifth Edition Prentice Hall of India
- 4. Programming with C++ D.Ravichandran, Second Edition , Tata McGraw-Hill Publishing Company Limited

| Hour | Class Schedule |
|-----------|------------------------------------------------------------------------------------------|
| allotment | |
| | Even Semester Begin on 01.12.2016 |
| 1-L1 | UNIT I Principles of Object-oriented Programming : Software Evolution – A look at |
| | Procedure |
| 2-L2 | Oriented Programming, Object-Oriented Programming Paradigm |
| 3- L3 | Basic concepts of object-Oriented Programming , Benefits of OOP |
| 4-L4 | Object-Oriented Languages, Applications of OOP |
| 5-L5 | Beginning with C++: What is C++?, Applications of C++ |
| 6-L6 | A simple C++ Program , More C++ statements ,An example with Class |
| 7-L7 | Structure of C++ Program ,Reference Variables , Operators in C++ |
| 8- P1 | Welcoming of First year and Inauguration of BCAAssociation |
| 9- L8 | Scope Resolution Operator ,Member De referencing Operators |
| 10- L9 | Memory Management Operators , Manipulators, Type Cast Operators |
| 11-L10 | UNIT II Functions in C++: Introduction ,The Main Function |
| 12-L11 | Function prototyping ,Call by Reference ,Return by reference ,Inline Functions , |
| | Default Arguments |
| 13-L12 | const Arguments – Function Overloading – Math Library Functions |
| 14-L13 | Classes and Objects: Introduction ,C Structure Revisited, Specifying a Class , |
| | Defining Member Function |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins(24.01.17) |
| 16-L15 | A C++ Program with Class ,Making an outside Function Inline,Nesting of Member |
| | Function |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Private member functions, Arrays with in a class, Memory allocation for objects |
| 19-L17 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | Static Data Members, Static Member Functions, Arrays of objects |
| 21- L19 | Objects as Function arguments, Friendly Functions |

| Returning Objects, Pointers to Members ,Local Classes UNIT III Constructors and Destructors: Introduction,Constructors, Parameterized |
|----------------------------------------------------------------------------------------------------------------------------------------|
| INIT III Constructors and Destructors: Introduction Constructors Parameterized |
| The Constitutions and Destructions in increased in Constitutions, in artifactorized |
| constructors |
| multiple constructors in a class, Constructors with Default arguments |
| Dynamic Initialization of Objects, Copy Constructors |
| Dynamic Constructors , Constructing two dimensional Arrays |
| Destructors Operator Overloading and Type Conversion: Introduction |
| Defining Operator Overloading , Overloading unary operators |
| Overloading Binary Operators ,Overloading binary operators using Friends |
| Manipulation of strings using operators ,Rules for overloading operators |
| Гуре Conversion |
| UNIT IV Inheritance: Extending Classes: Introduction |
| Department Seminar |
| Defining Derived Classes ,Single inheritance |
| - Allotting portion for Internal Test-II |
| Internal Test II begins(24.02.17) |
| Making a Private Member Inheritable |
| Internal Test-II |
| Multilevel Inheritance ,Multiple Inheritance |
| - Test Paper distribution and result analysis |
| Entering Internal Test-II Marks into University portal |
| Hierarchical Inheritance , Hybrid Inheritance |
| Virtual Base Classes ,Abstract Classes |
| Constructors in Derived Classes |
| College level meeting/ function |
| Member Classes ,Nesting of Classes |
| Unit V Managing Console I/O Operations: Introduction, C++ Streams |
| C++ Stream Classes – Unformatted I/O Operations |
| Formatted Console I/O Operation , Managing output with Manipulators |
| Working with Files: Introduction , Classes for File Stream Operators |
| - Allotting portion for Internal Test-III Internal Test III begins (24.03.17) |
| Internal Test III begins(24.03.17) Detecting end-of-file , File Pointers and their Manipulators |
| Sequential Input and Output Operations |
| Internal Test-III |
| Error Handling during File Operations ,Command ,Line Arguments. |
| - Test Paper distribution and result analysis |
| Entering Internal Test-III Marks into University portal |
| Model Test begins (05.10.17) |
| Model Test |
| Model Test |
| Model test paper distribution and previous year university question paper |
| discussion |
| Feedback of the Course, analysis and report preparation |
| Last Working day on 21.04.2017 |
| |

| Learning Outcomes | Object Oriented Programming with C++ | |
|----------------------------|---------------------------------------------------------------|--|
| | | |
| CO1 | a) Describe the procedural and object oriented paradigm with | |
| | concepts of streams, classes, functions, data and objects. | |
| CO2 | Understand dynamic memory management techniques using | |
| | pointers, constructors, destructors, etc | |
| CO3 | Describe the concept of function overloading, operator | |
| | overloading, virtual functions and polymorphism | |
| CO4 | Classify inheritance with the understanding of early and late | |
| | binding, usage of exception handling, generic programming | |
| CO5 | Demonstrate the use of various OOPs concepts with the help of | |
| | programs | |
| Experimental | | |
| Learning | | |
| EL1 | Classes | |
| EL2 | Objects | |
| EL3 | Constructor | |
| EL4 | Inheritance | |
| Integrated Activity | | |
| IA1 | Method Overriding | |
| IA2 | Polymorphism | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Application

COURSE ACADEMIC PLAN(2016-2017)

(Prepared by staff member handling the course)

| Programme Name | BCA |
|---------------------------|-----------------------------------|
| Course Name | Visual Basic |
| Course Code | SMCA41 |
| Class | II year (2016-2017) |
| Semester | Even |
| Staff Name | 1.Mr. B.Edward Daniel Christopher |
| Credits | 4 |
| L. Hours /P. Hours 4 / WK | |
| Total 60 Hrs/Sem | |
| Internal Test-3 Hrs | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To understand the benefits of using Visual Basic for windows as an application tool.
- ➤ To understand the Visual Basic event-driven programming concepts, terminology and available tools
- ➤ Learn the fundamentals of designing, implementing and distributing a vb application.
- ➤ Learn to use the Visual Basic toolbox
- > To study connectivity between VB and databases.

VISUAL BASIC

UNIT I GETTING STARTED WITH VISUAL BASIC 6.0 Introduction to Visual Basic, Visual Basic 6.0 Programming Environment, Working with Forms, Developing an Application, Variables, Data types and Modules, Procedure and Control Structures, Array in Visual Basic, Additional examples. Working with Controls: Introduction, Creating and Using Controls, Working with Control Arrays, Additional examples.

UNIT II MENUS & GRAPHICS Menus, Mouse Events and Dialog Boxes: Introduction, Mouse Events, Dialog Boxes, Additional examples. Graphics, MDI and Flex Grid: Introduction, Graphics

for Applications, Multiple Document Interface (MDI), Using the flex Grid Control, Additional examples.

UNIT III OPEN DATABASE CONNECTIVITY ODBC and Data Access Objects: Evolution of Computer Architecture, Data Options, Additional examples. ODBC Using Data Access Objects and Remote Data objects: Open Database Connectivity (ODBC), Remote Data objects, Additional examples.

UNIT IV REPORT CREATION Data Environment and Data Report: Introduction, Data Environment Designer, Data Report, Additional examples. Object Linking and Embedding: Introduction, OLE Fundamentals, Using OLE Container Controls, Using OLE Automation Objects, OLE Drag and Drop, Additional examples.

UNIT V ACTIVE X CONTROLS Built – in Active X Controls: Working with Built – In ActiveXControls, Additional examples. Working with Active X Data objects; An Overview of ADO and OLE DB, ADO Object Model, Additional examples. Files, and File System Controls: Introduction, File System Controls, Accessing Files, Interface with Windows, Additional examples.

| Hour | Class Schedule |
|-----------|-------------------------------------------------------------------------------|
| allotment | |
| | Even Semester Begin on 01.12-2016 |
| 1-L1 | UNIT I GETTING STARTED WITH VISUAL BASIC 6.0 Introduction to Visual Basic, |
| | Visual Basic 6.0 Programming Environment. |
| 2-L2 | Working with Forms, Developing an Application, Variables, Data types |
| 3- L3 | Modules, Procedure and Control Structures |
| 4-L4 | Array in Visual Basic,1-D array, 2-D array- Additional examples. |
| 5-L5 | Working with Controls: Introduction-tool box – available controls |
| 6-L6 | Creating and Using Controls-command button, textbox control, dropdown listbox |
| 7-L7 | Picture box, option button, check box – scroll bars |
| 8-L8 | Common dialog control with examples |
| 9-L9 | Working with Control Arrays, Additional examples. |
| 10-L10 | Explanation for calculator programme |
| | |
| 11-L11 | UNIT II MENUS & GRAPHICS Menus, popup menu-introduction- sample |
| | programme |
| 13-L12 | Mouse Events |
| 14-L13 | Dialog Boxes: Introduction – Input box- Additional examples. |
| 15-L14 | Graphics – Image box- picturebox-pixel manipulation |
| | -Allotting portion for Internal Test-I |
| | Internal exam I begins(24.01.17) |
| 16-L15 | MDI-Multiple document interface- creating MDI form and child form- sample |
| | programme and output |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Flex Grid - Using the flex Grid Control |
| 19-L17 | Test Paper distribution and result analysis- sample programme for flex grid |
| | control design a form with flex grid – setting properties. |

| | Entering Internal Test-I Marks into University portal |
|-----------|------------------------------------------------------------------------------------------------------|
| 20-L18 | Programme for matrix addition using flex grid. |
| 21-P2 | College level meeting |
| 22-L19 | Dir listbox, drive listbox – sample programme to explain Dir and drive list boxes |
| 23-L20 | Exlaining the calculator programme. – Designing form – using contol arrays. |
| 24-L21 | UNIT III OPEN DATABASE CONNECTIVITYODBC - introduction |
| 25-L22 | Data Access Objects: Evolution of Computer Architecture, |
| 26-L23 | Data Options, Additional examples. ODBC Using Data Access Objects |
| 27-L24 | Remote Data objects |
| 28-L25 | Creating DSN using Open Database Connectivity (ODBC) |
| 29-L26 | Remote Data objects using ODBC - Additional examples. |
| 30-L27 | Insert – Delete – Update- coding using DAO |
| 31-L28 | Creating a student database in MS Access – connecting the database – Manipulating the data using RDO |
| 32-L29 | Linking database with data grid – Bound data with grid. |
| 33-L30 | Seminar By Students – Topic: Open database connectivity and RDO |
| | Allotting portion for Internal Test-II |
| | Internal exam II begins(24.02.17) |
| 34- P3 | Unit IV:Report CreationData Environment and Data Report: Introduction |
| 35-L31 | Data Environment Designer, Data Report, Additional Examples |
| 36-L32 | Object Linking and Embedding: Introduction |
| 37-IT-II | OLE Fundamentals |
| 38-L33 | Using OLE Container Controls |
| 39-L34 | Using OLE Automation Objects |
| 40-L35 | OLE Drag and Drop |
| 41-L36 | Additional examples. |
| 42-P4 | UNIT - V ACTIVE X CONTROLS Built – in Active X Controls: |
| 43-L37 | Working with Built in controls |
| 44-L38 | ActiveX Controls- using and creating controls |
| 45-L39 | Additional examples. |
| 46-L40 | Working with Active X Data objects |
| 47-L41 | An Overview of ADO and OLE DB |
| 48-L42 | ADO Object Model. |
| 10.7.10 | Internal exam III begins (24.03.17) |
| 49-L43 | Additional examples |
| 50-L44 | Files, and File System Controls: Introduction |
| 51-IT-III | File System Controls |
| 52-L45 | Accessing Files |
| 53-L46 | Interface with Windows |
| 54-L47 | Additional Examples |
| 55-L48 | Entering Internal Test-III Marks into University portal |
| 56-L49 | Model Test begins(05.04.17) |
| 57-MT | Model Test |
| 58-MT | Model Test Model test paper distribution and provious year university question paper |
| 59-MT | Model test paper distribution and previous year university question paper discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |

| Learning Outcomes | COs of the course "VISUAL BASIC" |
|--------------------------|--------------------------------------------------------|
| | |
| CO1 | Gain knowledge about GUI |
| CO2 | Skilled in form design and event driven programming |
| CO3 | Usage of various tools in visual basic |
| CO4 | Able to connect and access database |
| CO5 | Able to connect external data base using ODBC |
| CO6 | How to prepare data report |
| Experimental | |
| Learning | |
| EL1 | To do working models to explain Database connectivity |
| EL2 | Getting resources about Visual basic through Internet |
| EL3 | GD on merit and demerit GUI |
| EL4 | Discussion about Facebook and its database maintenance |
| Integrated Activity | |
| IA1 | Designing a billing software for grocery shop |
| IA2 | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

Forslow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Application & Networking

1. Questionnaires for Course Feedback from Students

| Name of the student | |
|---------------------|--|
| Programme Name | |
| Course Name | |
| Course code | |
| Year of Joining | |
| Semester | |
| Date | |

Put a tick in the best represents your response to each statement.

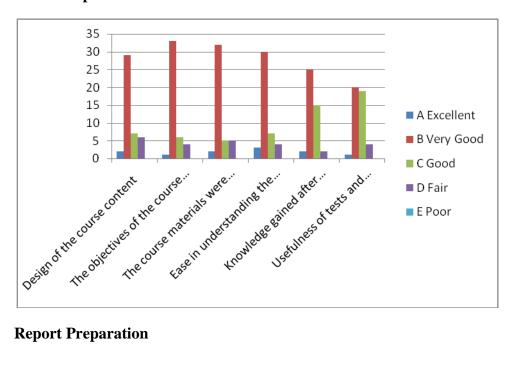
| No. | Parameters | A | В | С | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | The objectives of the course | A | В | С | D | Е |
| | were clearly stated. | | | | | |
| 3 | The course materials were | A | В | C | D | Е |
| | clearly explained. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | Е |
| | course content. | | | | | |
| 5 | Knowledge gained after | A | В | C | D | Е |
| | completion of the course. | | | | | |
| 6 | Usefulness of tests and | A | В | C | D | Е |
| | assignments | | | | | |
| 7 | Extent of efforts required by | A | В | С | D | E |
| | students. | | | | | |

Course Feedback Analysis and Report Preparation

Number of responses: 44

| No. | Parameters | A | В | С | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 2 | 29 | 7 | 6 | 0 |
| 2 | The objectives of the course | 1 | 33 | 6 | 4 | 0 |
| | were clearly stated. | 1 | 33 | O | 4 | U |
| 3 | The course materials were | 2 | 32 | 5 | 5 | 0 |
| | clearly explained. | 2 | 32 | 7 | 3 | U |
| 4 | Ease in understanding the | 3 | 30 | 7 | 4 | 0 |
| | course content. | 3 | 30 | , | 4 | U |
| 5 | Knowledge gained after | 2 | 25 | 15 | 2 | 0 |
| | completion of the course. | 2 | 23 | 13 | 2 | U |
| 6 | Usefulness of tests and | 1 | 20 | 19 | 4 | 0 |
| | assignments | 1 | 20 | 19 | 4 | U |
| 7 | Extent of efforts required by | 2 | 25 | 10 | 7 | 0 |
| | students. | <u>∠</u> | 23 | 10 | / | U |

Chart Preparation



Department of Computer Application & Networking

2. Questionnaires for Course Feedback from Teachers

| Name of the Teacher | |
|---------------------|--|
| Programme Name | |
| Course Name | |
| Course code | |
| Semester/Year | |
| Date | |

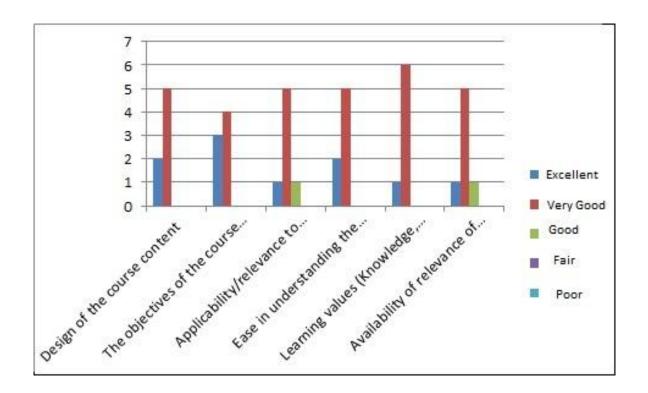
Put a tick in the best represents your response to each statement.

| No. | Parameters | A | В | C | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | The objectives of the course | A | В | C | D | Е |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | A | В | C | D | Е |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | Е |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | A | В | C | D | Е |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | A | В | C | D | Е |
| | additional source materials | | | | | |

Number of Responses: 7

| No. | Parameters | A | В | С | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 2 | 5 | 0 | 0 | 0 |
| 2 | The objectives of the course | 3 | 4 | 0 | 0 | 0 |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | 1 | 5 | 1 | 0 | 0 |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | 2 | 5 | 0 | 0 | 0 |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | 1 | 6 | 0 | 0 | 0 |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | 1 | 5 | 1 | 0 | 0 |
| | additional source materials | | | | | |

Chart preparation



Department of Application & Networking

3. Questionnaires for Course Feedback from Alumni

| Name of the Alumni | |
|--------------------|--|
| Programme Name | |
| Course Name | |
| Contact No/Mail id | |
| Semester and year | |
| Date | |

Put a tick in the best represents your response to each statement.

| No. | Parameters | A | В | C | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | The objectives of the course | A | В | C | D | Е |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | A | В | C | D | Е |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | Е |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | A | В | C | D | Е |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | A | В | C | D | Е |
| | additional source materials | | | | | |

Number of Responses: 10

| No. | Parameters | A | В | С | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 5 | 1 | 5 | 3 | 0 |
| 2 | The objectives of the course | 2 | 7 | 4 | 4 | 0 |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | 2 | 5 | 2 | 1 | 0 |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | 1 | 4 | 1 | 8 | 0 |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | 5 | 2 | 1 | 5 | 0 |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | 4 | 2 | 8 | 5 | 0 |
| | additional source materials | | | | | |

4. Questionnaires for Course Feedback from Parents

| Name of the Parent | |
|--------------------------|--|
| Name of the Student | |
| Programme Name | |
| Course Name | |
| Contact Number/Mail id | |
| Year of Joining/Semester | |
| Date | |

Put a tick in the best represents your response to each statement. 15

| No. | Parameters | A | В | С | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | Course materials available in | A | В | С | D | Е |
| | Library. | | | | | |
| 3 | The course materials were | A | В | C | D | Е |
| | clearly explained. | | | | | |
| 4 | Improvement in soft skills, | A | В | C | D | Е |
| | knowledge, observed by you in | | | | | |
| | your ward. | | | | | |
| 5 | Usefulness of the course for | A | В | C | D | E |
| | getting job. | | | | | |
| 6 | Extent of efforts required by | A | В | C | D | E |
| | students. | | | | | |

St. John's College, Palayamkottai

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2016-2017)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|---------------------|
| Course Name | DIGITAL DESIGN |
| Course Code | GACA11 |
| Class | I YEAR(2016-2017) |
| Semester | Odd |
| Staff Name | Miss.AruleenaKiruba |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |

Internal Test-3 Hrs Model Test-3 Hrs Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- To acquire the basic Knowledge of digital logic levels
- ➤ Application of knowledge to understand digital Electronic circuits
- > To perform the analysis and design of various digital electronic circuits

Syllabus

Unit I: Digital System and binary numbers: Digital systems – binary numbers – number base conversion – Octal and hexa decimal numbers – complements – signed binary numbers – binary codes – binary storage and registers – binary logic **Boolean algebra:** Introduction – basic definition – axiomatic definition of Boolean algebra

Unit II : Logic gates: Canonical and standard forms – other logic operations – digital logic gates and integrated - Don't conditions

Unit III: NAND and NOR implementation- other two level implementations – Exclusive OR Functions **Combinational Logic:** Introduction – Combinational circuits – Analysis Procedure - Design Procedure – Binary Adder – Subtractor – Decimal Adder - Binary Multiplier - Magnitude Comparator

Unit IV : Decoders - Encoders - Multiplexers **Synchronous Sequential Logic:** Introduction - Sequential Circuits - Storage Element Latches - Storage Element Flip- Flops - Analysis of Clocked Sequential Circuits

Unit V : Registers and Counters: Registers – Shift Registers – Ripple Counters – Synchronous Counters – Other counters Memory : Introduction – Random access memory – Memory Decoding – Error Detection and Correction – Read Only Memory.

| Hour | Class Schedule | |
|-----------|----------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 16.06.2016 | |

| 1-L1 | Unit I : Digital System and binary numbers: Digital systems | |
|-----------|-------------------------------------------------------------------------|--|
| 2-L2 | binary numbers | |
| 3- L3 | number base conversion | |
| 4-L4 | Octal and hexa decimal numbers | |
| 5-L5 | - complements | |
| 6-L6 | signed binary numbers | |
| 7-L7 | binary codes | |
| 8- P1 | Welcoming of First year and Inauguration | |
| 9- L8 | binary storage and registers | |
| 10- L9 | binary logic Boolean algebra | |
| 11-L10 | basic definition | |
| 12-L11 | axiomatic definition of Boolean algebra | |
| 13-L12 | Unit II: Logic gates: Canonical and standard forms | |
| 14-L13 | other logic operations | |
| 15-L14 | - Allotting portion for Internal Test-I | |
| | Internal Test I begins(25.07.2016) | |
| 16-L15 | digital logic gates | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | integrated circuits | |
| 19-L17 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | other logic operations | |
| 21- L19 | Integrated operations | |
| 22- P2 | College level meeting/Cell function | |
| 23-L20 | Don't conditions | |
| 24-L21 | Unit III : NAND and NOR implementation- other two level implementations | |
| 25-L22 | Exclusive OR Functions | |
| 26-L23 | Combinational Logic: Introduction | |
| 27-L24 | Combinational circuits | |
| 28-L25 | Analysis Proceure | |
| 29-L26 | Design Procedure | |
| 30-L27 | Binary Adder | |
| 31-L28 | Subtractor | |
| 32-L29 | Decimal Adder | |
| 33-L30 | Binary Multiplier | |
| 34- P3 | Department Seminar | |
| 35-L31 | Magnitude Comparator | |
| 36-L32 | - Allotting portion for Internal Test-II | |
| 27 122 | Internal Test II begins(22.08.2016) | |
| 37- L33 | Unit IV : Decoders | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | Encoders | |
| 40-L35 | - Test Paper distribution and result analysis | |
| 41 I 26 | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Multiplexers Complete and Comparable Logical Introduction | |
| 42- L37 | Synchronous Sequential Logic: Introduction | |

| 43- L38 | Sequential Circuits |
|-----------|---------------------------------------------------------------------------|
| 44- P4 | College level meeting/ function |
| 45-L39 | Storage Element Latches |
| 46-L40 | Storage Element Flip flops |
| 47-L41 | Flops |
| 48-L42 | Analysis of Clocked Sequential Circuits |
| 49-L43 | Unit V: Registers and Counters: Registers |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(03.10.2016) |
| 51 L45 | Shift Registers |
| 52- L46 | Ripple Counters |
| 53-IT-III | Internal Test-III |
| 54-L47 | Synchronous Counters |
| 55-L48 | - Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(17.10.16) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 30.11.2016 |

| Learning Outcomes | COs of the course " <digital design="">"</digital> |
|--------------------------|------------------------------------------------------------------------|
| | |
| CO1 | Examine the structure of various number system |
| CO2 | Examine the application the digital design |
| CO3 | Ability to understand, Analyse and design various combinational |
| | and sequential circuits. |
| Experimental | |
| Learning | |
| EL1 | Basic Gates:OR,NOT,AND,NAND,NOR |
| EL2 | Integrated circuits |
| EL3 | K-map circuit diagram |
| EL4 | Parity checker |
| Integrated Activity | |
| IA1 | Integration of the four circuit activity, in one combinational circuit |
| IA2 | The aim of the course is to make the students to be able to |
| | synthesize simple login circuits in one logic circuits. |

Blended Learning

: using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2016-2017)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|---------------------|---------------------|
| Course Name | DATA STRUCTRUE |
| Course Code | GACA31 |
| Class | II year (2016-2017) |
| Semester | Odd |
| Staff Name | Ms.G.PRISKILLAL |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| Intomol Took 2 IIng | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To understand different methods of organizing large amounts of data.
- > To efficiently implement different data structure.
- > To efficiently implement solution for different problems.

Syllabus

UNIT I DATATYPES INTRODUCTION

Introduction: Pseudo code – The Abstract Data Type – A Model for an Abstract Data Type – Algorithms Efficiency. Searching: List Searches – Hashed List Searches – Collision Resolution. (10 L)

UNIT II LINKED LISTS

Linear List Concepts – Linked List Concepts – linked List Algorithms – Processing a Linked List – Complex Linked List Structures. (10 L)

UNIT III STACKS AND QUEUES

Basic Stacks Operations – Stack Linked List Implementation – Stack Applications – Queue operations – Queue Linked List Design. (10L)

UNIT IV TREES

Basic Tree Concepts – Binary Tree - Binary Tree Traversals – Expression Trees- General Trees – Binary Search Trees – Heap definition – Heap Structure – Basic Heap Algorithm. (8L)

UNIT V INTRODUCTION TO GRAPHS

Sorting And Graphs: General Sort Concepts – Quick sort – External sorts. Graphs: Terminology – Operations – Graph storage Structure – Networks.

| Hour | Class Schedule |
|-----------|------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 16.06.2016 |
| 1-L1 | UNIT I DATATYPES INTRODUCTION |
| | Pseudo Code |
| 2-L2 | The Abstract Data Type |
| 3- L3 | A Model For An Abstract Data Type |
| 4-L4 | Algorithm Efficiency |
| 5-L5 | Searching |
| 6-L6 | List Searches |
| 7-L7 | Hashed List Searches |
| 8- P1 | Welcoming of First year and Inauguration of BCAAssociation |
| 9- L8 | Collision Resolution |
| 10- L9 | UNIT II LINKED LISTS |
| | Linear List Concepts |
| 11-L10 | Linked List Concept |
| 12-L11 | Linked List Algorithm |
| 13-L12 | Processing A Link List |
| 14-L13 | Complex Linked List Structrue |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins25.07.2016) |
| 16-L15 | UNIT III STACKS AND QUEUES |
| | Basic Stacks Operations |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Stack Linked List Implementation |
| 19-L17 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | Stack Application |
| 21- L19 | Queue Operation |
| 22- P2 | College level meeting/Cell function |

| 23-L20 | Queue Linked List Design |
|-----------|---------------------------------------------------------------------------|
| 24-L21 | UNIT IV TREES |
| 24 221 | Basic Tree Concepts |
| 25-L22 | Binary Tree |
| 26-L23 | Binary Tree Traversal |
| 27-L24 | Expression Trees |
| 28-L25 | General Trees |
| 29-L26 | Binary Search Tree |
| 30-L27 | Heap Definition |
| 31-L28 | Heap Structrue |
| 32-L29 | Basic Heap Algorithm |
| 33-L30 | UNIT V INTRODUCTION TO GRAPHS |
| | Sorting And Graphs |
| 34- P3 | Department Seminar |
| 35-L31 | General Sort Concept |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(22.08.2016) |
| 37- L33 | Quick Sort |
| 38- IT-II | Internal Test-II |
| 39-L34 | External Sort |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Graphs |
| 42- L37 | Terminology |
| 43- L38 | Operation |
| 44- P4 | College level meeting/ function |
| 45-L39 | Graph Storage Structrue |
| 46-L40 | Network |
| 47-L41 | Abstract Data Type |
| 48-L42 | Pseudo Code |
| 49-L43 | List Searches |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(03.10.2016) |
| 51 L45 | Hashed List Searches |
| 52- L46 | Stack Application |
| 53-IT-III | Internal Test-III |
| 54-L47 | Heap Definition |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(17.10.16) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 30.11.2016 |

| Learning Outcomes | DATA STRUCTRUE |
|----------------------------|--------------------------------------------------------------------|
| | |
| CO1 | Select appropriate data structures as applied to specified problem |
| | definition |
| CO2 | To Implement operations |
| CO3 | To implement linear and non-linear data structure |
| CO4 | Determine complexity of the given algorithm |
| Experimental | |
| Learning | |
| EL1 | To implement sorting |
| EL2 | To implement the search operations |
| EL3 | Implementation of the Queue and Stack |
| EL4 | Implementation of Binary Trees |
| Integrated Activity | |
| IA1 | IT system integration |
| IA2 | Alternation mode choices shared about data structure |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2016-2017)

(Prepared by staff member handling the course)

Remaining 50Hrs (5 units; $5\times10=50$; 10Hrs /unit)

| Programme Name | B.C.A. |
|---------------------------|----------------------|
| Course Name | Mobile Communication |
| Course Code | GMCA5C |
| Class | III year (2016-2017) |
| Semester | odd |
| Staff Name MR .S.IMMANUEL | |
| Credits 4 | |
| L. Hours /P. Hours 4 / WK | |
| Total 60Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |
| Dept. Meetings-2 Hrs | |

Course Objectives

College Meetings-2 Hrs

- To study the need and nature of mobile applications.
- To learn the tools and platforms required for mobile applications.
- To understand the design issues in mobile applications.

Syllabus

UNIT I INTRODUCTION Mobile Communication: Need for Mobile Communication – Requirements of Mobile Communication – History of Mobile Communication – Properties of Wireless Medium – Radio Propagation – Propagation Coverage Calculation. Introduction to Cellular Mobile Communication: Cellular Structure – Frequency Reuse – System Architecture – Authentication Centre (AUC) – Home Location Register (HLR) – Visiting Location Register (VLR) – Equipment Identify Register (EIR) – Base Station System - Cellular Mobile Communication Switching. (12 L)

UNIT I INTRODUCTION Mobile Communication Standards: First generation Wireless Networks – Second generation Wireless System – Third generation and Beyond Wireless Systems – Implementation Organization – Regional Organization – Global Organization – Global System for Mobile communication (GSM) – GSM Architecture – Advanced Mobile Phone Service (AMPS) – Digital Advanced Mobile Phone Service. Cordless Telephony Standards: - Personal Access Communication Standards (PACS) – EIA/TIA IS-136-EIA TIA IS – 95 Standards – Digital European Cordless Telephone (DECT) – Personal Handy Phone System (PHS) – IEEE 802.11 - Other Standards – Handoff Techniques - Handoff Detection

and Assignment – Types of Handoff – Mobile controlled Handoff – Network controlled Handoff – Mobile Assisted handoff – Radio Link Transfer– Roaming Management – Connection to Public Telephone Network – Connection from Mobile Unit to a Fixer User, Cellular. System Spectrum: Adaptive channel allocation – Frequency Division – Spectrum Utilization – Channel Reservation for Handoff Calls – Control Channels – Channel Assignment Methods – Channel Borrowing and Sharing – Non – Fixed Assignment Methods – Permanent Cell Splitting – Temporary Cell Splitting. (12 L)

UNIT I INTRODUCTIONCordless Mobile Communication System: Cordless Telephone
Home – Multichannel Cordless Telephone System – Wireless Private Box Exchange History
of Data networks – Classification of Mobile Data Networks – Independent Data networks –
Shared Mobile Data – Overlay Mobile Data – Cellular Digital Part data (CDPD) System –
Architecture of CDPD – Satellite Classification – Earth Orbit Satellites – Medium Earth
Orbit Satellite, Low Earth Orbit Global Satellite Communication. Changeover from One
Satellite to Requirements of Global Mobile Communication - Global User Number –
Configuration – Third Generation Global Mobile System Satellite System for mobility. (12

UNIT IV INTERFERENCES Interferences in Cellular Mobile Communication: Nature of Co- Channel Interference – Measurement of Co- Channel Interference - Measurement of Co- Channel Interference with mobile Unit – Frequency Reuse - Co- Channel Interference Omni directional Radiation – directional Antennas for Co- Channel Interference Reduction – Other Methods of Co- Channel Reduction – Non-Co- Channel Interference – Measurement of Signal to Noise and Distortion Ratio (SINAD) – Design Objective – Basic Specification - Co- Channel Interference Reduction Factor – Adjacent Channel Interference – Propagation Attenuation – Fading – Factors to be Considered at the Base Station – Working of Mobile IP – Wireless Threads – Authentication and Access control –to Communication – Anonymity – Security Arrangement in CDMA – Security of Wireless Data Networks. (12 L) Secrecy

UNIT V WIRELESS LOCAL LOOP ARCHITECTURE Components in Will – Problems in WLL – Modern Wireless Local Loop – Local Multipoint Distribution Service (LMDS) - Properties of WAP – Beater Services – Wireless Datagram Protocol (WDP) – Wireless Transport Layer Security (WTLS) – WAP Transaction Protocol (WTP) Wireless Session Protocol (WSP) Wireless Application Environment (WAE) – Components Integration – Bearer Adaptation – WAP Client Supporting Networks – System Description – Advantages of Microcellular – Layout of the Optical Fiber Microcellular Communication System – Need for Ad hoc Networks – MANET and Technical Factors Affecting Ad hoc Network - Ad hoc Nodes System Description – Routing in Ad hoc Network – Bluetooth Technology – Limitation on the Bluetooth Physical Layer – Types of Intelligent Cells – Power Delivery Intelligent Cells – Processing Gain Intelligent Cells – User Controlled Services – Reconfigurable Technology – Vision of 4G – 4G Mobile System Convergence. (12 L)

| Hour | Class Schedule |
|------------------|---------------------------------------------------------------------------|
| allotment | |
| | odd Semester Begin on 16.06.2016 |
| 1-L1 | <u>UNIT I:</u> INTRODUCTION Mobile Communication |
| 2-L2 | Need for Mobile Communication. |
| 3- L3 | Requirements of Mobile Communication. |
| 4-L4 | History of Mobile Communication. |
| 5-L5 | Properties of wireless medium. |
| 6-L6 | Radio Propagation. |
| 7-L7 | Propagation Coverage Calculation |
| 8- P1 | Welcoming of First year and Inauguration of BCAAssociation |
| 9- L8 | Introduction to Cellular Mobile Communication. |
| 10- L9 | Cellular Structure. |
| 11-L10 | Frequency Reuse. |
| 12-L11 | System Architecture |
| 13-L12 14-L13 | Authentication Centre (AUC) |
| 14-L13 15-L14 | Home Location Register (HLR). Allotting portion for Internal Test-I |
| 13-L14 | Internal Test I begins(25.07.2016) |
| 16-L15 | UNIT II: INTRODUCTION Mobile communication Standards. |
| 17-IT-1 | Internal Test-I |
| 18-L16 | First generation Wireless Networks. |
| 19-L17 | - Test Paper distribution and result analysis |
| 17 217 | Entering Internal Test-I Marks into University portal |
| 20-L18 | Second generation Wireless System. |
| 21- L19 | Third generation and Beyond Wireless system. |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | Implementation Organization |
| 24-L21 | Regional Organization. |
| 25-L22 | Global Organization. |
| 26-L23 | Global System for Mobile communication (GSM). |
| 27-L24 | GSM Architecture. |
| 28-L25 | Advanced Mobile Phone Service (AMPS). |
| 29-L26 | Digital Advanced Mobile Phone Service. |
| 30-L27 | Telephony Standards. |
| 31-L28 | Personal Access Communication Standards (PACS), TIA IS-136-EIA TIA IS, 95 |
| | Standards. |
| 32-L29 | Digital European Cordless Telephone (DECT). |
| 33-L30 | Personal Handy Phone System (PHS). |
| 34- P3 | Department Seminar |
| 35-L31 | UNIT III INTRODUCTION |
| 36-L32 | - Allotting portion for Internal Test-II |
| 27 1 22 | Internal Test II begins(22.08.2016) |
| 37- L33 | Cordless Telephone Home. |
| 38- IT-II | Internal Test-II |
| 39-L34 | Multichannel Cordless Telephone System. |
| 40-L35 | Test Paper distribution and result analysis |

| Co- Channel Interference. 46-L40 Adjacent Channel Interference ,Propagation Attenuation ,Fading ,Factors to be Considered . 47-L41 Working of Mobile IP ,Wireless Threads ,Authentication and Access control –t Communication. 48-L42 UNIT V WIRELESS LOCAL LOOP ARCHITECTURE Components in Will , Problems in WLL , Modern Wireless Local Loop. 49-L43 Advantages of Microcellular,Layout of the Optical Fiber Microcellular Communication System. 50-L44 Allotting portion for Internal Test-III Internal Test III begins(03.10.2016) 51 L45 Need for Ad hoc Networks ,MANET and Technical Factors Affecting Ad hoc Network -,Ad hoc Nodes System Description 52- L46 Limitation on the Bluetooth Physical Layer ,Types of Intelligent Cells 53-IT-III Internal Test-III 54-L47 Reconfigurable Technology ,Vision of 4G,4G Mobile System Convergence. 55-L48 Test Paper distribution and result analysis | | |
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| Satellite System for mobility. 42- L37 UNIT IV INTERFERENCES Interferences in Cellular Mobile Communication: Nature of Co, Channel Interference ,Measurement of Co- Channel Interference Frequency Reuse ,Co- Channel Interference Omni directional Radiation directional Antennas for Co. 44- P4 College level meeting/ function 45-L39 Channel Interference Reduction ,Other Methods of Co,Channel Reduction ,Nor Co- Channel Interference. Adjacent Channel Interference ,Propagation Attenuation ,Fading ,Factors to be Considered . 47-L41 Working of Mobile IP ,Wireless Threads ,Authentication and Access control –to Communication. 48-L42 UNIT V WIRELESS LOCAL LOOP ARCHITECTURE Components in Will , Problems in WLL , Modern Wireless Local Loop. 49-L43 Advantages of Microcellular,Layout of the Optical Fiber Microcellular Communication System. 50-L44 Allotting portion for Internal Test-III Internal Test III begins(03.10.2016) 51-L45 Need for Ad hoc Networks ,MANET and Technical Factors Affecting Ad hoc Network -,Ad hoc Nodes System Description 52- L46 Limitation on the Bluetooth Physical Layer ,Types of Intelligent Cells 53-IT-III Internal Test-III S4-L47 Reconfigurable Technology ,Vision of 4G,4G Mobile System Convergence. 55-L48 — Test Paper distribution and result analysis Entering Internal Test-III Marks into University portal 56- MT Model Test 59- L49 Model test paper distribution and previous year university question paper discussion | | |
| 42- L37 UNIT IV INTERFERENCES Interferences in Cellular Mobile Communication: Nature of Co, Channel Interference ,Measurement of Co- Channel Interference Frequency Reuse ,Co- Channel Interference Omni directional Radiation directional Antennas for Co. 44- P4 College level meeting/ function Channel Interference Reduction ,Other Methods of Co,Channel Reduction ,Nor Co- Channel Interference. Adjacent Channel Interference ,Propagation Attenuation ,Fading ,Factors to be Considered . Working of Mobile IP ,Wireless Threads ,Authentication and Access control – Communication. UNIT V WIRELESS LOCAL LOOP ARCHITECTURE Components in Will , Problems in WLL , Modern Wireless Local Loop. 49-L43 Advantages of Microcellular,Layout of the Optical Fiber Microcellular Communication System. 50-L44 Allotting portion for Internal Test-III Internal Test III begins(03.10.2016) Need for Ad hoc Notes System Description 52- L46 Limitation on the Bluetooth Physical Layer ,Types of Intelligent Cells 53-IT-III Reconfigurable Technology ,Vision of 4G,4G Mobile System Convergence. 55-L48 — Test Paper distribution and result analysis Entering Internal Test-III Marks into University portal 56- MT Model Test Model Test 59- L49 Model test paper distribution and previous year university question paper discussion | 41-L36 | Global User Number, Configuration, Third Generation Global Mobile System |
| Communication: Nature of Co, Channel Interference ,Measurement of Co-Channel Interference 43- L38 Frequency Reuse ,Co- Channel Interference Omni directional Radiation directional Antennas for Co. 44- P4 College level meeting/ function 45-L39 Channel Interference Reduction ,Other Methods of Co,Channel Reduction ,Nor Co- Channel Interference. 46-L40 Adjacent Channel Interference ,Propagation Attenuation ,Fading ,Factors to be Considered . 47-L41 Working of Mobile IP ,Wireless Threads ,Authentication and Access control –t Communication. 48-L42 UNIT V WIRELESS LOCAL LOOP ARCHITECTURE Components in Will , Problems in WLL , Modern Wireless Local Loop. 49-L43 Advantages of Microcellular,Layout of the Optical Fiber Microcellular Communication System. 50-L44 Allotting portion for Internal Test-III Internal Test III begins(03.10.2016) 51-L45 Need for Ad hoc Networks ,MANET and Technical Factors Affecting Ad hoc Network -,Ad hoc Nodes System Description 52- L46 Limitation on the Bluetooth Physical Layer ,Types of Intelligent Cells 53-IT-III Internal Test-III 54-L47 Reconfigurable Technology ,Vision of 4G,4G Mobile System Convergence. 55-L48 — Test Paper distribution and result analysis Entering Internal Test-III Marks into University portal 56- MT Model Test 58-MT Model Test 59- L49 Model test paper distribution and previous year university question paper discussion | | Satellite System for mobility. |
| Channel Interference 43- L38 Frequency Reuse ,Co- Channel Interference Omni directional Radiation directional Antennas for Co. 44- P4 College level meeting/ function 45-L39 Channel Interference Reduction ,Other Methods of Co,Channel Reduction ,Nor Co- Channel Interference. 46-L40 Adjacent Channel Interference ,Propagation Attenuation ,Fading ,Factors to be Considered . 47-L41 Working of Mobile IP ,Wireless Threads ,Authentication and Access control –t Communication. 48-L42 UNIT V WIRELESS LOCAL LOOP ARCHITECTURE Components in Will , Problems in WLL , Modern Wireless Local Loop. 49-L43 Advantages of Microcellular,Layout of the Optical Fiber Microcellular Communication System. 50-L44 Allotting portion for Internal Test-III Internal Test III begins(03.10.2016) 51 L45 Need for Ad hoc Networks ,MANET and Technical Factors Affecting Ad hoc Network -,Ad hoc Nodes System Description 52- L46 Limitation on the Bluetooth Physical Layer ,Types of Intelligent Cells 53-IT-III Internal Test-III Feconfigurable Technology ,Vision of 4G,4G Mobile System Convergence. 55-L48 - Test Paper distribution and result analysis Entering Internal Test-III Marks into University portal 56- MT Model Test Model Test Model test begins(17.10.16) 57-MT Model test paper distribution and previous year university question paper discussion | 42- L37 | UNIT IV INTERFERENCES Interferences in Cellular Mobile |
| 43- L38 Frequency Reuse ,Co- Channel Interference Omni directional Radiation directional Antennas for Co. 44- P4 College level meeting/ function 45-L39 Channel Interference Reduction ,Other Methods of Co,Channel Reduction ,Nor Co- Channel Interference .Propagation Attenuation ,Fading ,Factors to be Considered . 47-L41 Working of Mobile IP ,Wireless Threads ,Authentication and Access control –t Communication. 48-L42 UNIT V WIRELESS LOCAL LOOP ARCHITECTURE Components in Will , Problems in WLL , Modern Wireless Local Loop. 49-L43 Advantages of Microcellular,Layout of the Optical Fiber Microcellular Communication System. 50-L44 Allotting portion for Internal Test-III Internal Test III begins(03.10.2016) 51-L45 Need for Ad hoc Networks ,MANET and Technical Factors Affecting Ad hoc Network -,Ad hoc Nodes System Description 52- L46 Limitation on the Bluetooth Physical Layer ,Types of Intelligent Cells 53-IT-III Internal Test-III 54-L47 Reconfigurable Technology ,Vision of 4G,4G Mobile System Convergence. 55-L48 Test Paper distribution and result analysis | | Communication: Nature of Co, Channel Interference ,Measurement of Co- |
| directional Antennas for Co. 44- P4 College level meeting/ function 45-L39 Channel Interference Reduction ,Other Methods of Co,Channel Reduction ,Non Co- Channel Interference. 46-L40 Adjacent Channel Interference ,Propagation Attenuation ,Fading ,Factors to be Considered . 47-L41 Working of Mobile IP ,Wireless Threads ,Authentication and Access control –t Communication. 48-L42 UNIT V WIRELESS LOCAL LOOP ARCHITECTURE Components in Will , Problems in WLL , Modern Wireless Local Loop. 49-L43 Advantages of Microcellular,Layout of the Optical Fiber Microcellular Communication System. 50-L44 Allotting portion for Internal Test-III Internal Test III begins(03.10.2016) 51 L45 Need for Ad hoc Networks ,MANET and Technical Factors Affecting Ad hoc Network -,Ad hoc Nodes System Description 52- L46 Limitation on the Bluetooth Physical Layer ,Types of Intelligent Cells 53-IT-III Internal Test-III 54-L47 Reconfigurable Technology ,Vision of 4G,4G Mobile System Convergence. 55-L48 Test Paper distribution and result analysis | | Channel Interference |
| 44- P4 College level meeting/ function 45-L39 Channel Interference Reduction ,Other Methods of Co,Channel Reduction ,Nor Co- Channel Interference. 46-L40 Adjacent Channel Interference ,Propagation Attenuation ,Fading ,Factors to be Considered . 47-L41 Working of Mobile IP ,Wireless Threads ,Authentication and Access control –t Communication. 48-L42 UNIT V WIRELESS LOCAL LOOP ARCHITECTURE Components in Will , Problems in WLL , Modern Wireless Local Loop. 49-L43 Advantages of Microcellular,Layout of the Optical Fiber Microcellular Communication System. 50-L44 Allotting portion for Internal Test-III Internal Test III begins(03.10.2016) 51 L45 Need for Ad hoc Networks ,MANET and Technical Factors Affecting Ad hoc Network -,Ad hoc Nodes System Description 52- L46 Limitation on the Bluetooth Physical Layer ,Types of Intelligent Cells 53-IT-III Internal Test-III 54-L47 Reconfigurable Technology ,Vision of 4G,4G Mobile System Convergence. 55-L48 Test Paper distribution and result analysis | 43- L38 | Frequency Reuse ,Co- Channel Interference Omni directional Radiation |
| Channel Interference Reduction ,Other Methods of Co,Channel Reduction ,Nor Co- Channel Interference. | | directional Antennas for Co. |
| Co- Channel Interference. 46-L40 Adjacent Channel Interference ,Propagation Attenuation ,Fading ,Factors to be Considered . 47-L41 Working of Mobile IP ,Wireless Threads ,Authentication and Access control –t Communication. 48-L42 UNIT V WIRELESS LOCAL LOOP ARCHITECTURE Components in Will , Problems in WLL , Modern Wireless Local Loop. 49-L43 Advantages of Microcellular,Layout of the Optical Fiber Microcellular Communication System. 50-L44 Allotting portion for Internal Test-III Internal Test III begins(03.10.2016) 51 L45 Need for Ad hoc Networks ,MANET and Technical Factors Affecting Ad hoc Network -,Ad hoc Nodes System Description 52- L46 Limitation on the Bluetooth Physical Layer ,Types of Intelligent Cells 53-IT-III Internal Test-III 54-L47 Reconfigurable Technology ,Vision of 4G,4G Mobile System Convergence. 55-L48 Test Paper distribution and result analysis | 44- P4 | |
| Adjacent Channel Interference ,Propagation Attenuation ,Fading ,Factors to be Considered . | 45-L39 | Channel Interference Reduction ,Other Methods of Co,Channel Reduction ,Non- |
| Considered . 47-L41 Working of Mobile IP ,Wireless Threads ,Authentication and Access control – t. Communication. 48-L42 UNIT V WIRELESS LOCAL LOOP ARCHITECTURE Components in Will , Problems in WLL , Modern Wireless Local Loop. 49-L43 Advantages of Microcellular,Layout of the Optical Fiber Microcellular Communication System. 50-L44 Allotting portion for Internal Test-III Internal Test III begins(03.10.2016) 51 L45 Need for Ad hoc Networks ,MANET and Technical Factors Affecting Ad hoc Network -,Ad hoc Nodes System Description 52- L46 Limitation on the Bluetooth Physical Layer ,Types of Intelligent Cells 53-IT-III Internal Test-III 54-L47 Reconfigurable Technology ,Vision of 4G,4G Mobile System Convergence. 55-L48 Test Paper distribution and result analysis | | Co- Channel Interference. |
| 47-L41 | 46-L40 | Adjacent Channel Interference ,Propagation Attenuation ,Fading ,Factors to be |
| Communication. 48-L42 UNIT V WIRELESS LOCAL LOOP ARCHITECTURE Components in Will , Problems in WLL , Modern Wireless Local Loop. 49-L43 Advantages of Microcellular, Layout of the Optical Fiber Microcellular Communication System. 50-L44 Allotting portion for Internal Test-III Internal Test III begins(03.10.2016) 51 L45 Need for Ad hoc Networks ,MANET and Technical Factors Affecting Ad hoc Network -,Ad hoc Nodes System Description 52- L46 Limitation on the Bluetooth Physical Layer ,Types of Intelligent Cells 53-IT-III Internal Test-III 54-L47 Reconfigurable Technology ,Vision of 4G,4G Mobile System Convergence. 55-L48 Test Paper distribution and result analysis | | |
| 48-L42 UNIT V WIRELESS LOCAL LOOP ARCHITECTURE Components in Will , Problems in WLL , Modern Wireless Local Loop. 49-L43 Advantages of Microcellular, Layout of the Optical Fiber Microcellular Communication System. 50-L44 Allotting portion for Internal Test-III Internal Test III begins(03.10.2016) 51 L45 Need for Ad hoc Networks ,MANET and Technical Factors Affecting Ad hoc Network -,Ad hoc Nodes System Description 52- L46 Limitation on the Bluetooth Physical Layer ,Types of Intelligent Cells 53-IT-III Internal Test-III 54-L47 Reconfigurable Technology ,Vision of 4G,4G Mobile System Convergence. 55-L48 Test Paper distribution and result analysis Entering Internal Test-III Marks into University portal 56- MT Model Test begins(17.10.16) 57-MT Model Test 58-MT Model Test Model test paper distribution and previous year university question paper discussion | 47-L41 | Working of Mobile IP, Wireless Threads, Authentication and Access control –to |
| Will , Problems in WLL , Modern Wireless Local Loop. 49-L43 Advantages of Microcellular, Layout of the Optical Fiber Microcellular Communication System. 50-L44 Allotting portion for Internal Test-III Internal Test III begins(03.10.2016) 51 L45 Need for Ad hoc Networks , MANET and Technical Factors Affecting Ad hoc Network -, Ad hoc Nodes System Description 52- L46 Limitation on the Bluetooth Physical Layer , Types of Intelligent Cells 53-IT-III Internal Test-III 54-L47 Reconfigurable Technology , Vision of 4G,4G Mobile System Convergence. 55-L48 Test Paper distribution and result analysis Entering Internal Test-III Marks into University portal 56- MT Model Test begins(17.10.16) 57-MT Model Test 58-MT Model Test Model test paper distribution and previous year university question paper discussion | | |
| Advantages of Microcellular, Layout of the Optical Fiber Microcellular Communication System. 50-L44 Allotting portion for Internal Test-III Internal Test III begins(03.10.2016) 51 L45 Need for Ad hoc Networks, MANET and Technical Factors Affecting Ad hoc Network -, Ad hoc Nodes System Description 52- L46 Limitation on the Bluetooth Physical Layer, Types of Intelligent Cells 53-IT-III Internal Test-III 54-L47 Reconfigurable Technology, Vision of 4G,4G Mobile System Convergence. 55-L48 Test Paper distribution and result analysis | 48-L42 | |
| Communication System. 50-L44 Allotting portion for Internal Test-III Internal Test III begins(03.10.2016) 51 L45 Need for Ad hoc Networks ,MANET and Technical Factors Affecting Ad hoc Network -,Ad hoc Nodes System Description 52- L46 Limitation on the Bluetooth Physical Layer ,Types of Intelligent Cells 53-IT-III Internal Test-III 54-L47 Reconfigurable Technology ,Vision of 4G,4G Mobile System Convergence. 55-L48 Test Paper distribution and result analysis | | Will, Problems in WLL, Modern Wireless Local Loop. |
| Communication System. 50-L44 Allotting portion for Internal Test-III Internal Test III begins(03.10.2016) 51 L45 Need for Ad hoc Networks ,MANET and Technical Factors Affecting Ad hoc Network -,Ad hoc Nodes System Description 52- L46 Limitation on the Bluetooth Physical Layer ,Types of Intelligent Cells 53-IT-III Internal Test-III 54-L47 Reconfigurable Technology ,Vision of 4G,4G Mobile System Convergence. 55-L48 Test Paper distribution and result analysis | 49-L43 | Advantages of Microcellular, Layout of the Optical Fiber Microcellular |
| So-L44 | | |
| Need for Ad hoc Networks ,MANET and Technical Factors Affecting Ad hoc Network -,Ad hoc Nodes System Description 52- L46 | 50-L44 | Allotting portion for Internal Test-III |
| Network -,Ad hoc Nodes System Description 52- L46 | | Internal Test III begins(03.10.2016) |
| 52- L46 Limitation on the Bluetooth Physical Layer ,Types of Intelligent Cells 53-IT-III Internal Test-III 54-L47 Reconfigurable Technology ,Vision of 4G,4G Mobile System Convergence. 55-L48 Test Paper distribution and result analysis | 51 L45 | Need for Ad hoc Networks ,MANET and Technical Factors Affecting Ad hoc |
| 53-IT-III Internal Test-III 54-L47 Reconfigurable Technology ,Vision of 4G,4G Mobile System Convergence. 55-L48 Test Paper distribution and result analysis | | Network -,Ad hoc Nodes System Description |
| 54-L47 Reconfigurable Technology ,Vision of 4G,4G Mobile System Convergence. 55-L48 Test Paper distribution and result analysis | 52- L46 | Limitation on the Bluetooth Physical Layer ,Types of Intelligent Cells |
| 55-L48 Test Paper distribution and result analysis | 53-IT-III | Internal Test-III |
| Entering Internal Test-III Marks into University portal 56- MT Model Test begins(17.10.16) 57-MT Model Test 58-MT Model Test 59- L49 Model test paper distribution and previous year university question paper discussion | 54-L47 | Reconfigurable Technology ,Vision of 4G,4G Mobile System Convergence. |
| Entering Internal Test-III Marks into University portal 56- MT Model Test begins(17.10.16) 57-MT Model Test 58-MT Model Test 59- L49 Model test paper distribution and previous year university question paper discussion | 55-L48 | Test Paper distribution and result analysis |
| 57-MT Model Test 58-MT Model Test 59- L49 Model test paper distribution and previous year university question paper discussion | | |
| 57-MT Model Test 58-MT Model Test 59- L49 Model test paper distribution and previous year university question paper discussion | 56- MT | <u> </u> |
| 59- L49 Model test paper distribution and previous year university question paper discussion | 57-MT | |
| discussion | 58-MT | Model Test |
| discussion | 59- L49 | Model test paper distribution and previous year university question paper |
| | | |
| 60-L50 Feedback of the Course, analysis and report preparation | 60-L50 | Feedback of the Course, analysis and report preparation |
| Last Working day on 30.11.2016 | | |

| Learning Outcomes | COs of the course " <mobile communication="">"</mobile> |
|-----------------------|-------------------------------------------------------------|
| | |
| CO1 | Channel Interference Reduction ,Other Methods of Co,Channel |
| | Reduction ,Non-Co- Channel Interference. |
| CO2 | Authentication Centre (AUC) |
| CO3 | GSM Architecture |
| Experimental Learning | |
| EL1 | Properties of wireless medium. |
| EL2 | Channel Interference Reduction ,Other Methods of Co,Channel |

| | Reduction ,Non-Co- Channel Interference |
|---------------------|------------------------------------------------------------------|
| Integrated Activity | |
| IA1 | Adjacent Channel Interference ,Propagation Attenuation ,Fading |
| | ,Factors to be Considered . |
| IA2 | Limitation on the Bluetooth Physical Layer ,Types of Intelligent |
| | Cells |

Blended Learning : using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for higher study.

For slow learner : special care taken, motivate the advanced learner to support the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2016-2017)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|--------------------|
| Course Name | Programming in C |
| Course Code | GMCA11 |
| Class | I year (2016-2017) |
| Semester | Odd |
| Staff Name | Miss.P.Sudha |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total COLLeg/Com | |

Total 60Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > Importance of C
- > Decision making and looping
- User defined functions
- > Arrays

Syllabus

Programming in C

Unit I Overview of C: Introduction- Importance of C - Sample C Programs - Basic structure of C - Executing C program **Constant, variables and data types:** Introduction- Character set - tokens – keywords and identifiers – constants – variables- data types –declaration of variables – assigning values of variables. **Operators and expressions:** Introduction – arithmetic of operations-relational operator – assignment operator – increment and decrement operator – conditional operator – bitwise operator – special operator – evaluation of expressions – precedence of arithmetic operators – type conversion in expression- operator precedence and associatively-mathematical functions

Unit II Managing input and output operators: Introduction: Reading a character- writing a character – formatted input – formatted output **Decision making and branching:** Introduction – decision making with IF statement- simple IF statement – The IF ELSE statement- nesting of IF –

ELSE statement —ELSE IF ladders- The switch statement — The?: operators — The GOTO statement**Decision making and looping:** The While statement — The Do statement — The for statement- Jump in loops

Unit III Arrays: One dimensional arrays – two dimensional arrays -Initializing two dimensional arrays – multi dimensional arrays Page **4** of **12**

Handling of character strings: Introduction: declaring and Initializing string variables- Reading string from terminal- writing string to screen – arithmetic operation on characters – putting strings together – comparison of two strings together – string handling functions

Unit IV User defined functions: Introduction – need for user- define functions- A multi- function program – The form of C functions- return values and their types – calling a function- category of function – no argument and no return values – argument with no return values –argument with return values – handling of non integer functions – nesting of functions – recursion – function with arrays – the scope and life time of variables in functions.

Unit V Pointers Introduction: understanding pointers – accessing the address of variables – declaring and initializing pointers – accessing a variable through its pointer – pointer expressions – pointer increments and scale factor – pointers and character strings – pointers and functions – points on pointer.

TOTAL: 60 HOURS Text Book: Programming in ANSI C – By E.Balagurusamy, Tata McGraw-Hill Publishing Company Reference Book: Programming with ANSI and TURBO C – by Ashok N. Kamthane

| Hour allotment | Class Schedule |
|-------------------|----------------------------------------------------------------------------------------------|
| | Odd Semester Begin on 16.06.2016 |
| 1-L1 | Introduction- Importance of C, Sample C Programs |
| 2-L2 | Basic structure of C, Executing C program |
| 3- L3 | Executing C program |
| 4-L4 | Constant, variables and data types: Introduction |
| 5-L5 | Character set, tokens , keywords and identifiers |
| 6-L6 | constants ,variables, data types |
| 7-L7 | declaration of variables , assigning values of variables. |
| 8- P1 | Welcoming of First year and Inauguration |
| 9- L8 | Operators and expressions: Introduction , arithmetic of operations |
| 10- L9 | relational operator ,assignment operator ,increment and decrement operator |
| 11-L10 | conditional operator ,bitwise operator ,special operator |
| 12-L11 | evaluation of expressions, precedence of arithmetic operators ,type conversion in expression |
| 13-L12 | Type conversion in expression ,operator precedence and associatively,mathematical functions |
| 14-L13 | Unit II Managing input and output operators: Introduction: Reading a character |

| 15-L14 | Allotting nortion for Internal Test I |
|-----------|---------------------------------------------------------------------------------------|
| 13-L14 | - Allotting portion for Internal Test-I Internal Test I begins(25.07.2016) |
| 16-L15 | writing a character , formatted input, formatted output |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Decision making and branching: Introduction – decision making with IF statement |
| 19-L17 | - Test Paper distribution and result analysis |
| 17-L17 | Entering Internal Test-I Marks into University portal |
| 20-L18 | simple IF statement ,The IF ELSE statement, nesting of IF –ELSE statement |
| 21- L19 | ELSE IF ladders |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | The switch statement, The?: operators |
| 24-L21 | The GOTO statement |
| 25-L22 | Decision making and looping: The While statement |
| 26-L23 | - The Do statement, The for statement- Jump in loops |
| 27-L24 | Unit III Arrays: One dimensional arrays , two dimensional arrays , |
| 28-L25 | Initializing two dimensional arrays ,multi dimensional arrays |
| 29-L26 | Handling of character strings: Introduction: declaring and Initializing string |
| _,, | variables |
| 30-L27 | Reading string from terminal, writing string to screen, arithmetic operation on |
| | characters |
| 31-L28 | putting strings together, comparison of two strings together, multi dimensional |
| | arrays |
| 32-L29 | string handling functions, Unit IV User defined functions: Introduction |
| 33-L30 | need for user- define functions, A multi- function program |
| 34- P3 | Department Seminar |
| 35-L31 | The form of C functions, return values and their types , calling a function, category |
| | of function |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(22.08.2016) |
| 37- L33 | no argument and no return values |
| 38- IT-II | Internal Test-II |
| 39-L34 | argument with no return values, argument with return values |
| 40-L35 | - Test Paper distribution and result analysis |
| 44.7.06 | Entering Internal Test-II Marks into University portal |
| 41-L36 | handling of non integer functions , nesting of functions, |
| 42- L37 | recursion, function with arrays, the scope and life time of variables in functions. |
| 43- L38 | Unit V Pointers Introduction: understanding pointers |
| 44- P4 | College level meeting/ function |
| 45-L39 | understanding pointers |
| 46-L40 | accessing the address of variables, declaring and initializing pointers |
| 47-L41 | accessing a variable through its pointer |
| 48-L42 | pointer expressions |
| 49-L43 | pointer increments and scale factor |
| 50-L44 | - Allotting portion for Internal Test-III |
| E1 T 45 | Internal Test III begins(03.10.2016) |
| 51 L45 | pointers and character strings |
| 52- L46 | pointers and functions |
| 53-IT-III | Internal Test-III |

| 54-L47 | points on pointer. |
|---------|---------------------------------------------------------------------------|
| | |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(17.10.16) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 17.10.2016 |

| Learning Outcomes | COs of the course " <programming c="" in="">"</programming> | |
|----------------------------|----------------------------------------------------------------|--|
| CO1 | Basic structure of C, Executing C program | |
| CO2 | , , , , , , , , , , , , , , , , , , , , | |
| | function, category of function | |
| CO3 | pointer expressions | |
| Experimental | | |
| Learning | | |
| EL1 | accessing the address of variables ,declaring and initializing | |
| | pointers | |
| EL2 | pointer increments and scale factor | |
| Integrated Activity | | |
| IA1 | understanding pointers – accessing the address of variables | |
| IA2 | IA2 Array-Various Dimensions | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2016-2017)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|---------------------|
| Course Name | Java programming |
| Course Code | GMCA31 |
| Class | II year (2016-2017) |
| Semester | Odd |
| Staff Name | Mr.S.IMMANUEL |
| Credits | 6 |
| L. Hours /P. Hours | 6 / WK |
| Total 90 Hrs/Sem | · |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 80 Hrs (5 units; 5×16=80; 16Hrs /unit)

Course Objectives

- Wrapper classes
- Control structures
- Constructors and methods in throwable classes
- > File and I/O streams

Syllabus

UNIT -I Java language fundamentals: The building blocks of Java - Data types - Variable declarations - Wrapper classes - Operators and assignment - Control structures - Arrays -Strings.

UNIT- II Java as an OOP language: Defining classes – Modifiers – Packages – Interfaces Exception handling: Introduction – Basics of exception handling in JAVA – Exception hierarchy – Constructors and methods in throwable classes – Unchecked and checked exceptions – Handling **Exceptions in Java**

UNIT- III Multithreading: Creating threads - Thread life-cycle - Thread priorities and thread scheduling – Thread synchronization. File and I/O streams: Java I/O – File streams – File Input Stream and File Output Stream – Filter streams

UNIT- IV Applets: Java applications versus Java applets – Applet Life-cycle – working with applets – the HTML APPLET tag. Database handling using JDBC: JDBC architecture – working with JDBC – Processing queries – Transaction commit and Rollback – Handling exceptions – Accessing Metadata

UNIT- V The Abstract Window Toolkit: Basic classes in AWT – Drawing with graphics class – Class hierarchy of AWT – Event handling – AWT controls – Layout managers.

| Hour | Class Schedule | |
|-----------|------------------------------------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 16.06.2016 | |
| 1-L1 | UNIT -I Java language fundamentals | |
| 2-L2 | Data types | |
| 3- L3 | Variable declarations | |
| 4-L4 | Wrapper classes | |
| 5-L5 | Operators and assignment | |
| 6-L6 | Control structures | |
| 7-L7 | Arrays | |
| 8-L8 | Strings | |
| 9-L9 | UNIT- II Java as an OOP language: Defining classes | |
| 10-P1 | Welcoming of First year and Inauguration of BCAAssociation | |
| 11-L10 | Modifiers | |
| 12-L11 | Interfaces | |
| 13-L12 | Exception handling: Introduction | |
| 14-L13 | Basics of exception handling in JAVA | |
| 15-L14 | Exception hierarchy | |
| 16-L15 | Constructors and methods in throwable classes | |
| 17-L16 | Unchecked and checked exceptions | |
| 18-L17 | Handling | |
| 19-L18 | Exceptions in Java | |
| 20-L19 | UNIT- III Multithreading: Creating threads | |
| 21-L20 | Thread life-cycle | |
| 22-L21 | Thread priorities | |
| 23-L22 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(25.07.2016) | |
| 24-L23 | thread scheduling | |
| 25-L24 | Thread synchronization | |
| 26-IT-1 | Internal Test-I | |
| 27-L25 | File and I/O streams | |
| 28-L26 | Java I/O – File streams | |
| 29-L27 | File Input Stream and File Output Stream | |
| 30-L28 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 31- L29 | Filter streams | |

| 32- L30 | UNIT- IV Applets: Java applications versus Java applets |
|--------------------|-----------------------------------------------------------|
| 33- L31 | Applet Life-cycle |
| 34-P2 | College level meeting/Cell function |
| 35- L32 | Thread priorities and thread scheduling |
| 36- L33 | - Thread synchronization |
| 37- L34 | File and I/O streams |
| 38- L35 | Java I/O – File streams |
| 39- L36 | File Input Stream and File Output Stream |
| 40- L37 | Filter streams |
| 41- L38 | UNIT- IV Applets: Java applications versus Java applets |
| 42- L39 | Applet Life-cycle |
| 43- L40 | working with applets |
| 44- L41 | the HTML APPLET tag |
| 45- L42 | Database handling using JDBC |
| 46- L43 | JDBC architecture |
| 47- L44 | working with JDBC |
| 48- L45 | Processing queries |
| 49- L46 | Transaction commit and Rollback |
| 50- L47 | – Handling exceptions |
| 51- P3 | Department Seminar |
| 52- L48 | Accessing Metadata |
| 53- L49 | UNIT- V The Abstract Window Toolkit: Basic classes in AWT |
| 54- L50 | Drawing with graphics class |
| 55- L51 | Class hierarchy of AWT |
| 56-L52 | Allotting portion for Internal Test-II |
| | Internal Test II begins(22.08.2016) |
| 57-L53 | Event handling |
| 58-L54 | AWT controls |
| 59-IT-II | Internal Test-II |
| 60- L55 | Layout managers. |
| 61- L56 | Test Paper distribution and result analysis |
| 60 X 55 | Entering Internal Test-II Marks into University portal |
| 62- L57 | Literals |
| 63- L58 | Applet skeleton |
| 64- L59 | audio clip interface |
| 65- L60 | applet display method |
| 66- L61 67- L62 | Event handling mechanism AWT classes |
| 68- L63 | Aw I classes Applet basics |
| 69- L64 | event handling mechanisms |
| 70- L65 | Bars and menus |
| 70- L65 71- L66 | Understanding layout managers |
| 71- L60 72- L67 | Inter thread communication |
| 73- L68 | Java thread model |
| 74-P4 | College level meeting/ function |
| 75- L69 | writing console output |
| 76- L70 | the printwriter class |
| 77- L71 | using object as parameters |
| | υ σ ···· Γ ·· · · · · · · · · · · · · · · |

| 78- L72 | Argument passing |
|-----------|---------------------------------------------------------------------------|
| 79- L73 | Allotting portion for Internal Test-III |
| | Internal Test III begins(03.10.2016) |
| 80- L74 | Creating multiple threads |
| 81- L75 | multiple catch clauses |
| 82-IT-III | Internal Test-III |
| 83- L76 | Stack class |
| 84- L77 | - Test Paper distribution and result analysis |
| 85- L78 | Try and catch |
| | Entering Internal Test-III Marks into University portal |
| 86- L79 | Model Test begins(17.10.16) |
| 87-MT | Model Test |
| 88-MT | Model Test |
| 89-MT | Model test paper distribution and previous year university question paper |
| | discussion |
| 90-L-80 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 30.11.2016 |

| Learning Outcomes | COs of the course " <java programming="">"</java> |
|--------------------------|---------------------------------------------------|
| | |
| CO1 | audio clip interface |
| CO2 | event handling mechanisms |
| CO3 | Bars and menus |
| Experimental | |
| Learning | |
| EL1 | AWT classes |
| EL2 | Thread synchronization |
| EL3 | audio clip interface |
| Integrated Activity | |
| IA1 | Inter thread communication |
| IA2 | using object as parameters |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2016-2017)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. | |
|----------------------|----------------------|--|
| Course Name | FINANCIAL ACCOUNTING | |
| Course Code | GMCA32 | |
| Class | II year (2016-2017) | |
| Semester | Odd | |
| Staff Name | Mr.B.EDWARD DANIEL | |
| Credits | 4 | |
| L. Hours /P. Hours | 4 / WK | |
| Total 60Hrs/Sem | | |
| Internal Test-3 Hrs | | |
| Model Test-3 Hrs | | |
| Dept. Meetings-2 Hrs | | |

Course Objectives

College Meetings-2 Hrs

- > To impart basic accounting knowledge
- > To provide knowledge on the fundamental of financial accounting.
- > To expose the student to various financial transaction and its current applications.

Syllabus

UNIT I BASIC CONCEPTS OF ACCOUNTING

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Introduction to Accounting: Need for Accounting –Accounting as the language of business – Attributes and steps of Accounting –Book keeping Vs Accounting – Branches of Accounting – Methods of Accounting – Types of Accounting – Accounting Rules - Bases of Accounting – Accounting terminology. Basic Accounting Concepts: Meaning and classification of Accounting-Accounting Concepts – Accounting Conversion – Accounting equations. (10 L)

UNIT II JOURNAL AND LEDGER

Recording a Financial Data: Memorandum Book, business transaction, Journal, Rules for Debit and Credit, Compound Journal entry, Advantages of Journal, Ledger, Ledger Account,

Ledger Posting, Process of Posting, Balancing of An Account, Significance of Balances, Relation between Journal and edger-Subsidiary Books. (15 L)

UNIT III PREPARING TRIAL BALANCE

Trial Balance: Objects, Methods of Preparing Trial balance, how to locate errors, hints for the preparation of trial balance & problems. (11 L)

UNIT IV FINAL ACCOUNTS

Trading account – individual items posted to the debit of trading account – individual items credited to trading account – advantages of trading account – profit & loss account - advantages of profit & loss account - manufacturing account- balance sheet- classification of assets & liabilities. (12 L)

UNIT V ACCOUNTS FOR NON PROFIT ORGANISATION

Introduction – Final accounts of no trading concern- receipts and payments account – featuresincome& expenditure account – feature- distinction between the two – treatment of special items – some important adjustments – types of problems – Distinction between income and expenditure account and profit and loss account – accounts of professional men.

| Hour | Class Schedule |
|-----------|------------------------------------------|
| allotment | |
| | Odd Semester Begin on 16.06.2016 |
| 1-L1 | UNIT I BASIC CONCEPTS OF ACCOUNTING |
| | Introduction to Accounting |
| 2-L2 | Need for Accounting |
| 3- L3 | Accounting as the language of business |
| 4-L4 | Attributes and steps of Accounting |
| 5-L5 | Book keeping Vs Accounting |
| 6-L6 | Branches of Accounting |
| 7-L7 | Methods of Accounting |
| 8- P1 | Welcoming of First year and Inauguration |
| 9- L8 | Types of Accounting |
| 10- L9 | Accounting Rules |
| 11-L10 | Bases of Accounting |
| 12-L11 | Accounting terminology |
| 13-L12 | Basic Accounting Concepts |
| 14-L13 | Meaning and classification of Accounting |
| 15-L14 | Allotting portion for Internal Test-I |
| | |
| | Internal Test I begins(25.07.2016) |
| 16-L15 | Accounting Concepts |
| 17-IT-1 | Internal Test-I |

| 18-L16 | Accounting Conversion | |
|-----------|---------------------------------------------------------|--|
| 19-L17 | - Test Paper distribution and result analysis | |
| 17 117 | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Accounting equations. | |
| 21- L19 | UNIT II JOURNAL AND LEDGER | |
| | Recording a Financial Data | |
| 22- P2 | College level meeting/Cell function | |
| 23-L20 | Memorandum Book | |
| 24-L21 | business transaction | |
| 25-L22 | Journals | |
| 26-L23 | Rules for Debit and Credit | |
| 27-L24 | Compound Journal entry, | |
| 28-L25 | Advantages of Journal | |
| 29-L26 | Ledger Account | |
| 30-L27 | Ledger Posting | |
| 31-L28 | Process of Posting | |
| 32-L29 | Balancing of An Account, | |
| 33-L30 | Significance of Balances, | |
| 34- P3 | Department Seminar | |
| 35-L31 | Relation between Journal and Ledger | |
| 36-L32 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(22.08.2016) | |
| 37- L33 | Subsidiary Books. | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | UNIT III PREPARING TRIAL BALANCE Trial Balance | |
| 40-L35 | - Test Paper distribution and result analysis | |
| 10 233 | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Methods of Preparing Trial balance | |
| 42- L37 | how to locate errors | |
| 43- L38 | hints for the preparation of trial balance | |
| 44- P4 | College level meeting/ function | |
| 45-L39 | Problems | |
| 46-L40 | UNIT IV FINAL ACCOUNTS | |
| | Trading account | |
| 47-L41 | individual items posted to the debit of trading account | |
| 48-L42 | individual items credited to trading account | |
| 49-L43 | advantages of trading account | |
| 50-L44 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(03.10.2016) | |
| 51 L45 | profit & loss account | |
| 52- L46 | Advantage of profit | |
| 53-IT-III | Internal Test-III | |
| 54-L47 | loss account | |
| 55-L48 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 56- MT | Model Test begins(17.10.16) | |
| 57-MT | Model Test | |

| 58-MT | Model Test |
|---------|---------------------------------------------------------------------------|
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 30.11.2016 |

| Learning Outcomes | COs of the course " <financial accounting="">"</financial> | |
|----------------------------|------------------------------------------------------------|--|
| | | |
| CO1 | Process of Posting | |
| CO2 | individual items posted to the debit of trading account | |
| CO3 | advantages of trading account | |
| Experimental | | |
| Learning | | |
| EL1 | Business transaction, Journal, Rules for Debit and Credit, | |
| | Compound Journal entry | |
| EL2 | Significance of Balances | |
| Integrated Activity | | |
| IA1 | 1 Final accounts of no trading concern | |
| IA2 | IA2 manufacturing account | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2016-2017)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|---------------------|----------------------|
| Course Name | Software Engineering |
| Course Code | GMCA51 |
| Class | III year (2016-2017) |
| Semester | odd |
| Staff Name | MR.B.EDWARD DANIEL |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; $5\times10=50$; 10Hrs /unit)

Course Objectives

- To study the need and nature of mobile applications.
- To learn the tools and platforms required for mobile applications.
- To understand the design issues in mobile applications.

Syllabus

UNIT I SOFTWARE AND SOFTWARE ENGINEERING The Nature of Software – The Nature of Software? The Nature of Software – Stack holders in Software engineering - Stack holders in Software engineering - Activities common to Software projects - Difficult and risk in software engineering as a whole. Review of Object Orientation: What is object orientation/ - Classes and objects - Instance variables - Methods, Operations and Polymorphism – Concepts best define object orientation – Difficulties and risks in programming language choice and object – oriented programming. (12 L) **UNIT II DEVELOPING REQUIREMENTS** Domain analysis – The starting point for software projects – Defining the problem and the scope – What is a requirement? – Types of requirements – Some techniques for gathering and analyzing requirements – Managing changing requirements – Difficulties and risks in domain and requirements analysis. (12 L) UNIT III MODELING WITH CLASSES What is UML? – Essentials of UML class diagrams - Associations and Multiplicity - Generalization - Instance diagrams - More advanced features of class diagrams. Modeling Interactions and Behavior: Interaction diagram – State diagrams – Activity diagrams. (12 L)

UNIT IV ARCHITECTING AND DESIGNING SOFTWARE The process of design — Principles leading to good design — Techniques for making good design decisions — Software architecture — Architectural patterns — Writing a good designing document. (12 L) UNIT V TESTING AND INSPECTING TO ENSURE HIGH QUALITY Basic definitions — Effective and efficient testing — Defects in ordinary Algorithms — Defects in numerical algorithms — Defects in timing and co-ordination. Managing the Software Process: What is project management? — Software process models — Cost estimation — building software engineering teams — Project scheduling and tracking. Course Calendar

| Hour | Class Schedule | |
|-----------|------------------------------------------------------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 16.06.2016 | |
| 1-L1 | UNIT I SOFTWARE AND SOFTWARE ENGINEERING: The Nature | |
| | of Software | |
| 2-L2 | Stack holders in Software engineering | |
| 3- L3 | Activities common to Software projects | |
| 4-L4 | Difficult and risk in software engineering as a whole. Review of Object | |
| | Orientation | |
| 5-L5 | What is object orientation. | |
| 6-L6 | Classes and objects | |
| 7-L7 | Instance variables. | |
| 8- P1 | Methods, Operations and | |
| 9- L8 | Concepts best define object orientation. | |
| 10- L9 | Difficulties and risks in programming language choice and object | |
| 11-L10 | Polymorphism. | |
| 12-L11 | oriented programming. | |
| 13-L12 | UNIT II DEVELOPING REQUIREMENTS Domain analysis | |
| 14-L13 | The starting point for software projects, Defining the problem and the scope | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(25.07.2016) | |
| 16-L15 | What is a requirement | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Some techniques for gathering | |
| 19-L17 | - Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Types of requirements | |
| 21- L19 | and analyzing requirements | |
| 22- P2 | College level meeting/ | |
| 23-L20 | Managing changing requirements | |
| 24-L21 | Difficulties and risks in domain | |
| 25-L22 | Cell function | |
| 26-L23 | analysis and requirements | |
| 27-L24 | UNIT III MODELING WITH CLASSES What is UML | |
| 28-L25 | Essentials of UML class diagrams. | |
| 29-L26 | Associations and Multiplicity | |
| 30-L27 | Generalization | |
| 31-L28 | Instance diagrams | |
| 32-L29 | More advanced features of class diagrams. | |

| 33-L30 | Modeling Interactions and Behavior | |
|-----------|---------------------------------------------------------------------------|--|
| 34- P3 | Interaction diagram | |
| 35-L31 | State diagrams ,Activity diagrams. | |
| 36-L32 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(22.08.2016) | |
| 37- L33 | UNIT IV ARCHITECTING AND DESIGNING SOFTWARE The process | |
| | of design: | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | – Principles leading to good design | |
| 40-L35 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Techniques for making good design decisions | |
| 42- L37 | Software architecture | |
| 43- L38 | Architectural patterns. | |
| 44- P4 | Writing a good designing document | |
| 45-L39 | UNIT V TESTING AND INSPECTING TO ENSURE HIGH QUALITY | |
| | Basic definitions. | |
| 46-L40 | Effective and efficient testing | |
| 47-L41 | Defects in ordinary Algorithms | |
| 48-L42 | Defects in numerical algorithms | |
| 49-L43 | Managing the Software Process | |
| 50-L44 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(03.10.2016) | |
| 51 L45 | Software process models | |
| 52- L46 | Cost estimation ,building software engineering teams | |
| 53-IT-III | Internal Test-III | |
| 54-L47 | Project scheduling and tracking. | |
| 55-L48 | - Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 56- MT | Model Test begins(17.10.16) | |
| 57-MT | Model Test | |
| 58-MT | Model Test | |
| 59- L49 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 60-L50 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 30.11.2016 | |

| Learning Outcomes | COs of the course " <software engineering="">"</software> |
|-----------------------|-----------------------------------------------------------|
| | |
| CO1 | Defects in ordinary Algorithms |
| CO2 | Software process models |
| CO3 | Techniques for making good design decisions |
| CO4 | Concepts best define object orientation |
| Experimental Learning | |
| EL1 | Instance diagrams |
| EL2 | Classes and objects |

| Integrated Activity | |
|---------------------|---------------------------------------------|
| IA1 | Software process models |
| IA2 | Techniques for making good design decisions |

Blended Learning : using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for higher study.

For slow learner : special care taken, motivate the advanced learner to support the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2016-2017)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|---------------------|---------------------|
| Course Name | WEB TECHNOLOGY |
| Course Code | GMCA52 |
| Class | III YEAR(2016-2017) |
| Semester | Odd |
| Staff Name | MRS.G.PRISKILLAL |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |
| Total 75 Hrs/Sem | |
| Internal Test-3 Hrs | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 65 Hrs (5 units; 5×13=65; 13Hrs /unit)

Course Objectives

- To provide the conceptual and technological developments in the field of Internet and web designing with the emphasis on comprehensive knowledge of Internet, Describe the basic concepts for network implementation.
- To learn the basic working scheme of the Internet and World Wide Web.
- Understand fundamental tools and technologies for web design

Syllabus

UNIT I INTRODUCTION TO THE WEB Understanding the Internet and World Wide Web – History of the Web – Protocols Governing the Web – Creating Websites for Individuals and the Corporate World – Web Applications – Writing Web projects – Identification of Objects – Target Users – Web Team – Planning and Process Development – Web Architecture –Internet Standards – TCP/IP Protocol Suite – IP Address – MIME – Cyber Laws. Hyper Text Transfer Protocol (HTTP): Introduction – Web servers and clients – Resources – URL and its Anatomy – Message Format. (14 L)

UNIT II HYPER TEXT MARKUP LANGUAGE (HTML) History of HTML and W3C – HTML and its Flavors – HTML Basics – Elements, Attributes, and Tags – Basic Tags – Advanced Tags – Frames. (UNIT III JAVA SCRIPT Introduction – Variables – Literals – Operators – Control Structure – Conditional statements – Arrays – Functions – Objects. (10 L)

UNIT IV EXTENSIBLE MARKUP LANGUAGE (XML) Common Usage – Role of XML – Prolog – Body – Elements – Attributes – Validation – Displaying XML – Namespace.XML DTD: XML Schema Languages – Validation – Introduction to DTD–Purpose of DTD – Using a DTD in an XML Document. (12 L)

UNIT V COMMON GATEWAY INTERFACE (CGI) Internet Programming Paradigm – Server – side Programming – Languages for CGI – Applications – Server Environment – Environment Variables – CGI Building Blocks – CGI Scripting Using C, Shell Script – Writing CGI programs – CGI Security – Alternatives and Enhancements to CGI. Servlet: Server – Side Java – Advantages Over Applets - Servlet Alternatives – Servlet Strength – Servlet Architecture – Servlet Life Cycle. (12 L)

| Hour | Class Schedule |
|-----------|---------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 16.06.2016 |
| 1-L1 | UNIT I INTRODUCTION TO THE WEB Understanding the Internet and |
| | World Wide Web |
| 2-L2 | History of the Web |
| 3- L3 | Protocols Governing the Web |
| 4-L4 | Creating Websites for Individuals and the Corporate World |
| 5-L5 | Web Applications |
| 6-L6 | Writing Web projects |
| 7-L7 | - Identification of Objects |
| 8- P1 | Welcoming of First year and Inauguration of BCA Association |
| 9- L8 | Target Users |
| 10- L9 | Web Team |
| 11-L10 | Planning and Process Development |
| 12-L11 | Web Architecture |
| 13-L12 | Internet Standards |
| 14-L13 | TCP/IP Protocol Suite |
| 15-L14 | IP Address |
| 16-L15 | MIME – Cyber Laws. Hyper Text Transfer Protocol (HTTP) |
| 17- L16 | UNIT II HYPER TEXT MARKUP LANGUAGE (HTML) History of HTML |
| | and W3C |
| 18- L17 | HTML and its Flavors |
| 19- L18 | – HTML Basics |
| 20- L19 | – Elements, Attributes, and Tags |
| 21- L20 | Allotting portion for Internal Test-I |
| | Internal Test I begins(25.07.2016) |
| 22- L21 | Basic Tags |
| 23- IT-1 | Internal Test-I |
| 24- L22 | Advanced Tags |
| 25- L23 | Frames |
| 26- L24 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 27- L25 | UNIT III JAVA SCRIPT Introduction |

| 28- L26 | Variables |
|--------------------|------------------------------------------------------------|
| 28- L20 29- L27 | Literals |
| 29- L27 30- P2 | |
| 31-L28 | College level meeting/Cell function |
| 31-L28 32-L29 | Operators. Control Structure |
| 32-L29 33-L30 | Conditional statements |
| 34- L31 | |
| 35- L32 | Arrays Functions |
| 36- L32 | Objects |
| 30- L33 37- L34 | UNIT IV EXTENSIBLE MARKUP LANGUAGE (XML) Common Usage |
| 38-L35 | Role of XML |
| 39-L36 | Prolog |
| 40- L37 | Body – Elements |
| 41- L38 | Attributes |
| 42-P3 | Department Seminar |
| 43- L39 | Validation Validation |
| 44- L40 | Displaying xml |
| 45- L41 | Namespace.XML DTD |
| 46- L42 | XML Schema Languages |
| 47- L43 | - Allotting portion for Internal Test-II |
| | Internal Test II begins(22.08.2016) |
| 48- L44 | introduction of DTD |
| 49-IT-II | Internal Test-II |
| 50-L45 | Purpose of DTD |
| 51- L46 | - Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 52- L47 | UNIT V COMMON GATEWAY INTERFACE (CGI) Internet Programming |
| | Paradigm |
| 53- L48 | Server side Program |
| 54- L49 | Client side Programming |
| 55- L50 | Languages for CGI |
| 56- L51 | Applications |
| 57- L52 | Server environment |
| 58- L53 | Environment Variables |
| 59-P4 | College level meeting/ function |
| 60- L54 | CGI Building Blocks |
| 61- L55 | CGI Scripting Using C |
| 62- L56 | Shell Script |
| 63- L57 | Writing CGI programs |
| 64- L58 | - Allotting portion for Internal Test-III |
| 65 T 50 | Internal Test III begins(03.10.2016) |
| 65- L59 | CGI Security |
| 66- L60 | Alternatives and Enhancements to CGI |
| 67-IT-III | Internal Test-III |
| 68- L61 | Servlet: Server |
| 69- L62 | Side Java |
| 70- L63 | - Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |

| 71-MT | Model Test begins(17.10.16) |
|--------|---------------------------------------------------------------------------|
| 72-MT | Model Test |
| 73-MT | Model Test |
| 74-L64 | Model test paper distribution and previous year university question paper |
| | discussion |
| 75-L65 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 30.11.2016 |

| Learning Outcomes | WEB TECHNOLOGY |
|--------------------------|--------------------------------------------------------------------|
| | |
| CO1 | Employ fundamental computer theory to basic programming |
| | techniques. |
| CO2 | Use fundamental skills to maintain web server services required to |
| | host a website |
| CO3 | Select and apply markup languages for processing, identifying, and |
| | presenting of information in web pages |
| CO4 | Use scripting languages and web services to transfer data and add |
| | interactive components to web pages. |
| Experimental | |
| Learning | |
| EL1 | Languages for CGI |
| EL2 | Client Side Programming |
| EL3 | Server Side Scripting Language |
| EL4 | DHTML |
| Integrated Activity | |
| IA1 | XML |
| IA2 | Script Language-VB,JAVA |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2016-2017)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|----------------------|
| Course Name | RDBMS |
| Course Code | GMCA63 |
| Class | III year (2016-2017) |
| Semester | Odd |
| Staff Name | MR.B.JEFFERSON |
| Credits | 6 |
| L. Hours /P. Hours | 6 / WK |
| T / 100 II /C | · |

Total 90 Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 80Hrs (5 units; 5×16=80; 16Hrs /unit)

Course Objectives

- To understand relational database concepts and transaction management concepts in database system.
- To write PL/SQL programs that use: procedure, function, package, cursor and Exceptions.
- To Use current techniques and tools necessary for complex computing practices.

Syllabus

UNIT I AN OVERVIEW: PERSONAL DATABASES Client server databases – Oracle 9i An introduction – The SQL*Plus Environment – SQL – SQL*PLUS commands – Sample Databases. Oracle Tables; Naming rules and conventions – Data types – Constraints – Creating an Oracle table – Displaying table information's – Altering and exiting table – Dropping a table – Renaming a table – Truncating a table. **(12 L)**

UNIT II WORKING WITH TABLES DML statements – Arithmetic operations – Where clause – sorting – Define command – Built in functions – Grouping data. **(10 L)**

UNIT III MULTIPLE TABLES Joints – Set operators – Subquery – Top – N Analysis .Advanced features: Views – Subsequences – Synonyms – Index. **(12 L)**

UNIT IV PL/SQL: FUNDAMENTALS PL/SQL: FUNDAMENTALS — Block structure — Comments — Data types —Variable declaration — Anchored declaration — Assignment operation — Bind

variables – Substitution Variables – Arithmetic operators. Structures in PL/SQL: Control structures – Nested blocks – SQL in PL/SQL DML in PL/SQL – Transaction Control Statement. (14L)

UNIT V PL/SQL CURSORS & EXCEPTIONS PL/SQL Cursors & Exceptions - PL/SQL Composite data types: Records, Tables and VARRAYS. **(12L)**

| Hour | Class Schedule |
|-----------|---------------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 16.06.2016 |
| 1-L1 | UNIT I AN OVERVIEW: PERSONAL DATABASES Client server databases |
| 2-L2 | Oracle 9i An introduction |
| 3- L3 | The SQL*Plus Environment |
| 4-L4 | SQL , SQL*PLUS commands |
| 5-L5 | Sample Databases |
| 6-L6 | Naming rules and conventions |
| 7-L7 | Displaying table information's |
| 8-L8 | Creating an Oracletable |
| 9-L9 | Altering and exiting table |
| 10-P1 | Welcoming of First year and Inauguration of Mathematics Association |
| 11-L10 | Dropping a table |
| 12-L11 | Renaming a table |
| 13-L12 | Truncating a table |
| 14-L13 | UNIT II WORKING WITH TABLES |
| 15-L14 | DML statements |
| 16-L15 | Arithmetic operations |
| 17-L16 | Where clause |
| 18-L17 | Sorting |
| 19-L18 | Define command |
| 20-L19 | Built in functions |
| 21-L20 | Single row functions |
| 22-L21 | Character functions |
| 23-L22 | Allotting portion for Internal Test-I |
| | Internal Test I begins(25.07.2016) |
| 24-L23 | Grouping data |
| 25-L24 | UNIT III MULTIPLE TABLES: ——(12 L) |
| 26-IT-1 | Internal Test-I |
| 27-L25 | Joints |
| 28-L26 | Set operators |
| 29-L27 | Subquery |
| 30-L28 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 31- L29 | Тор |
| 32- L30 | N Analysis |
| 33- L31 | Advanced features |
| 34-P2 | College level meeting/Cell function |
| 35- L32 | Views |

| 37- L34 | Synonyms | | |
|--------------------|---------------------------------------------------------------------------------------------------|--|--|
| 38- L35 | Select,insert,delete | | |
| 39- L36 | Index | | |
| 40- L37 | UNIT IV PL/SQL: FUNDAMENTALS PL/SQL: FUNDAMENTALS | | |
| 41- L38 | Blockstructure | | |
| 42- L39 | Comments | | |
| 43- L40 | Data types | | |
| 44- L41 | Variable declaration | | |
| 45- L42 | Anchored declaration | | |
| 46- L43 | Assignment operation | | |
| 47- L44 | Substitution Variables | | |
| 48- L45 | Arithmetic operator | | |
| 49- L46 | Structures in PL/SQL | | |
| 50- L47 | Control structures | | |
| 51- P3 | Department Seminar | | |
| 52- L48 | Nested blocks | | |
| 53- L49 | SQL in PL/SQL DML in PL/SQL | | |
| 54- L50 | Transaction Control Statement | | |
| 55- L51 | UNIT V PL/SQL CURSORS & EXCEPTIONS | | |
| 56-L52 | Allotting portion for Internal Test-II | | |
| | Internal Test II begins22.08.2016) | | |
| 57-L53 | PL/SQL Cursors | | |
| 58-L54 | Exceptions | | |
| 59-IT-II | Internal Test-II | | |
| 60- L55 | Types of expections | | |
| 61- L56 | Test Paper distribution and result analysis | | |
| 60 I 57 | Entering Internal Test-II Marks into University portal | | |
| 62- L57 | An error code | | |
| 63- L58 | A message | | |
| 64- L59 | Types of cursor | | |
| 65- L60 | Implicit cursor | | |
| 66- L61 67- L62 | Explicit cursor Attributes | | |
| 68- L63 | % found | | |
| 69- L64 | %isopen | | |
| 70- L65 | %notfound | | |
| 70- L03 71- L66 | %notround %rowcount | | |
| 72- L67 | %bulk_rowcount | | |
| 73- L68 | %bulkexceptions | | |
| 74-P4 | Declaring the cursor | | |
| 75- L69 | Opening the cursor | | |
| | Fetching the cursor | | |
| L 76- L 70 | | | |
| 76- L70 77- L71 | Closing the cursor | | |
| 77- L71 | Closing the cursor | | |
| 77- L71 78- L72 | | | |
| 77- L71 | Closing the cursor Allotting portion for Internal Test-III Internal Test III begins(03.10.2016) | | |

| 81- L75 | Records | | |
|-----------|---------------------------------------------------------------------|--|--|
| 82-IT-III | Internal Test-III | | |
| 83- L76 | Tables | | |
| 84- L77 | Test Paper distribution and result analysis | | |
| 85- L78 | VARRAYS | | |
| | Entering Internal Test-III Marks into University portal | | |
| 86- L79 | Model Test begins(17.10.16) | | |
| 87-MT | Model Test | | |
| 88-MT | Model Test | | |
| 89-MT | Model test paper distribution and previous year university question | | |
| | paper discussion | | |
| 90-L-80 | Feedback of the Course, analysis and report preparation | | |
| | Last Working day on 30.11.2016 | | |

| Learning Outcomes | COs of the course " <rdbms>"</rdbms> |
|----------------------------|---------------------------------------|
| | |
| CO1 | Query-PL/SQL |
| CO2 | To gain the Knowledge about DataBases |
| CO3 | Cursor Concepts |
| CO4 | Trigger |
| CO5 | Operators |
| Experimental | |
| Learning | |
| EL1 | Trigger |
| EL2 | Cursor |
| EL3 | Conditional Constructs |
| EL4 | Decision Making |
| Integrated Activity | |
| IA1 | SQL in PL/SQL DML in PL/SQL |
| IA2 | Transaction Control Statement |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2016-2017)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. | | |
|------------------------------------------------|-----------------------|--|--|
| Course Name | Environmental Studies | | |
| Course Code | JEVS11 | | |
| Class | Iyear (2016-2017) | | |
| Semester | ODD | | |
| Staff Name | Mrs.G.PRISKILLAL | | |
| Credits | 2 | | |
| L. Hours /P. Hours | 2 / WK | | |
| Total 30Hrs/Sem | | | |
| Internal Test-3 Hrs | | | |
| Model Test-3 Hrs | | | |
| Dept. Meetings-2 Hrs | | | |
| College Meetings-2 Hrs | | | |
| Remaining 20 Hrs (5 units; 5×4=20; 4Hrs /unit) | | | |

Course Objectives

- ➤ Use and over-utilization of surface and ground water
- > Mineral resources: Use and exploitation
- > Growing energy needs

Syllabus

UNIT I: THE MULTIDISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES

Definition, scope and importance Natural resources and associated problems:Forest resources: Use and over-exploitation, deforestation, timber extraction, dams and their effects on forests and tribal people. – Water resources: Use and over-utilization of surface and ground water, floods, drought, dams-benefits and problems, water conservation and watershed management. -Mineral resources: Use and exploitation, environmental effects.-Food resources: World food problems, changes, effects of modern agriculture, fertilizer-pesticide problems. -Energy resources: Growing energy needs, renewablesnd lnon renewable energy sources, alternate energy sources.- Land resources: Land as a resource, land degradation, man-induced landslides, soil erosion and desertification.

UNIT II: ECOSYSTEMS

Forest Ecosystem -Grassland Ecosystem -Desert ecosystem - Aquatic Ecosystem (Ponds, rivers, oceans, estuaries) -Energy flow in the ecosystem-Ecological succession-Food Chains, Food Webs and Ecological Pyramids.

UNIT III: BIODIVERSITY AND ITS CONSERVATION

Introduction Definition: Genetic, species and ecosystem diversity-Biogeographical classification of Jndia -Values of Biodiversity-Biodiversity at global, national and local levels- India as a mega-diversity nation- Hot-Spots of biodiversity -Threats to biodiversity - Endangered and endemic species of India -Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

UNIT IV: ENVIRONMENTAL POLLUTION

Definition- Causes, effects and control measures of:-Air Pollution -Water Pollution -Soil Pollution - Marine Pollution - Noise Pollution.- Thermal Pollution -Solid Waste Management - Disaster Management: Floods, earthquake, cyclone and landslides.

UNIT V: SOCIAL ISSUES AND THE ENVIRONMENT

Climatic change, global warming, acid rain, ozone depletion.- Wasteland reclamation - Consumerism and Waste products, use and through plastics Environment Protection Act- Air (Prevention and Control of Pollution) Act -Water (Prevention and Control of Pollution) Act - Wildlife Protection Act Forest Conservation Act -Population Explosion — Family Welfare Programme Human Rights

| Hour | Class Schedule | |
|-----------|-----------------------------------------------------------------------------------|--|
| allotment | | |
| | ODD Semester Begin on 16.06.2016 | |
| 1-L1 | Unit-1:Forest resources: Use and over-exploitation, deforestation, timber | |
| | extraction, dams and their effects on forests and tribal people. Water resources: | |
| | Use and over-utilization of surface and ground water, floods, drought, dams- | |
| | benefits and problems, water conservation and watershed management. | |
| 2-L2 | Energy resources: Growing energy needs, renewablesnd lnon renewable energy | |
| | sources, alternate energy sources- Land resources: Land as a resource, land | |
| | degradation, man-induced landslides, soil erosion and desertification | |
| 3- P1 | Welcoming of First year and Inauguration of BCA Association | |
| 4-L3 | Mineral resources: Use and exploitation, environmental effects. | |
| 5-L4 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(25.07.2016) | |
| 6-IT-I | Internal Test-I | |

| 7-L5 | Test Paper distribution and result analysis | |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| | Entering Internal Test-I Marks into University portal | |
| 8-L6 | Food resources: World food problems, changes, effects of modern | |
| | agriculture, fertilizer-pesticide problems. | |
| 9-L7 | Unit-2: Forest Ecosystem -Grassland Ecosystem -Desert ecosystem - Aquatic | |
| | Ecosystem (Ponds, rivers, oceans, estuaries) | |
| 10-P2 | College level meeting/Cell function | |
| 11-L8 | Energy flow in the ecosystem-Ecological succession-Food Chains, Food Webs and Ecological Pyramids. | |
| 12-L9 | Unit-3: Introduction Definition: Genetic, species and ecosystem diversity-Biogeographical classification of Jndia -Values of Biodiversity-Biodiversity at global, national and local levels | |
| 13-P3 | Department Seminar | |
| 14-L10 | India as a mega-diversity nation- Hot-Spots of biodiversity -Threats to biodiversity -Endangered and endemic species of India -Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity. | |
| 15-L11 | Unit-4: Definition- Causes, effects and control measures of:-Air Pollution - | |
| | Water Pollution - Soil Pollution - Marine Pollution | |
| 16-L12 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(22.08.2016) | |
| 17-IT-1 | Internal Test-II | |
| 18-L13 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 19-L14 | Noise Pollution Thermal Pollution -Solid Waste Management - Disaster | |
| | Management: Floods, earthquake, cyclone and landslides. | |
| 20- P2 | College level meeting/ function | |
| 21-L15 | Unit-5: Climatic change, global warming, acid rain, ozone depletion Wasteland reclamation -Consumerism and Waste products, use and through plastics Environment Protection Act | |
| 22-L16 | - Air (Prevention and Control of Pollution) Act -Water (Prevention and Control of Pollution) Act -Wildlife Protection Act Forest Conservation Act -Population Explosion — Family Welfare Programme Human Rights | |
| 23- L17 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(03.10.2016) | |
| 24- IT-III | Internal Test-III | |
| 25-L18 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 26-MT | Model Test begins(17.10.16) | |
| 27-MT | Model Test | |
| 28-MT | Model Test | |
| 29-L19 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 30-L20 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 30.11.2016 | |

| Learning Outcomes Environmental Studies | |
|-----------------------------------------|-----------------------------------------------------------------|
| | |
| CO1 | Energy flow in the ecosystem-Ecological succession-Food Chains, |
| | Food Webs and Ecological Pyramids |
| CO2 | Noise Pollution Thermal Pollution -Solid Waste Management - |
| | Disaster Management: Floods, earthquake, cyclone and landslides |
| CO3 | Climatic change, global warming, acid rain, ozone depletion |
| | Wasteland reclamation |
| Experimental | |
| Learning | |
| EL1 | Soil Pollution |
| EL2 | Disaster Management |
| Integrated Activity | |
| IA1 | Field Work |
| IA2 | Village Visit |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

St. John's College, Palayamkottai Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2016-2017)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|-------------------------|
| Course Name | Personality Development |
| Course Code | GCSB5A |
| Class | IIIyear (2016-2017) |
| Semester | Even |
| Staff Name | Mr.S.Immanuel |
| Credits | 2 |
| L. Hours /P. Hours | 2 / WK |

Total 30Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 20Hrs (5 units; $5\times4=20$; 4Hrs /unit)

Course Objectives

- Personality Traits
- > Effective goal setting
- > Measurement of Attitudes

Syllabus

UNIT -I

PERSONALITY - Definition – Determinants – Personality Traits – Theories of Personality – Importance of Personality Development. SELF AWARENESS – Meaning – Benefits of Self – Awareness – Developing Self – Awareness. SWOT – Meaning – Importance – Application – Components. GOAL SETTING Meaning- Importance – Effective goal setting – Principles of goal setting – Goal setting at the Right level.

UNIT – II

SELF MONITORING – Meaning – High self – monitor versus low self monitor – Advantages and Disadvantages self monitor- Self –monitoring and job performance. PERCEPTION- Definition- Factor influencing perception- Perception process –Errors in perception – Avoiding perceptual errors. ATTITUDE – Meaning- Formation of attitude – Types of attitude - Measurement of Attitudes – Barriers to attitude change – Methods to attitude change. ASSERTIVENESS - Meaning – Assertiveness in Communication – Assertiveness Techniques – Benefits of being Assertive – Improving Assertiveness.

UNIT - III

TEAM BUILDING – Meaning – Types of teams – Importance of Team building- Creating Effective Team. LEADERSHIP – Definition – Leadership style- Theories of leadership – Qualities of an Effect leader. NEGOTIATION SKILLS – Meaning – Principles of Negotiation – Types of Negotiation – The Negotiation Process – Common mistakes in Negotiation process. CONFLICT MANAGEMENT – Definition- Types of Conflict- Levels of Conflict – Conflict Resolution – Conflict management.

UNIT-IV

COMMUNICATION – Definition – Importance of communication – Process of communication - Communication Symbols – Communication network – Barriers in communication – Overcoming Communication Barriers. TRANSACTIONAL ANALYSIS – Meaning – EGO States – Types of Transactions – Johari Window- Life Positions. EMOTIONAL INTELLIGENCE- Meaning – Components of Emotional Intelligence-Significance of managing Emotional intelligence – How to develop Emotional Quotient. STRESS MANAGEMENT – Meaning – Sources of Stress – Symptoms of Stress – Consequences of Stress – Managing Stress

UNIT - V

SOCIAL GRACES – Meaning – Social Grace at Work – Acquiring Social Graces. TABLE MANNERS – Meaning – Table Etiquettes in Multicultural Environment- Do's and Don'ts of Table Etiquettes. DRESS CODE – Meaning- Dress Code for selected Occasions – Dress Code for an Interview. GROUP DISCUSSION – Meaning – Personality traits required for Group Discussion- Process of Group Discussion- Group Discusson Topics. INTERVIEW – Definition- Types of skills – Employer Expectations – Planning for the Interview – Interview Questions- Critical Interview Questions

| Hour | Class Schedule | |
|-----------|----------------------------------------------------------------------------------|--|
| allotment | | |
| | Even Semester Begin on 07.12.2017 | |
| 1-L1 | UNIT -I PERSONALITY - Definition – Determinants – Personality Traits – | |
| | Theories of Personality – Importance of Personality Development. SELF | |
| | AWARENESS – Meaning – Benefits of Self – Awareness – Developing Self – | |
| | Awareness | |
| 2-L2 | SWOT – Meaning – Importance- Application – Components. GOAL SETTING | |
| | Meaning- Importance – Effective goal setting – Principles of goal setting – Goal | |
| | setting at the Right level. | |
| 3- P1 | Welcoming of First year and Inauguration of BCAAssociation | |
| 4-L3 | UNIT – II SELF MONITORING – Meaning – High self – monitor versus low | |
| | self monitor – Advantages and Disadvantages self monitor- Self –monitoring | |
| | and job performance. PERCEPTION- Definition- Factor influencing perception- | |

| 23- L17 | Employer Expectations –Planning for the Interview – Interview Questions Critical Interview Questions - Allotting portion for Internal Test-III | |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------|--|
| | | |
| | Employer Expectations –Planning for the Interview – Interview Unlestions- | |
| 22-LIU | 1 1 | |
| 22-L16 | Discussion- Process of Group Discussion Group Discusson Topics. INTERVIEW – Definition- Types of skills – | |
| | GROUP DISCUSSION – Meaning – Personality traits required for Group Discussion | |
| 21-L15 | - Meaning- Dress Code for selected Occasions - Dress Code for an Interview | |
| 20- P2 | College level meeting/ function | |
| | Multicultural Environment- Do's and Don'ts of Table Etiquettes. DRESS CODE | |
| | Social Graces. TABLE MANNERS – Meaning – Table Etiquettes in | |
| 19-L14 | UNIT – V SOCIAL GRACES – Meaning – Social Grace at Work – Acquiring | |
| | Entering Internal Test-II Marks into University portal | |
| 18-L13 | Test Paper distribution and result analysis | |
| 17-IT-1 | Internal Test-II | |
| | Internal Test II begins(26.02.2018) | |
| 16-L12 | Allotting portion for Internal Test-II | |
| | Stress | |
| | Sources of Stress – Symptoms of Stress – Consequences of Stress – Managing | |
| 15-L11 | How to develop Emotional Quotient. STRESS MANAGEMENT – Meaning – | |
| | Significance of managing Emotional intelligence | |
| | INTELLIGENCE- Meaning – Components of Emotional Intelligence | |
| 14-L1U | Transactions – Johari Window- Life Positions. EMOTIONAL | |
| 13-F3 14-L10 | TRANSACTIONAL ANALYSIS – Meaning – EGO States – Types of | |
| 13-P3 | Department Seminar | |
| | network – Barriers in communication – Overcoming Communication Barriers | |
| 12-L9 | Process of communication - Communication - Communication - Communication - Communication - Communication | |
| 12-L9 | UNIT –IV COMMUNICATION – Definition – Importance of communication – | |
| | MANAGEMENT – Definition- Types of Conflict- Levels of Conflict – Conflic Resolution – Conflict management . | |
| | Process – Common mistakes in Negotiation process. CONFLICT | |
| 11-L8 | Meaning – Principles of Negotiation – Types of Negotiation – The Negotiation | |
| 10-P2 | College level meeting/Cell function | |
| 10 DC | SKILLS | |
| | style- Theories of leadership – Qualities of an Effect leader. NEGOTIATION | |
| | building- Creating Effective Team. LEADERSHIP – Definition – Leadership | |
| | TEAM BUILDING – Meaning – Types of teams – Importance of Team | |
| 9-L7 | UNIT – III | |
| | Benefits of being Assertive – Improving Assertiveness | |
| | Meaning – Assertiveness in Communication – Assertiveness Techniques – | |
| | - Barriers to attitude change - Methods to attitude change. ASSERTIVENESS - | |
| 8-L6 | Meaning- Formation of attitude – Types of attitude - Measurement of Attitudes | |
| | Entering Internal Test-I Marks into University portal | |
| 7-L5 | Test Paper distribution and result analysis | |
| 6-IT-I | Internal Test-I | |
| | Internal Test I begins(22.01.2018) | |
| | Allotting portion for Internal Test-I | |
| 5-L4 | ATTITUDE | |

| 24- IT-III | Internal Test-III |
|------------|---------------------------------------------------------------------------|
| 25-L18 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 26-MT | Model Test begins(12.04.18) |
| 27-MT | Model Test |
| 28-MT | Model Test |
| 29-L19 | Model test paper distribution and previous year university question paper |
| | discussion |
| 30-L20 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23.04.2018 |

| Learning Outcomes | Personality Development |
|----------------------------|--------------------------------------------------------------|
| | |
| CO1 | How to develop Emotional Quotient. STRESS MANAGEMENT |
| CO2 | Group Discusson Topics. INTERVIEW - Definition- Types of |
| | skills – Employer Expectations |
| Experimental | |
| Learning | |
| EL1 | Process of Group Discussion |
| EL2 | Personality traits required for Group Discussion |
| Integrated Activity | |
| IA1 | GROUP DISCUSSION – Meaning – Personality traits required for |
| | Group Discussion- Process of Group Discussion |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2017-2018)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. | |
|----------------------|-------------------------|--|
| Course Name | Personality Development | |
| Course Code | GMCA5C | |
| Class | III year (2017-2018) | |
| Semester | Even | |
| Staff Name | MR .K.APPASAMY | |
| Credits | 4 | |
| L. Hours /P. Hours | 4 / WK | |
| Total 60Hrs/Sem | | |
| Internal Test-3 Hrs | | |
| Model Test-3 Hrs | | |
| Dept. Meetings-2 Hrs | | |

Course Objectives

College Meetings-2 Hrs

To study the need and nature of mobile applications.

Remaining 50Hrs (5 units; $5\times10=50$; 10Hrs /unit)

- To learn the tools and platforms required for mobile applications.
- To understand the design issues in mobile applications.

Syllabus

UNIT I INTRODUCTION Mobile Communication: Need for Mobile Communication – Requirements of Mobile Communication – History of Mobile Communication – Properties of Wireless Medium – Radio Propagation – Propagation Coverage Calculation. Introduction to Cellular Mobile Communication: Cellular Structure – Frequency Reuse – System Architecture – Authentication Centre (AUC) – Home Location Register (HLR) – Visiting Location Register (VLR) – Equipment Identify Register (EIR) – Base Station System - Cellular Mobile Communication Switching. (12 L)

UNIT I INTRODUCTION Mobile Communication Standards: First generation Wireless Networks – Second generation Wireless System – Third generation and Beyond Wireless Systems – Implementation Organization – Regional Organization – Global Organization – Global System for Mobile communication (GSM) – GSM Architecture – Advanced Mobile Phone Service (AMPS) – Digital Advanced Mobile Phone Service. Cordless Telephony Standards: - Personal Access Communication Standards (PACS) – EIA/TIA IS-136-EIA TIA IS – 95 Standards – Digital European Cordless Telephone (DECT) – Personal Handy Phone System (PHS) – IEEE 802.11 - Other Standards – Handoff Techniques - Handoff Detection

and Assignment – Types of Handoff – Mobile controlled Handoff – Network controlled Handoff – Mobile Assisted handoff – Radio Link Transfer – Roaming Management – Connection to Public Telephone Network – Connection from Mobile Unit to a Fixer User, Cellular. System Spectrum: Adaptive channel allocation – Frequency Division – Spectrum Utilization – Channel Reservation for Handoff Calls – Control Channels – Channel Assignment Methods – Channel Borrowing and Sharing – Non – Fixed Assignment Methods – Permanent Cell Splitting – Temporary Cell Splitting. (12 L)

UNIT I INTRODUCTIONCordless Mobile Communication System: Cordless Telephone
Home – Multichannel Cordless Telephone System – Wireless Private Box Exchange History
of Data networks – Classification of Mobile Data Networks – Independent Data networks –
Shared Mobile Data – Overlay Mobile Data – Cellular Digital Part data (CDPD) System –
Architecture of CDPD – Satellite Classification – Earth Orbit Satellites – Medium Earth
Orbit Satellite, Low Earth Orbit Global Satellite Communication. Changeover from One
Satellite to Requirements of Global Mobile Communication - Global User Number –
Configuration – Third Generation Global Mobile System Satellite System for mobility. (12

UNIT IV INTERFERENCES Interferences in Cellular Mobile Communication: Nature of Co- Channel Interference – Measurement of Co- Channel Interference - Measurement of Co- Channel Interference with mobile Unit – Frequency Reuse - Co- Channel Interference Omni directional Radiation – directional Antennas for Co- Channel Interference Reduction – Other Methods of Co- Channel Reduction – Non-Co- Channel Interference – Measurement of Signal to Noise and Distortion Ratio (SINAD) – Design Objective – Basic Specification - Co- Channel Interference Reduction Factor – Adjacent Channel Interference – Propagation Attenuation – Fading – Factors to be Considered at the Base Station – Working of Mobile IP – Wireless Threads – Authentication and Access control –to Communication – Anonymity – Security Arrangement in CDMA – Security of Wireless Data Networks. (12 L) Secrecy

UNIT V WIRELESS LOCAL LOOP ARCHITECTURE Components in Will – Problems in WLL – Modern Wireless Local Loop – Local Multipoint Distribution Service (LMDS) - Properties of WAP – Beater Services – Wireless Datagram Protocol (WDP) – Wireless Transport Layer Security (WTLS) – WAP Transaction Protocol (WTP) Wireless Session Protocol (WSP) Wireless Application Environment (WAE) – Components Integration – Bearer Adaptation – WAP Client Supporting Networks – System Description – Advantages of Microcellular – Layout of the Optical Fiber Microcellular Communication System – Need for Ad hoc Networks – MANET and Technical Factors Affecting Ad hoc Network - Ad hoc Nodes System Description – Routing in Ad hoc Network – Bluetooth Technology – Limitation on the Bluetooth Physical Layer – Types of Intelligent Cells – Power Delivery Intelligent Cells – Processing Gain Intelligent Cells – User Controlled Services – Reconfigurable Technology – Vision of 4G – 4G Mobile System Convergence. (12 L)

| Hour | Class Schedule | | |
|------------------|------------------------------------------------------------------------------------------------------|--|--|
| allotment | | | |
| | Even Semester Begin on 07.12.2017 | | |
| 1-L1 | UNIT I:INTRODUCTION Mobile Communication | | |
| 2-L2 | Need for Mobile Communication. | | |
| 3- L3 | Requirements of Mobile Communication. | | |
| 4-L4 | History of Mobile Communication. | | |
| 5-L5 | Properties of wireless medium. | | |
| 6-L6 | Radio Propagation. | | |
| 7-L7 | Propagation Coverage Calculation | | |
| 8- P1 | Welcoming of First year and Inauguration of BCAAssociation | | |
| 9- L8 | Introduction to Cellular Mobile Communication. | | |
| 10- L9 | Cellular Structure. | | |
| 11-L10 | Frequency Reuse. | | |
| 12-L11 | System Architecture | | |
| 13-L12 | Authentication Centre (AUC) | | |
| 14-L13 | Home Location Register (HLR). | | |
| 15-L14 | Allotting portion for Internal Test-I | | |
| 16 7 17 | Internal Test I begins(22.01.2018) | | |
| 16-L15 | UNIT II: INTRODUCTION Mobile communication Standards. | | |
| 17-IT-1 | Internal Test-I | | |
| 18-L16 19-L17 | First generation Wireless Networks. | | |
| 19-L17 | - Test Paper distribution and result analysis Entering Internal Test I Marks into University portal | | |
| 20-L18 | Entering Internal Test-I Marks into University portal | | |
| 21- L19 | Second generation Wireless System. Third generation and Royand Wireless system | | |
| 22- P2 | Third generation and Beyond Wireless system. | | |
| 23-L20 | College level meeting/Cell function Implementation Organization | | |
| 24-L21 | Regional Organization. | | |
| 25-L22 | Global Organization. | | |
| 26-L23 | Global System for Mobile communication (GSM). | | |
| 27-L24 | GSM Architecture. | | |
| 28-L25 | Advanced Mobile Phone Service (AMPS). | | |
| 29-L26 | Digital Advanced Mobile Phone Service. | | |
| 30-L27 | Telephony Standards. | | |
| 31-L28 | Personal Access Communication Standards (PACS),TIA IS-136-EIA TIA IS, 95 | | |
| | Standards. | | |
| 32-L29 | Digital European Cordless Telephone (DECT). | | |
| 33-L30 | Personal Handy Phone System (PHS). | | |
| 34- P3 | Department Seminar | | |
| 35-L31 | UNIT III INTRODUCTION | | |
| 36-L32 | Allotting portion for Internal Test-II | | |
| | Internal Test II begins(26.02.2018) | | |
| 37- L33 | Cordless Telephone Home. | | |
| 38- IT-II | Internal Test-II | | |
| 39-L34 | Multichannel Cordless Telephone System. | | |
| 40-L35 | Test Paper distribution and result analysis | | |

| | Entering Internal Test-II Marks into University portal | |
|-----------|-------------------------------------------------------------------------------|--|
| 41-L36 | Global User Number, Configuration, Third Generation Global Mobile System | |
| | Satellite System for mobility. | |
| 42- L37 | UNIT IV INTERFERENCES Interferences in Cellular Mobile | |
| | Communication: Nature of Co, Channel Interference ,Measurement of Co- | |
| | Channel Interference | |
| 43- L38 | Frequency Reuse ,Co- Channel Interference Omni directional Radiation | |
| | directional Antennas for Co. | |
| 44- P4 | College level meeting/ function | |
| 45-L39 | Channel Interference Reduction ,Other Methods of Co,Channel Reduction ,Non- | |
| | Co- Channel Interference. | |
| 46-L40 | Adjacent Channel Interference ,Propagation Attenuation ,Fading ,Factors to be | |
| | Considered . | |
| 47-L41 | Working of Mobile IP ,Wireless Threads ,Authentication and Access control –to | |
| | Communication. | |
| 48-L42 | UNIT V WIRELESS LOCAL LOOP ARCHITECTURE Components in | |
| | Will, Problems in WLL, Modern Wireless Local Loop. | |
| 49-L43 | Advantages of Microcellular, Layout of the Optical Fiber Microcellular | |
| | Communication System. | |
| 50-L44 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(01.04.2018 | |
| |) | |
| 51 L45 | Need for Ad hoc Networks ,MANET and Technical Factors Affecting Ad hoc | |
| | Network -,Ad hoc Nodes System Description | |
| 52- L46 | Limitation on the Bluetooth Physical Layer ,Types of Intelligent Cells | |
| 53-IT-III | Internal Test-III | |
| 54-L47 | Reconfigurable Technology ,Vision of 4G,4G Mobile System Convergence. | |
| 55-L48 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 56- MT | Model Test begins(12.04.18) | |
| 57-MT | Model Test | |
| 58-MT | Model Test | |
| 59- L49 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 60-L50 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 23.04.2018 | |

| Learning Outcomes | COs of the course " <personality development="">"</personality> |
|-----------------------|-----------------------------------------------------------------|
| CO1 | Channel Interference Reduction ,Other Methods of Co,Channel |
| | Reduction ,Non-Co- Channel Interference. |
| CO2 | Authentication Centre (AUC) |
| CO3 | GSM Architecture |
| Experimental Learning | |
| EL1 | Properties of wireless medium. |

| EL2 | Channel Interference Reduction ,Other Methods of Co,Channel |
|---------------------|------------------------------------------------------------------|
| | Reduction ,Non-Co- Channel Interference |
| Integrated Activity | |
| IA1 | Adjacent Channel Interference ,Propagation Attenuation ,Fading |
| | ,Factors to be Considered . |
| IA2 | Limitation on the Bluetooth Physical Layer ,Types of Intelligent |
| | Cells |

Blended Learning : using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for higher study.

For slow learner : special care taken, motivate the advanced learner to support the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2016-2017)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|--------------------------|
| Course Name | Operating system |
| Course Code | GMCA61 |
| Class | III year (2017-2018) |
| Semester | Even |
| Staff Name | Mrs.A.BATHSHEBA PARIMALA |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- ➤ To understand design issues related to process management and various related algorithms.
- ➤ To understand design issues related to memory management and various related algorithms.
- > To understand design issues related to File management and various related algorithms

Syllabus

CORE SUBJECT - I

OPERATING SYSTEMS

UNIT I INTRODUCTION What is an Operating System: Mainframe Systems – Desktop Systems – Multiprocessor Systems - Distributed Systems – Clustered Systems – Real – time Systems– Handheld Systems. (10 L)

UNIT II PROCESS CONCEPT Process Concept – Process Scheduling – Operations on Process – Co-operating processes – Inter Processes - Inter Process communication. CPU

Scheduling: Basic Concepts –Scheduling Criteria - Scheduling algorithms – Multi processor Scheduling - Real time Scheduling – Algorithms evaluation. (12 L)

UNIT III PROCESS SYNCHRONIZATION & DEADLOCKS Process Synchronization: Background – the critical section problem – Synchronization hardware – Semaphores – Classical problems of Synchronization – critical regions – Monitors – Atomic transaction. Deadlocks: System model – Deadlock Characterization – methods for handling Deadlocks – Deadlock prevention – Deadlock Avoidance – Deadlock detection – recovery from Deadlock.(14 L)

UNIT IV MEMORY MANAGEMENT Memory management: Background – Swapping – Contiguous memory allocation – paging – segmentation – segmentation with paging. Virtual Memory: Background – Demand paging – Page replacement – Allocation of frames. (12 L)

UNIT V File System Interface: File concept – Access methods– File system structure – File system implementation – File system structure – Filesystem implementation – Directories structure – Directory implementation – Allocation methods – Free space management – Efficiency and performance – Recovery. Mass Storage Structure: Disk Structure – Disk Scheduling – Disk management – Swap space management – RAID structure – Disk attachment – Stable Storage. (12 L)

| Hour | Class Schedule |
|-----------|----------------------------------------------------------|
| allotment | |
| | Even Semester Begin on 07.12.2017 |
| 1-L1 | INTRODUCTION- What is an Operating System |
| 2-L2 | Mainframe Systems |
| 3- L3 | Batchsystem - multiprogrammed system-time sharing system |
| 4-L4 | Desktop Systems |
| 5-L5 | Multiprocessor Systems |
| 6-L6 | Distributed Systems |
| 7-L7 | Client-server system, peer-to-peer system |
| 8- P1 | BCA Association |
| 9- L8 | Real |
| 10- L9 | Time Systems |
| 11-L10 | Handheld Systems. |
| 12-L11 | PROCESS CONCEPT Process Concept |
| 13-L12 | Process Scheduling |
| 14-L13 | Operations on Process |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins(22.01.2018) |

| 16-L15 | Inter Processes |
|-----------|------------------------------------------------------------------------------|
| 17-IT-1 | Internal Test-I |
| 18-L16 | Inter Process communication. CPU Scheduling |
| 19-L17 | - Test Paper distribution and result analysis |
| 1, 21, | Entering Internal Test-I Marks into University portal |
| 20-L18 | Basic Concepts |
| 21- L19 | Scheduling Criteria |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | Scheduling algorithms |
| 24-L21 | Multi processor Scheduling |
| 25-L22 | Real time Scheduling |
| 26-L23 | Algorithms evaluation |
| 27-L24 | PROCESS SYNCHRONIZATION & DEADLOCKS Process Synchronization: |
| | Background |
| 28-L25 | the critical section problem |
| 29-L26 | Synchronization hardware |
| 30-L27 | Semaphores |
| 31-L28 | Classical problems of Synchronization |
| 32-L29 | critical regions |
| 33-L30 | Monitors |
| 34- P3 | Department Seminar |
| 35-L31 | Atomic transaction. Deadlocks: System model |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(26.02.2018) |
| 37- L33 | Deadlock Characterization |
| 38- IT-II | Internal Test-II |
| 39-L34 | methods for handling Deadlocks |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Deadlock prevention |
| 42- L37 | Deadlock Avoidance |
| 43- L38 | Deadlock detection , recovery from Deadlock. |
| | |
| 44- P4 | College level meeting/ function |
| 45-L39 | File System Interface: File concept ,Access methods |
| 46-L40 | File system structure, File system implementation |
| 47-L41 | Directories structure ,Directory implementation |
| 48-L42 | Allocation methods, Free space management |
| 49-L43 | Efficiency and performance ,Recovery. Mass Storage Structure: Disk Structure |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(01. |
| | 04.2018) |
| 51 L45 | Disk Scheduling, Disk management |
| 52- L46 | Swap space management , RAID structure |
| 53-IT-III | Internal Test-III |
| 54-L47 | Disk attachment , Stable Storage |
| 55-L48 | - Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |

| 56- MT | Model Test begins(12.04.18) |
|---------|---------------------------------------------------------------------------|
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23.04.2018 |

| Learning Outcomes | Operating system |
|----------------------------|---------------------------------------------------------------|
| | |
| CO1 | Process Synchronization |
| CO2 | Scheduling Algorithm |
| CO3 | DeadLock |
| CO4 | Dinning Philosopher Algorithm |
| CO5 | Page Allocation Algorithm |
| Experimental | |
| Learning | |
| EL1 | File System Interface: File concept ,Access methods |
| EL2 | Directories structure ,Directory implementation |
| EL3 | Efficiency and performance ,Recovery. Mass Storage Structure: |
| | Disk Structure |
| Integrated Activity | |
| IA1 | Deadlock Characterization |
| IA2 | Atomic transaction. Deadlocks: System model |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2017-2018)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|--------------------------|
| Course Name | COMPUTER NETWORK |
| Course Code | GMCA62 |
| Class | III year (2017-2018) |
| Semester | EVEN |
| Staff Name | MRS.A.BATHSHEBA PARIMALA |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |

Total 75 Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 65 Hrs (5 units; 5×13=65; 13Hrs /unit)

Course Objectives

- To understand the basic networking concepts, types of addresses, data communication, protocols etc.
- To understand wired and wireless networks, its types, functionality of each layer.
- To understand importance of network security and cryptography

Syllabus

UNIT I NETWORK HARDWARE& SOFTWARE LAN-WAN-MAN – Wireless – Home Networks. Network Software: Protocol Hierarchies – Design issues for the layers – connection oriented and connection less services – Service primitives – The relationship of services to protocols. Reference Models: OSI Reference Model - TCP/IP reference Model Comparison of OSI and TCP/IP Critique of OSI and protocols – Critique of TCP/IP reference Model (12 L)

UNIT II PHYSICAL LAYER Guided Transmission Media: Magnetic Media: Twisted-Pair Cable, Coaxial Cable, Fiber-Optic Cable, Wireless Transmission: Electro Magnetic Spectrum - Radio Transmission - Microwave Transmission - Infrared and Millimeter Waves - Light waves - Communication satellites: Geostationary, Medium- Earth orbit, Low earth Orbit Satellites - Satellites versus fiber. (12 L)

UNIT III DATA LINK LAYER Error Detection and corrections – Elementary Data – Link protocols - Sliding window protocols, Medium –access control – Sub Layer: Multiple Access Protocols – Ethernet –Wireless LANs – Broad band wireless – Bluetooth. **(12 L)**

UNIT IV NETWORK & TRANSPORT LAYER Network layers: Routing algorithms – congestion control algorithms. Transport layer: Elements of transport protocols – Internet Transfer protocols: TCP. (12 L)

UNIT V APPLICATIONLAYER Application Layer: DNS – Email, network security: cryptography – symmetric key algorithms – public key algorithms - digital signatures. (12 L)

| Hour | Class Schedule | |
|-----------|------------------------------------------------------------------|--|
| allotment | | |
| | Even Semester Begin on 07.12.2017 | |
| 1-L1 | UNIT I NETWORK HARDWARE& SOFTWARE LAN, WAN, MAN | |
| 2-L2 | Wireless | |
| 3- L3 | Network Software: Protocol Hierarchies | |
| 4-L4 | Design issues for the layers | |
| 5-L5 | connection oriented and connection less services | |
| 6-L6 | Service primitives | |
| 7-L7 | The relationship of services to protocols | |
| 8- P1 | BCA Association | |
| 9- L8 | Reference Models | |
| 10- L9 | OSI Reference Model | |
| 11-L10 | TCP/IP reference Model Comparison of OSI | |
| 12-L11 | TCP/IP Critique of OSI and protocols | |
| 13-L12 | Critique of TCP/IP reference Model | |
| 14-L13 | UNIT II PHYSICAL LAYER | |
| 15-L14 | Guided Transmission Media | |
| 16-L15 | Magnetic Media | |
| 17- L16 | Twisted-Pair Cable, Coaxial Cable, Fiber-Optic Cable | |
| 18- L17 | Wireless Transmission | |
| 19- L18 | Electro Magnetic Spectrum | |
| 20- L19 | Radio Transmission | |
| 21- L20 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(22.01.2018) | |
| 22- L21 | Microwave Transmission | |
| 23- IT-1 | Internal Test-I | |
| 24- L22 | Infrared and Millimeter Waves | |
| 25- L23 | Light waves | |
| 26- L24 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 27- L25 | Communication satellites: Geostationary, Medium | |
| 28- L26 | Earth orbit, Low earth Orbit Satellites ,Satellites versus fiber | |
| 29- L27 | UNIT III DATA LINK LAYER Error Detection and corrections | |
| 30- P2 | College level meeting/Cell function | |
| 31-L28 | Elementary Data | |
| | | |

| 32-L29 | Link protocols | |
|--------------------|---------------------------------------------------------|--|
| 32-L29 33-L30 | Sliding window protocols | |
| 34- L31 | Medium | |
| 35- L32 | access control | |
| 36- L32 | | |
| 30- L33 37- L34 | Sub Layer Multipl Access Protocols | |
| 38- L35 | Multipl Access Protocols Ethernet | |
| 38- L35 39- L36 | Wireless LANs | |
| 39- L30 40- L37 | Broad band wireless | |
| 40- L37 41- L38 | | |
| 41- L38 42-P3 | Bluetooth Penantment Seminar | |
| 42-P3 43- L39 | Department Seminar UNIT IV NETWORK & TRANSPORT LAYER | |
| 43- L39 | UNIT IV NETWORK & TRANSPORT LAYER | |
| 44- L40 | Network layers | |
| 45- L41 | Routing algorithms | |
| 46- L42 | congestion control algorithms | |
| 47- L43 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(26.02.2018) | |
| 48- L44 | Transport layer | |
| 49-IT-II | Internal Test-II | |
| 50-L45 | Elements of transport protocols | |
| 51- L46 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 52- L47 | Addressing | |
| 53- L48 | Connection Establishment | |
| 54- L49 | Connection Release | |
| 55- L50 | Multiplexing | |
| 56- L51 | Internet Transfer protocols | |
| 57- L52 | TCP | |
| 58- L53 | UNIT V APPLICATIONLAYER | |
| 59-P4 | College level meeting/ function | |
| 60- L54 | Application Layer | |
| 61- L55 | DNS | |
| 62- L56 | Email | |
| 63- L57 | network security | |
| 64- L58 | Allotting portion for Internal Test-III | |
| 3. 200 | Internal Test III begins(01.04.2018) | |
| 65- L59 | Cryptography | |
| 66- L60 | symmetric key algorithms | |
| 67-IT-III | Internal Test-III | |
| 68- L61 | public key algorithms | |
| 69- L62 | digital signatures | |
| 70- L63 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 71-MT | Model Test begins(12.04.18) | |
| 72-MT | Model Test | |
| 73-MT | Model Test | |

| 74-L64 | Model test paper distribution and previous year university question | |
|--------|---------------------------------------------------------------------|--|
| | paper discussion | |
| 75-L65 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 23.04.2018 | |

| Learning Outcomes | COMPUTER NETWORK |
|----------------------------|--------------------------------------------------------------|
| | |
| CO1 | Describe the functions of each Layer in OSI and TCP/IP model |
| CO2 | Functions of Application and Presentation Layer and Paradigm |
| CO3 | Routing Protocol Classification |
| CO4 | Functions of Data Link Layer |
| CO5 | Types of Transmission Medium |
| CO6 | Guides Media/Un guided Media |
| CO7 | Real Time Application |
| CO8 | Shortest Path Algorithm |
| CO9 | Network Layer Paradigm |
| Experimental | |
| Learning | |
| EL1 | LAN,MAN Connection |
| EL2 | Routing Connection |
| EL3 | Explore the Network Devices |
| EL4 | Trouble Shooting Devices |
| Integrated Activity | |
| IA1 | Sharing Resources |
| IA2 | Collabration/Discussion |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Application& Networking

COURSE ACADEMIC PLAN(2017-2018)

(Prepared by staff member handling the course)

| Programme Name | BCA |
|--------------------|----------------------|
| Course Name | Computer Graphics |
| Course Code | GMCA64 |
| Class | III year (2017-2018) |
| Semester | Even |
| Staff Name | Mrs. G. Priskillal |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| T + 1 c0 II /C | |

Total 60 Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2Hrs

Practicals: 2Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- To understand the structure of modern computer graphics system.
- > To understand the basic principle of implementing computer graphics primitives.
- > To write algorithms for modelling and rendering graphical data.
- > To develop design and problem solving skills with application.
- To gain experience in constructing interactive computer graphics programs

Computer Graphics

UNIT I INPUT AND OUTPUT DEVICES

Introduction: Application and Operations of Computer Graphics - Graphics Packages – Requirements of a Graphical System – GUI. Common Input Devices – Graphical output Devices – Raster Scan Video Principle - Raster Scan CRT Monitors – Color Raster Scan System – Plasma Display – LCD – Hard copy Raster Devices - Raster Scan System – Memory Tube Displays – Plotters – Graphics Accelerators – Coprocessors.

UNIT II ALGORITHMS

Scan Conversion – Methods – Polynomial Method – DDA algorithms for line drawing Algorithm, Circle, Ellipse, Parabola – Bresenham's Line Drawing Algorithm - Bresenham's

Circle Drawing Algorithm – Problem of Scan Conversion – Solid Areas – Odd Even Methods – Winding Number Method - Solid Area Filling – Algorithms – Boundary, Flood Fill Algorithm.

UNIT III TRANSFORMATION

Two Dimension Transformations – Translation – Scaling – Rotation – Transformations of Points and Objects – Homogenous Coordinate System and Transformations – Reflection – Shearing – Three Dimension Transformations - Translation – Scaling – Rotation – Reflection – Shearing.

UNIT IV CLIPPING ALGORITHMS

2D Viewing and Clipping – Windows and View Ports – Viewing Transformations – Clipping of lines in 2D – Cohen Sutherland Clipping Algorithms – Visibility – Midpoint subdivision method – parametric Clipping – Polygon Clipping – Sutherland Hodgeman Algorithm – Clipping against Concave windows.

UNIT V HIDDEN SURFACE ALGORITHMS

Hidden Surface Elimination – Black Face Removable Algorithm Z buffer Algorithm.

| Hour | Class Schedule | |
|-----------|--------------------------------------------------------------------------|--|
| allotment | | |
| | Even Semester Begin on 07-12-2017 | |
| 1-L1 | UNIT I INPUT AND OUTPUT DEVICES – Introduction | |
| 2-L2 | Application and operations of computer graphics | |
| 3- L3 | Graphics packages | |
| 4-L4 | Requirements of graphical system | |
| 5-L5 | GUI – Common input devices | |
| 6-L6 | Graphical output devices | |
| 7-L7 | Raster scan video principle | |
| 8-L8 | Raster scan CRT monitor – color raster scan system | |
| 9-L9 | Plasma display | |
| 10-P1 | LCD – Hard copy raster devices | |
| 11-L10 | Memory tube displays | |
| 12-L11 | Plotters, graphics accelerator and coprocessor | |
| 13-L12 | UNIT II ALGORITHMS – Introduction | |
| 14-L13 | Scan conversion – Polynomial method - DDA line drawing algorithm | |
| 15-L14 | Circle, ellipse, parabola | |
| 16-L15 | Bresenham's line drawing algorithms | |
| | INTERNAL TEST I BEGINS(22.01.2018) | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Bresenham's circle drawing algorithms | |
| 19-L17 | Test Paper distribution and result analysis – Problem of scan conversion | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Solid Areas | |

| 22-L19 | Odd even method and winding number method |
|------------------|-----------------------------------------------------------------------------------------|
| 23-L20 | Odd even method and winding number method |
| 23-L20 24-L21 | Solid area filling Flood fill algorithms |
| 24-L21 25-L22 | Flood fill algorithms |
| 25-L22 26-L23 | Boundary Fill algorithms LINET HERANGEORMATIONS Introduction |
| | UNIT – III TRANSFORMATIONS – Introduction |
| 27-L24 | Two dimensional transformations |
| 28-L25 | Translation and scaling |
| 29-L26 | Rotation |
| 30-L27 | Transformation of points and objects |
| 31-L28 | Homogeneous coordinate system and transformations |
| 32-L29 | Reflection – shearing |
| 33-L30 | 3D transformations |
| | Allotting portion for Internal Test-II INTERNL TEST II BEGINS(26.02.2018) |
| 34- P3 | Department Seminar |
| 35-L31 | Translation, Scaling and rotation. |
| 36-L32 | Reflection – shearing |
| | Allotting portion for Assignment/seminar |
| 37-IT-II | Internal Test-II |
| 38-L33 | UNIT - IV CLIPPING ALGORITHMS – Introduction |
| 39-L34 | 2D viewing and clipping |
| 40-L35 | Windows and view ports |
| 41-L36 | Test Paper distribution and result analysis - Viewing Transformations |
| | Entering Internal Test-II Marks into University portal |
| 42-P4 | Department seminar |
| 43-L37 | Cohen – sutherland clipping algorithms – visibility |
| 44-L38 | Mid-point sub division method – Parametric clipping |
| 45-L39 | Polygon clipping – sutherlandHodgeman clipping |
| | Submission of Assignment/take the seminar |
| 46-L40 | Clipping against concave windows |
| 47-L41 | UNIT - V HIDDEN SURFACE ALGORITHMS - Introduction |
| 48-L42 | Hidden surface elimination |
| | Allotting portion for Internal Test-II |
| 49-L43 | Backface removal algorithms |
| 50-L44 | Black dot removal algorithm |
| | INTERNAL TEST III BEGINS(01.04.2018 |
| | |
| 51-IT-III | Internal Test-III |
| 52-L45 | Z buffer algorithms- Test Paper distribution and result analysis |
| 53-L46 | Model Test Announcement |
| 54-L47 | Over all view of the course by PPT |
| 55-L48 | Entering Internal Test-III Marks into University portal |
| 56-L49 | Model Test begins(12.04.18) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59-MT | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation Last Working day on 23-04-2018 |
| | |

| Learning Outcomes | COs of the course "COMPUTER GRAPHICS" |
|----------------------------|------------------------------------------------------------------------------|
| | |
| CO1 | Understand the structure of modern computer graphics system. |
| CO2 | Understand the basic principle of implementing computer graphics primitives. |
| CO3 | Familiarity with key algorithms for modelling and rendering graphical data. |
| CO4 | Gain experience in constructing interactive computer graphics |
| | programs |
| Experimental | |
| Learning | |
| EL1 | To write a program for graphics operations. |
| EL2 | To perform 2D Transformations |
| EL3 | To perform 3D Transformations |
| Integrated Activity | |
| IA1 | How transformations are used in animation |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

Forslow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Application & Networking

COURSE ACADEMIC PLAN(2017-2018)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|---------------------|
| Course Name | E-COMMERCE |
| Course Code | JMCA3B |
| Class | II year (2017-2018) |
| Semester | Even |
| Staff Name | Mrs.G.PRISKILLAL |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| T-4-1 (0 II/C | |

Total 60 Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings: 2Hrs Dept. Seminars: 2Hrs

Remaining 50 Hrs (5 units; 5×10=55; 10Hrs /unit)

Course Objectives

- ➤ To provide adequate basic understanding about Management Education among the students.
- > To prepare students to exploit opportunities being newly created in the Management Profession.
- To train the students in communication skills effectively.

MSU/2017-18 / UG-Colleges / Part-III (B.C.A) / Semester – II / Core - 2

UNIT 1 E - COMMERCE INTRODUCTION What is Electronic Commerce? – Types of Electronic Commerce Technology. (12 L)

UNIT II E - COMMERCE MODELS AND TYPES Types of E-Business Models and Markets - Types of E-Commerce Providers and Vendors - Ecommerce website Creation. (12 L)

UNIT III E - COM WEB DEVELOPMENT Managing E-Commerce website Development – Building Shopping Cart Applications – Mobile Electronic Commerce. (12 L)

UNIT IV E - COM DATABASES Enhancing a web server with E-Commerce Application Development – Strategies, Techniques and tools – Implementing Merchandising Strategies – Implementing E-Commerce Databases. (12 L)

UNIT V E - COMMERCE APPLICATIONS Applying and Managing E-Business Intelligence Tools for Application Development – Types of Security Technologies – protocols for the Public Transport of Private Information.

| Hour allotment | Class Schedule |
|-------------------|----------------------------------------------------------------|
| anoment | EVEN Semester Begin on 7-12-2017 |
| 1-L1 | UNIT I. E - COMMERCE INTRODUCTION What is Electronic Commerce? |
| 2-L2 | E-commerce: Doing business on the internet |
| 3- L3 | Direct marketing, selling and service |
| 4-L <i>A</i> | Financial and information service |
| 5-L5 | The scope of the internet and the web |
| 6-L6 | Enabling multimedia e-commerce with SIP |
| 7-L7 | Using the web to reach customers |
| 8-L8 | The shift to e-bussiness |
| 9-L9 | Benefit of the e-commerce market |
| 10-P1 | Department Meetings |
| 11-L10 | e-commerce technology –the internet environment |
| 12-L11 | UNIT-II E-Commerce models and types |
| 13-L12 | E-bussiness models |
| 14-L13 | E-bussiness markets |
| 15-L14 | Types of e-commerce provides and vendors |
| 16-L15 | Traditional buy /build approach |
| | INTERNAL TEST IBEGINS(22.01.2018) |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Online sales channels:internet selling environment |
| 19-L17 | The advantage of outsourcing an infrastructure to an ECISP |
| 20-L18 | Focus and decision making improvement |
| 21-P2 | Department Seminars |
| 22-L19 | The element of e-commerce |
| 23-L20 | <u>UNIT_III</u> E - COM WEB DEVELOPMENT |
| 24-L21 | Managing E-Commerce website Development |
| 25-L22 | Website server |
| 26-L23 | Developing a commerce site |
| 27-L24 | Requirements and building sites |
| 28-L25 | Building shopping cart application |
| 29-L26 | Customer servlet |
| 30-L27 | Loose component coupling |
| 31-L28 | Mobile electronic commerce |
| 32-L29 | Wireless industry standards |
| 33-L30 | Wireless WANs |
| 34- P3 | Department Meetings |
| 35-L31 | UNIT-IV E - COM DATABASES |

| 36-L32 | Enhancing a web server with E-Commerce Application Development |
|-----------|---------------------------------------------------------------------------|
| 27 17 11 | INTERNAL TEST II BEGINSS(26.02.2018) |
| 37-IT-II | Internal Test-II |
| 38-L33 | Business demand |
| 39-L34 | Enterprise development needs |
| 40-L35 | Categories of business values |
| 41-L36 | Strategies, techniques and tools |
| 42-P4 | Department Seminar |
| 43-L37 | Building and effective e-business strategy |
| 44-L38 | Implementing ecommerce databases |
| 45-L39 | <u>Interface solution</u> |
| 46-L40 | Heterogeneous development |
| 47-L41 | UNIT V E - COMMERCE APPLICATIONS |
| 48-L42 | Applying and managing e-business intelligence tools for application |
| | development |
| | |
| 49-L43 | e-business requirements for rapid application development |
| 50-L44 | Types of security technologies |
| | INTERNAL TEST IIIBEGINS(01.04. |
| | 2018) |
| 51-IT-III | Internal Test-III |
| 52-L45 | Inside and outside attacks |
| 53-L46 | Internet security education |
| 54-L47 | Application security technologies |
| 55-L48 | Protocols |
| 56-L49 | Model Test(12.04.18) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59-MT | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23-04-2018 |

| Learning Outcomes | COs of the course "E-COMMERCE" |
|--------------------------|----------------------------------------------------------------|
| | |
| CO1 | Design and implement an e-commerce application with a shopping |
| | cart. |
| CO2 | Integrate the waterfall model in the development of e-commerce |
| | applications |
| CO3 | Integrate user-centered design guidelines in developing user- |
| | friendly websites. |
| Experimental | |
| Learning | |
| EL1 | Learned how to create business web site. |
| EL2 | Learned E-Commerce types & technologies |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

Forslow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2017-2018)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. | |
|--------------------|--------------------------------------|--|
| Course Name | Object Oriented Programming with C++ | |
| Course Code | SMCA21 | |
| Class | I year (2017-2018) | |
| Semester | EVEN | |
| Staff Name | B.JEFFERSON | |
| Credits | 4 | |
| L. Hours /P. Hours | 4 / WK | |
| Total 60Urg/Com | · | |

Total 60Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; $5\times10=50$; 10Hrs /unit)

Course Objectives

- > To understand how C++ improves C with object-oriented features.
- > To learn how to write inline functions for efficiency and performance.
- ➤ To learn the syntax and semantics of the C++ programming language.
- > To learn how to design C++ classes for code reuse.

Syllabus

OBJECT ORIENTED PROGRAMMING WITH C++

UNIT I Principles of Object-oriented Programming: Software Evolution – A look at Procedure-Oriented Programming – Object-Oriented Programming Paradigm – Basic concepts of object-Oriented Programming – Benefits of OOP – Object-Oriented Languages- Applications of OOP **Beginning with C++**: What is C++? – Applications of C++ - A simple C++ Program – More C++ statements – An example with Class- Structure of C++ Program – Reference Variables – Operators in C++ - Scope Resolution Operator – Member De referencing Operators – Memory Management Operators – Manipulators – Type Cast Operators

UNIT II Functions in C++: Introduction – The Main Function – Function prototyping – Call by Reference – Return by reference – Inline Functions - Default Arguments – const Arguments – Function Overloading – Math Library Functions **Classes and Objects:** Introduction - C Structure Revisited – Specifying a Class – Defining Member Function-A C++ Program with Class - Making an outside Function Inline –Nesting of Member Function – Private member functions- Arrays with in a class – Memory allocation for objects – Static Data Members – Static Member Functions,

Arrays of objects – Objects as Function arguments – Friendly Functions – Returning Objects - Pointers to Members – Local Classes –

UNIT III Constructors and Destructors: Introduction — Constructors — Parameterized constructors — multiple constructors in a class — Constructors with Default arguments — Dynamic Initialization of Objects— Copy Constructors — Dynamic Constructors — Constructing two dimensional Arrays — Destructors **Operator Overloading and Type Conversion:** Introduction — Defining Operator Overloading — Overloading unary operators — Overloading Binary Operators — Overloading binary operators using Friends — Manipulation of strings using operators — Rules for overloading operators — Type conversions

UNIT IV Inheritance : Extending Classes : Introduction – Defining Derived Classes – Single inheritance – Making a Private Member Inheritable – Multilevel Inheritance – Multiple Inheritance – Hierarchical Inheritance – Hybrid Inheritance – Virtual Base Classes -Abstract Classes – Constructors in Derived Classes – Member Classes –Nesting of Classes

Unit V Managing Console I/O Operations: Introduction - C++ Streams - C++ Stream Classes - Unformatted I/O Operations - Formatted Console I/O Operation - Managing output with Manipulators **Working with Files:** Introduction - Classes for File Stream Operators - Opening and closing a File - Detecting end-of-file _ File Pointers and their Manipulators - Sequential Input and Output Operations - Error Handling during File Operations - Command -Line Arguments. **TOTAL: 60 HOURS**

Text Book: Object Oriented Programming C++ Third Edition – E Balagurusamy, Tata McGraw-Hill Publishing Company Limited.

Reference Book:

- 1. Complete Reference C++ Herbert Schildt, Fourth Edition, Tata McGraw-Hill Publishing Company Limited
- 2. Object Oriented Programming with ANSI and Turbo C++ Ashok N. Kamthane, Pearson Edition
- 3. C++ How to Program Deitel, Fifth Edition Prentice Hall of India
- 4. Programming with C++ D.Ravichandran, Second Edition , Tata McGraw-Hill Publishing Company Limited

| Hour allotment | Class Schedule | |
|-------------------|-------------------------------------------------------------------------------------------|--|
| anounent | Even Semester Begin on 07.12.2017 | |
| 1-L1 | UNIT I Principles of Object-oriented Programming: Software Evolution – A look at | |
| | Procedure | |
| 2-L2 | Oriented Programming, Object-Oriented Programming Paradigm | |
| 3- L3 | Basic concepts of object-Oriented Programming , Benefits of OOP | |
| 4-L4 | Object-Oriented Languages, Applications of OOP | |
| 5-L5 | Beginning with C++: What is C++?, Applications of C++ | |
| 6-L6 | A simple C++ Program , More C++ statements ,An example with Class | |
| 7-L7 | Structure of C++ Program ,Reference Variables , Operators in C++ | |
| 8- P1 | Welcoming of First year and Inauguration | |
| 9- L8 | Scope Resolution Operator ,Member De referencing Operators | |
| 10- L9 | Memory Management Operators , Manipulators, Type Cast Operators | |
| 11-L10 | UNIT II Functions in C++: Introduction ,The Main Function | |
| 12-L11 | Function prototyping ,Call by Reference ,Return by reference ,Inline Functions , | |
| | Default Arguments | |
| 13-L12 | const Arguments – Function Overloading – Math Library Functions | |
| 14-L13 | Classes and Objects: Introduction ,C Structure Revisited, Specifying a Class , | |
| | Defining Member Function | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(22.01.2018) | |
| 16-L15 | A C++ Program with Class ,Making an outside Function Inline,Nesting of Member | |
| | Function | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Private member functions, Arrays with in a class, Memory allocation for objects | |
| 19-L17 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Static Data Members, Static Member Functions, Arrays of objects | |
| 21- L19 | Objects as Function arguments, Friendly Functions | |
| 22- P2 | College level meeting/Cell function | |
| 23-L20 | Returning Objects, Pointers to Members ,Local Classes | |
| 24-L21 | UNIT III Constructors and Destructors : Introduction, Constructors , Parameterized | |
| | constructors | |
| 25-L22 | multiple constructors in a class, Constructors with Default arguments | |
| 26-L23 | Dynamic Initialization of Objects, Copy Constructors | |
| 27-L24 | Dynamic Constructors , Constructing two dimensional Arrays | |
| 28-L25 | Destructors Operator Overloading and Type Conversion: Introduction | |
| 29-L26 | Defining Operator Overloading , Overloading unary operators | |
| 30-L27 | Overloading Binary Operators ,Overloading binary operators using Friends | |
| 31-L28 | Manipulation of strings using operators ,Rules for overloading operators | |
| 32-L29 | Type Conversion | |
| 33-L30 | UNIT IV Inheritance : Extending Classes : Introduction | |
| 34- P3 | Department Seminar | |
| 35-L31 | Defining Derived Classes ,Single inheritance | |
| 36-L32 | Allotting portion for Internal Test-II | |

| | Internal Test II begins(26.02.2018) |
|-----------|---------------------------------------------------------------------------|
| 37- L33 | Making a Private Member Inheritable |
| 38- IT-II | Internal Test-II |
| 39-L34 | Multilevel Inheritance ,Multiple Inheritance |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Hierarchical Inheritance , Hybrid Inheritance |
| 42- L37 | Virtual Base Classes ,Abstract Classes |
| 43- L38 | Constructors in Derived Classes |
| 44- P4 | College level meeting/ function |
| 45-L39 | Member Classes ,Nesting of Classes |
| 46-L40 | Unit V Managing Console I/O Operations: Introduction, C++ Streams |
| 47-L41 | C++ Stream Classes – Unformatted I/O Operations |
| 48-L42 | Formatted Console I/O Operation , Managing output with Manipulators |
| 49-L43 | Working with Files: Introduction , Classes for File Stream Operators |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(01.04.2018 |
| | |
| 51 L45 | Detecting end-of-file , File Pointers and their Manipulators |
| 52- L46 | Sequential Input and Output Operations |
| 53-IT-III | Internal Test-III |
| 54-L47 | Error Handling during File Operations ,Command ,Line Arguments. |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(12.04.18) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| 60 T 50 | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23.04.2018 |

| Learning Outcomes | Object Oriented Programming with C++ |
|--------------------------|---------------------------------------------------------------|
| CO1 | a) Describe the procedural and object oriented paradigm with |
| | concepts of streams, classes, functions, data and objects. |
| CO2 | Understand dynamic memory management techniques using |
| | pointers, constructors, destructors, etc |
| CO3 | Describe the concept of function overloading, operator |
| | overloading, virtual functions and polymorphism |
| CO4 | Classify inheritance with the understanding of early and late |
| | binding, usage of exception handling, generic programming |
| CO5 | Demonstrate the use of various OOPs concepts with the help of |
| | programs |
| Experimental | |
| Learning | |

| EL1 | Classes |
|---------------------|-------------------|
| EL2 | Objects |
| EL3 | Constructor |
| EL4 | Inheritance |
| Integrated Activity | |
| IA1 | Method Overriding |
| IA2 | Polymorphism |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Application

COURSE ACADEMIC PLAN(2017-2018)

(Prepared by staff member handling the course)

| Programme Name | BCA |
|---------------------|-----------------------------------|
| Course Name | Visual Basic |
| Course Code | SMCA41 |
| Class | II year (2017-2018) |
| Semester | Even |
| Staff Name | 1.Mr. B.Edward Daniel Christopher |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60 Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To understand the benefits of using Visual Basic for windows as an application tool.
- ➤ To understand the Visual Basic event-driven programming concepts, terminology and available tools
- ➤ Learn the fundamentals of designing, implementing and distributing a vb application.
- ➤ Learn to use the Visual Basic toolbox
- > To study connectivity between VB and databases.

VISUAL BASIC

UNIT I GETTING STARTED WITH VISUAL BASIC 6.0 Introduction to Visual Basic, Visual Basic 6.0 Programming Environment, Working with Forms, Developing an Application, Variables, Data types and Modules, Procedure and Control Structures, Array in Visual Basic, Additional examples. Working with Controls: Introduction, Creating and Using Controls, Working with Control Arrays, Additional examples.

UNIT II MENUS & GRAPHICS Menus, Mouse Events and Dialog Boxes: Introduction, Mouse Events, Dialog Boxes, Additional examples. Graphics, MDI and Flex Grid: Introduction, Graphics

for Applications, Multiple Document Interface (MDI), Using the flex Grid Control, Additional examples.

UNIT III OPEN DATABASE CONNECTIVITY ODBC and Data Access Objects: Evolution of Computer Architecture, Data Options, Additional examples. ODBC Using Data Access Objects and Remote Data objects: Open Database Connectivity (ODBC), Remote Data objects, Additional examples.

UNIT IV REPORT CREATION Data Environment and Data Report: Introduction, Data Environment Designer, Data Report, Additional examples. Object Linking and Embedding: Introduction, OLE Fundamentals, Using OLE Container Controls, Using OLE Automation Objects, OLE Drag and Drop, Additional examples.

UNIT V ACTIVE X CONTROLS Built – in Active X Controls: Working with Built – In ActiveXControls, Additional examples. Working with Active X Data objects; An Overview of ADO and OLE DB, ADO Object Model, Additional examples. Files, and File System Controls: Introduction, File System Controls, Accessing Files, Interface with Windows, Additional examples.

| Hour allotment | Class Schedule | |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|--|
| anountent | Even Semester Begin on 07.12-2017 | |
| 1-L1 | UNIT I GETTING STARTED WITH VISUAL BASIC 6.0 Introduction to Visual Basic, | |
| 1 121 | Visual Basic 6.0 Programming Environment. | |
| 2-L2 | Working with Forms, Developing an Application, Variables, Data types | |
| 3- L3 | Modules, Procedure and Control Structures | |
| 4-L4 | Array in Visual Basic,1-D array, 2-D array- Additional examples. | |
| 5-L5 | Working with Controls: Introduction-tool box – available controls | |
| 6-L6 | Creating and Using Controls-command button, textbox control, dropdown listbox | |
| 7-L7 | Picture box, option button, check box – scroll bars | |
| 8-L8 | Common dialog control with examples | |
| 9-L9 | Working with Control Arrays, Additional examples. | |
| 10-L10 | Explanation for calculator programme | |
| | 1 0 | |
| 11-L11 | UNIT II MENUS & GRAPHICS Menus, popup menu-introduction- sample | |
| | programme | |
| 13-L12 | Mouse Events | |
| 14-L13 | Dialog Boxes: Introduction – Input box- Additional examples. | |
| 15-L14 | Graphics – Image box- picturebox-pixel manipulation | |
| | -Allotting portion for Internal Test-I | |
| | INTERNAL TEST I BEGINS(22.01.2018) | |
| 16-L15 | MDI-Multiple document interface- creating MDI form and child form- sample | |
| | programme and output | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Flex Grid - Using the flex Grid Control | |
| 19-L17 | Test Paper distribution and result analysis - sample programme for flex grid control design a form with flex grid – setting properties . | |

| | Entering Internal Test-I Marks into University portal |
|-----------|------------------------------------------------------------------------------------------------------|
| 20-L18 | Programme for matrix addition using flex grid. |
| 21-P2 | College level meeting |
| 22-L19 | Dir listbox, drive listbox – sample programme to explain Dir and drive list boxes |
| 23-L20 | Exlaining the calculator programme. – Designing form – using contol arrays. |
| 24-L21 | UNIT III OPEN DATABASE CONNECTIVITYODBC - introduction |
| 25-L22 | Data Access Objects: Evolution of Computer Architecture, |
| 26-L23 | Data Options, Additional examples. ODBC Using Data Access Objects |
| 27-L24 | Remote Data objects |
| 28-L25 | Creating DSN using Open Database Connectivity (ODBC) |
| 29-L26 | Remote Data objects using ODBC - Additional examples. |
| 30-L27 | Insert – Delete – Update- coding using DAO |
| 31-L28 | Creating a student database in MS Access – connecting the database – Manipulating the data using RDO |
| 32-L29 | Linking database with data grid – Bound data with grid. |
| 33-L30 | Seminar By Students – Topic: Open database connectivity and RDO |
| | Allotting portion for Internal Test-II |
| | INTERNAL TEST II BEGINS(26.02.2018) |
| 34- P3 | Unit IV:Report CreationData Environment and Data Report: Introduction |
| 35-L31 | Data Environment Designer, Data Report, Additional Examples |
| 36-L32 | Object Linking and Embedding: Introduction |
| 37-IT-II | OLE Fundamentals |
| 38-L33 | Using OLE Container Controls |
| 39-L34 | Using OLE Automation Objects |
| 40-L35 | OLE Drag and Drop |
| 41-L36 | Additional examples. |
| | INTERNAL TEST III BEGINS(01.04.2018) |
| | INTERNAL TEST III |
| 42-P4 | UNIT - V ACTIVE X CONTROLS Built – in Active X Controls: |
| 43-L37 | Working with Built in controls |
| 44-L38 | ActiveX Controls- using and creating controls |
| 45-L39 | Additional examples. |
| 46-L40 | Working with Active X Data objects |
| 47-L41 | An Overview of ADO and OLE DB |
| 48-L42 | ADO Object Model. |
| 49-L43 | Additional examples |
| 50-L44 | Files, and File System Controls: Introduction |
| 51-IT-III | File System Controls |
| 52-L45 | Accessing Files |
| 53-L46 | Interface with Windows |
| 54-L47 | Additional Examples |
| 55-L48 | Entering Internal Test-III Marks into University portal |
| 56-L49 | Model Test begins(12.04.18) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59-MT | Model test paper distribution and previous year university question paper discussion |

| 60-L50 | Feedback of the Course, analysis and report preparation |
|--------|---------------------------------------------------------|
| | Last Working day on 21-04-2018 |

| Learning Outcomes | COs of the course "VISUAL BASIC" |
|--------------------------|--------------------------------------------------------|
| | |
| CO1 | Gain knowledge about GUI |
| CO2 | Skilled in form design and event driven programming |
| CO3 | Usage of various tools in visual basic |
| CO4 | Able to connect and access database |
| CO5 | Able to connect external data base using ODBC |
| CO6 | How to prepare data report |
| Experimental | |
| Learning | |
| EL1 | To do working models to explain Database connectiviy |
| EL2 | Getting resources about Visual basic through Internet |
| EL3 | GD on merit and demerit GUI |
| EL4 | Discussion about Facebook and its database maintenance |
| Integrated Activity | |
| IA1 | Designing a billing software for grocery shop |
| IA2 | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

Forslow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Application & Networking

1. Questionnaires for Course Feedback from Students

| Name of the student | |
|---------------------|--|
| Programme Name | |
| Course Name | |
| Course code | |
| Year of Joining | |
| Semester | |
| Date | |

Put a tick in the best represents your response to each statement.

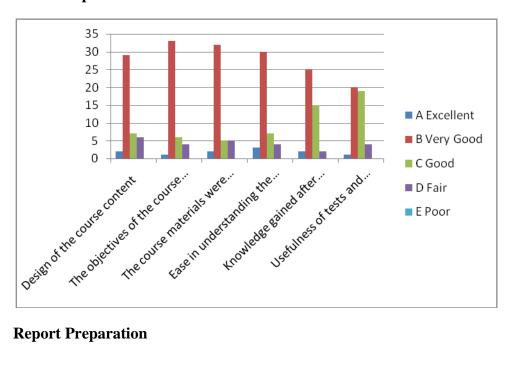
| No. | Parameters | A | В | С | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | The objectives of the course | A | В | C | D | Е |
| | were clearly stated. | | | | | |
| 3 | The course materials were | A | В | C | D | E |
| | clearly explained. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | Е |
| | course content. | | | | | |
| 5 | Knowledge gained after | A | В | C | D | E |
| | completion of the course. | | | | | |
| 6 | Usefulness of tests and | A | В | C | D | Е |
| | assignments | | | | | |
| 7 | Extent of efforts required by | A | В | C | D | Е |
| | students. | | | | | |

Course Feedback Analysis and Report Preparation

Number of responses: 44

| No. | Parameters | A | В | С | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 2 | 29 | 7 | 6 | 0 |
| 2 | The objectives of the course | 1 | 33 | 6 | 4 | 0 |
| | were clearly stated. | 1 | 33 | U | 4 | U |
| 3 | The course materials were | 2 | 32 | 5 | 5 | 0 |
| | clearly explained. | 2 | 32 | 3 | 3 | U |
| 4 | Ease in understanding the | 3 | 30 | 7 | 4 | 0 |
| | course content. | 3 | 30 | , | 7 | U |
| 5 | Knowledge gained after | 2 | 25 | 15 | 2 | 0 |
| | completion of the course. | 2 | 23 | 13 | 2 | U |
| 6 | Usefulness of tests and | 1 | 20 | 19 | 4 | 0 |
| | assignments | 1 | 20 | 17 | 4 | U |
| 7 | Extent of efforts required by | 2 | 25 | 10 | 7 | 0 |
| | students. | 2 | 23 | 10 | / | U |

Chart Preparation



Department of Computer Application & Networking

2. Questionnaires for Course Feedback from Teachers

| Name of the Teacher | |
|---------------------|--|
| Programme Name | |
| Course Name | |
| Course code | |
| Semester/Year | |
| Date | |

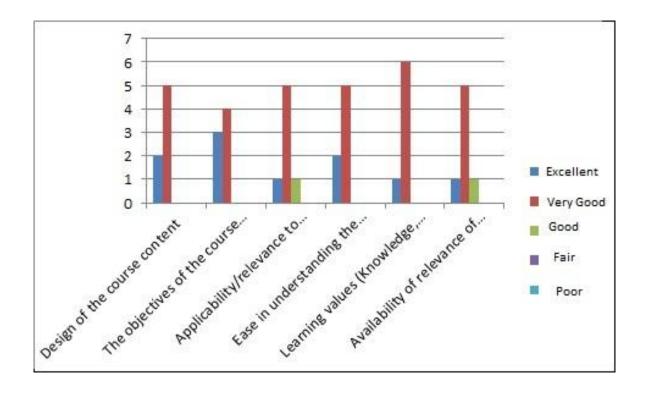
Put a tick in the best represents your response to each statement.

| No. | Parameters | A | В | C | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | The objectives of the course | A | В | C | D | Е |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | A | В | C | D | Е |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | Е |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | A | В | C | D | Е |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | A | В | C | D | Е |
| | additional source materials | | | | | |

Number of Responses: 7

| No. | Parameters | A | В | С | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 2 | 5 | 0 | 0 | 0 |
| 2 | The objectives of the course | 3 | 4 | 0 | 0 | 0 |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | 1 | 5 | 1 | 0 | 0 |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | 2 | 5 | 0 | 0 | 0 |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | 1 | 6 | 0 | 0 | 0 |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | 1 | 5 | 1 | 0 | 0 |
| | additional source materials | | | | | |

Chart preparation



Department of Application & Networking

3. Questionnaires for Course Feedback from Alumni

| Name of the Alumni | |
|--------------------|--|
| Programme Name | |
| Course Name | |
| Contact No/Mail id | |
| Semester and year | |
| Date | |

Put a tick in the best represents your response to each statement.

| No. | Parameters | A | В | C | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | The objectives of the course | A | В | C | D | Е |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | A | В | C | D | Е |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | Е |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | A | В | C | D | Е |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | A | В | C | D | Е |
| | additional source materials | | | | | |

Number of Responses: 10

| No. | Parameters | A | В | С | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 5 | 1 | 5 | 3 | 0 |
| 2 | The objectives of the course | 2 | 7 | 4 | 4 | 0 |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | 2 | 5 | 2 | 1 | 0 |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | 1 | 4 | 1 | 8 | 0 |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | 5 | 2 | 1 | 5 | 0 |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | 4 | 2 | 8 | 5 | 0 |
| | additional source materials | | | | | |

4. Questionnaires for Course Feedback from Parents

| Name of the Parent | |
|--------------------------|--|
| Name of the Student | |
| Programme Name | |
| Course Name | |
| Contact Number/Mail id | |
| Year of Joining/Semester | |
| Date | |

Put a tick in the best represents your response to each statement. 15

| No. | Parameters | A | В | С | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | Course materials available in | A | В | С | D | Е |
| | Library. | | | | | |
| 3 | The course materials were | A | В | C | D | Е |
| | clearly explained. | | | | | |
| 4 | Improvement in soft skills, | A | В | C | D | Е |
| | knowledge, observed by you in | | | | | |
| | your ward. | | | | | |
| 5 | Usefulness of the course for | A | В | C | D | E |
| | getting job. | | | | | |
| 6 | Extent of efforts required by | A | В | C | D | E |
| | students. | | | | | |

St. John's College, Palayamkottai

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2017-2018)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|---------------------|
| Course Name | DIGITAL DESIGN |
| Course Code | GACA11 |
| Class | I YEAR(2017-2018) |
| Semester | Odd |
| Staff Name | Miss.AruleenaKiruba |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |

Internal Test-3 Hrs Model Test-3 Hrs Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- To acquire the basic Knowledge of digital logic levels
- > Application of knowledge to understand digital Electronic circuits
- > To perform the analysis and design of various digital electronic circuits

Syllabus

Unit I: Digital System and binary numbers: Digital systems – binary numbers – number base conversion – Octal and hexa decimal numbers – complements – signed binary numbers – binary codes – binary storage and registers – binary logic **Boolean algebra:** Introduction – basic definition – axiomatic definition of Boolean algebra

Unit II : Logic gates: Canonical and standard forms — other logic operations — digital logic gates and integrated - Don't conditions

Unit III: NAND and NOR implementation- other two level implementations – Exclusive OR Functions **Combinational Logic:** Introduction – Combinational circuits – Analysis Procedure - Design Procedure – Binary Adder – Subtractor – Decimal Adder - Binary Multiplier - Magnitude Comparator

Unit IV : Decoders - Encoders - Multiplexers **Synchronous Sequential Logic:** Introduction - Sequential Circuits - Storage Element Latches - Storage Element Flip- Flops - Analysis of Clocked Sequential Circuits

Unit V : Registers and Counters: Registers – Shift Registers – Ripple Counters – Synchronous Counters – Other counters Memory : Introduction – Random access memory – Memory Decoding – Error Detection and Correction – Read Only Memory.

| Hour | Class Schedule |
|-----------|----------------------------------|
| allotment | |
| | Odd Semester Begin on 16.06.2017 |

| 1-L1 | Unit I : Digital System and binary numbers: Digital systems |
|-----------|-------------------------------------------------------------------------|
| 2-L2 | binary numbers |
| 3- L3 | number base conversion |
| 4-L4 | Octal and hexa decimal numbers |
| 5-L5 | - complements |
| 6-L6 | signed binary numbers |
| 7-L7 | binary codes |
| 8- P1 | Welcoming of First year and Inauguration |
| 9- L8 | binary storage and registers |
| 10- L9 | binary logic Boolean algebra |
| 11-L10 | basic definition |
| 12-L11 | axiomatic definition of Boolean algebra |
| 13-L12 | Unit II: Logic gates: Canonical and standard forms |
| 14-L13 | other logic operations |
| 15-L14 | - Allotting portion for Internal Test-I |
| | Internal Test I begins(31.07.2017) |
| 16-L15 | digital logic gates |
| 17-IT-1 | Internal Test-I |
| 18-L16 | integrated circuits |
| 19-L17 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | other logic operations |
| 21- L19 | Integrated operations |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | Don't conditions |
| 24-L21 | Unit III : NAND and NOR implementation- other two level implementations |
| 25-L22 | Exclusive OR Functions |
| 26-L23 | Combinational Logic: Introduction |
| 27-L24 | Combinational circuits |
| 28-L25 | Analysis Proceure |
| 29-L26 | Design Procedure |
| 30-L27 | Binary Adder |
| 31-L28 | Subtractor |
| 32-L29 | Decimal Adder |
| 33-L30 | Binary Multiplier |
| 34- P3 | Department Seminar |
| 35-L31 | Magnitude Comparator |
| 36-L32 | - Allotting portion for Internal Test-II |
| 27 122 | Internal Test II begins(30.08.2017) |
| 37- L33 | Unit IV : Decoders |
| 38- IT-II | Internal Test-II |
| 39-L34 | Encoders |
| 40-L35 | - Test Paper distribution and result analysis |
| 41 I 26 | Entering Internal Test-II Marks into University portal |
| 41-L36 | Multiplexers Complete and Comparable Logical Introduction |
| 42- L37 | Synchronous Sequential Logic: Introduction |

| 43- L38 | Sequential Circuits |
|-----------|---------------------------------------------------------------------------|
| 44- P4 | College level meeting/ function |
| 45-L39 | Storage Element Latches |
| 46-L40 | Storage Element Flip flops |
| 47-L41 | Flops |
| 48-L42 | Analysis of Clocked Sequential Circuits |
| 49-L43 | Unit V: Registers and Counters: Registers |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(03.10.2017) |
| 51 L45 | Shift Registers |
| 52- L46 | Ripple Counters |
| 53-IT-III | Internal Test-III |
| 54-L47 | Synchronous Counters |
| 55-L48 | - Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(19.10.17) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 06.11.2017 |

| Learning Outcomes | COs of the course " <digital design="">"</digital> |
|----------------------------|------------------------------------------------------------------------|
| | |
| CO1 | Examine the structure of various number system |
| CO2 | Examine the application the digital design |
| CO3 | Ability to understand, Analyse and design various combinational |
| | and sequential circuits. |
| Experimental | |
| Learning | |
| EL1 | Basic Gates:OR,NOT,AND,NAND,NOR |
| EL2 | Integrated circuits |
| EL3 | K-map circuit diagram |
| EL4 | Parity checker |
| Integrated Activity | |
| IA1 | Integration of the four circuit activity, in one combinational circuit |
| IA2 | The aim of the course is to make the students to be able to |
| | synthesize simple login circuits in one logic circuits. |

Blended Learning

: using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2017-2018)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|----------------------|----------------------|
| Course Name | FINANCIAL ACCOUNTING |
| Course Code | GMCA32 |
| Class | II year (2017-2018) |
| Semester | Odd |
| Staff Name | Mr.B.EDWARD DANIEL |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |
| Dept. Meetings-2 Hrs | |

Course Objectives

College Meetings-2 Hrs

- > To impart basic accounting knowledge
- > To provide knowledge on the fundamental of financial accounting.
- > To expose the student to various financial transaction and its current applications.

Syllabus

UNIT I BASIC CONCEPTS OF ACCOUNTING

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Introduction to Accounting: Need for Accounting –Accounting as the language of business – Attributes and steps of Accounting –Book keeping Vs Accounting – Branches of Accounting – Methods of Accounting – Types of Accounting – Accounting Rules - Bases of Accounting – Accounting terminology. Basic Accounting Concepts: Meaning and classification of Accounting-Accounting Concepts – Accounting Conversion – Accounting equations. (10 L)

UNIT II JOURNAL AND LEDGER

Recording a Financial Data: Memorandum Book, business transaction, Journal, Rules for Debit and Credit, Compound Journal entry, Advantages of Journal, Ledger, Ledger Account,

Ledger Posting, Process of Posting, Balancing of An Account, Significance of Balances, Relation between Journal and edger-Subsidiary Books. (15 L)

UNIT III PREPARING TRIAL BALANCE

Trial Balance: Objects, Methods of Preparing Trial balance, how to locate errors, hints for the preparation of trial balance & problems. (11 L)

UNIT IV FINAL ACCOUNTS

Trading account – individual items posted to the debit of trading account – individual items credited to trading account – advantages of trading account – profit & loss account - advantages of profit & loss account - manufacturing account- balance sheet- classification of assets & liabilities. (12 L)

UNIT V ACCOUNTS FOR NON PROFIT ORGANISATION

Introduction – Final accounts of no trading concern- receipts and payments account – featuresincome& expenditure account – feature- distinction between the two – treatment of special items – some important adjustments – types of problems – Distinction between income and expenditure account and profit and loss account – accounts of professional men.

| Hour | Class Schedule |
|-----------|------------------------------------------|
| allotment | |
| | Odd Semester Begin on 16.06.2017 |
| 1-L1 | UNIT I BASIC CONCEPTS OF ACCOUNTING |
| | Introduction to Accounting |
| 2-L2 | Need for Accounting |
| 3- L3 | Accounting as the language of business |
| 4-L4 | Attributes and steps of Accounting |
| 5-L5 | Book keeping Vs Accounting |
| 6-L6 | Branches of Accounting |
| 7-L7 | Methods of Accounting |
| 8- P1 | Welcoming of First year and Inauguration |
| 9- L8 | Types of Accounting |
| 10- L9 | Accounting Rules |
| 11-L10 | Bases of Accounting |
| 12-L11 | Accounting terminology |
| 13-L12 | Basic Accounting Concepts |
| 14-L13 | Meaning and classification of Accounting |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins(31.07.2017) |
| 16-L15 | Accounting Concepts |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Accounting Conversion |

| 19-L17 | Test Paper distribution and result analysis |
|-----------|---------------------------------------------------------|
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | Accounting equations. |
| 21- L19 | UNIT II JOURNAL AND LEDGER |
| | Recording a Financial Data |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | Memorandum Book |
| 24-L21 | business transaction |
| 25-L22 | Journals |
| 26-L23 | Rules for Debit and Credit |
| 27-L24 | Compound Journal entry, |
| 28-L25 | Advantages of Journal |
| 29-L26 | Ledger Account |
| 30-L27 | Ledger Posting |
| 31-L28 | Process of Posting |
| 32-L29 | Balancing of An Account, |
| 33-L30 | Significance of Balances, |
| 34- P3 | Department Seminar |
| 35-L31 | Relation between Journal and Ledger |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(30.08.2017) |
| 37- L33 | Subsidiary Books. |
| 38- IT-II | Internal Test-II |
| 39-L34 | UNIT III PREPARING TRIAL BALANCE |
| | Trial Balance |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Methods of Preparing Trial balance |
| 42- L37 | how to locate errors |
| 43- L38 | hints for the preparation of trial balance |
| 44- P4 | College level meeting/ function |
| 45-L39 | Problems |
| 46-L40 | UNIT IV FINAL ACCOUNTS |
| | Trading account |
| 47-L41 | individual items posted to the debit of trading account |
| 48-L42 | individual items credited to trading account |
| 49-L43 | advantages of trading account |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(03.10.2017 |
| 51 L45 | profit & loss account |
| 52- L46 | Advantage of profit |
| 53-IT-III | Internal Test-III |
| 54-L47 | loss account |
| 55-L48 | Test Paper distribution and result analysis |
| - 10 | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(19.10.17) |
| 57-MT | Model Test |
| | |

| 58-MT | Model Test |
|---------|---------------------------------------------------------------------------|
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 06.11.2017 |

| Learning Outcomes | COs of the course " <financial accounting="">"</financial> | |
|----------------------------|------------------------------------------------------------|--|
| | | |
| CO1 | Process of Posting | |
| CO2 | individual items posted to the debit of trading account | |
| CO3 | advantages of trading account | |
| Experimental | | |
| Learning | | |
| EL1 | Business transaction, Journal, Rules for Debit and Credit, | |
| | Compound Journal entry | |
| EL2 | Significance of Balances | |
| Integrated Activity | | |
| IA1 | Final accounts of no trading concern | |
| IA2 | manufacturing account | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2017-2018)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|---------------------|----------------------|
| Course Name | Software Engineering |
| Course Code | GMCA51 |
| Class | III year (2017-2018) |
| Semester | odd |
| Staff Name | MR.B.EDWARD DANIEL |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| Internal Test 2 Ura | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; $5\times10=50$; 10Hrs /unit)

Course Objectives

- To study the need and nature of mobile applications.
- To learn the tools and platforms required for mobile applications.
- To understand the design issues in mobile applications.

Syllabus

UNIT I SOFTWARE AND SOFTWARE ENGINEERING The Nature of Software – The Nature of Software? The Nature of Software – Stack holders in Software engineering – Stack holders in Software engineering – Activities common to Software projects – Difficult and risk in software engineering as a whole. Review of Object Orientation: What is object orientation/ - Classes and objects – Instance variables – Methods, Operations and Polymorphism – Concepts best define object orientation – Difficulties and risks in programming language choice and object – oriented programming. (12 L)

UNIT II DEVELOPING REQUIREMENTS Domain analysis – The starting point for software projects – Defining the problem and the scope – What is a requirement? – Types of requirements – Some techniques for gathering and analyzing requirements – Managing changing requirements – Difficulties and risks in domain and requirements analysis. (12 L)

UNIT III MODELING WITH CLASSES What is UML? – Essentials of UML class diagrams – Associations and Multiplicity – Generalization – Instance diagrams – More advanced features of class diagrams. Modeling Interactions and Behavior: Interaction diagram – State diagrams – Activity diagrams. (12 L)

UNIT IV ARCHITECTING AND DESIGNING SOFTWARE The process of design — Principles leading to good design — Techniques for making good design decisions — Software architecture — Architectural patterns — Writing a good designing document. (12 L) UNIT V TESTING AND INSPECTING TO ENSURE HIGH QUALITY Basic definitions — Effective and efficient testing — Defects in ordinary Algorithms — Defects in

numerical algorithms – Defects in timing and co-ordination. Managing the Software Process: What is project management? – Software process models – Cost estimation – building software engineering teams – Project scheduling and tracking. Course Calendar

| Hour | Class Schedule |
|-----------|------------------------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 16.06.2017 |
| 1-L1 | UNIT I SOFTWARE AND SOFTWARE ENGINEERING: The Nature |
| | of Software |
| 2-L2 | Stack holders in Software engineering |
| 3- L3 | Activities common to Software projects |
| 4-L4 | Difficult and risk in software engineering as a whole. Review of Object |
| | Orientation |
| 5-L5 | What is object orientation. |
| 6-L6 | Classes and objects |
| 7-L7 | Instance variables. |
| 8- P1 | Methods, Operations and |
| 9- L8 | Concepts best define object orientation. |
| 10- L9 | Difficulties and risks in programming language choice and object |
| 11-L10 | Polymorphism. |
| 12-L11 | oriented programming. |
| 13-L12 | UNIT II DEVELOPING REQUIREMENTS Domain analysis |
| 14-L13 | The starting point for software projects, Defining the problem and the scope |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins(31.07.2017) |
| 16-L15 | What is a requirement |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Some techniques for gathering |
| 19-L17 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | Types of requirements |
| 21- L19 | and analyzing requirements |
| 22- P2 | College level meeting/ |
| 23-L20 | Managing changing requirements |
| 24-L21 | Difficulties and risks in domain |
| 25-L22 | Cell function |
| 26-L23 | analysis and requirements |
| 27-L24 | UNIT III MODELING WITH CLASSES What is UML |
| 28-L25 | Essentials of UML class diagrams. |
| 29-L26 | Associations and Multiplicity |
| 30-L27 | Generalization |
| 31-L28 | Instance diagrams |
| 32-L29 | More advanced features of class diagrams. |
| 33-L30 | Modeling Interactions and Behavior |
| 34- P3 | Interaction diagram |
| 35-L31 | State diagrams ,Activity diagrams. |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(30.08.2017) |

| 37- L33 | UNIT IV ARCHITECTING AND DESIGNING SOFTWARE The process |
|-----------|---------------------------------------------------------------------------|
| | of design: |
| 38- IT-II | Internal Test-II |
| 39-L34 | Principles leading to good design |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Techniques for making good design decisions |
| 42- L37 | Software architecture |
| 43- L38 | Architectural patterns. |
| 44- P4 | Writing a good designing document |
| 45-L39 | UNIT V TESTING AND INSPECTING TO ENSURE HIGH QUALITY |
| | Basic definitions. |
| 46-L40 | Effective and efficient testing |
| 47-L41 | Defects in ordinary Algorithms |
| 48-L42 | Defects in numerical algorithms |
| 49-L43 | Managing the Software Process |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(03.10.2017 |
| | |
| 51 L45 | Software process models |
| 52- L46 | Cost estimation ,building software engineering teams |
| 53-IT-III | Internal Test-III |
| 54-L47 | Project scheduling and tracking. |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(19.10.17) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 06.11.2017 |

| Learning Outcomes | COs of the course " <software engineering="">"</software> |
|-----------------------|------------------------------------------------------------------|
| | |
| CO1 | Defects in ordinary Algorithms |
| CO2 | Software process models |
| CO3 | Techniques for making good design decisions |
| CO4 | Concepts best define object orientation |
| Experimental Learning | |
| EL1 | Instance diagrams |
| EL2 | Classes and objects |
| Integrated Activity | |
| IA1 | Software process models |
| IA2 | Techniques for making good design decisions |

Blended Learning : using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for higher study.

For slow learner : special care taken, motivate the advanced learner to support the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2016-2017)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|---------------------|---------------------|
| Course Name | WEB TECHNOLOGY |
| Course Code | GMCA52 |
| Class | III YEAR(2017-2018) |
| Semester | Odd |
| Staff Name | MRS.G.PRISKILLAL |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |
| Total 75 Hrs/Sem | |
| Internal Test-3 Hrs | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 65 Hrs (5 units; 5×13=65; 13Hrs /unit)

Course Objectives

- To provide the conceptual and technological developments in the field of Internet and web designing with the emphasis on comprehensive knowledge of Internet, Describe the basic concepts for network implementation.
- To learn the basic working scheme of the Internet and World Wide Web.
- Understand fundamental tools and technologies for web design

Syllabus

UNIT I INTRODUCTION TO THE WEB Understanding the Internet and World Wide Web - History of the Web - Protocols Governing the Web - Creating Websites for Individuals and the Corporate World – Web Applications – Writing Web projects – Identification of Objects – Target Users – Web Team – Planning and Process Development – Web Architecture -Internet Standards - TCP/IP Protocol Suite - IP Address - MIME -Cyber Laws. Hyper Text Transfer Protocol (HTTP): Introduction – Web servers and clients – Resources – URL and its Anatomy – Message Format. (14 L)

UNIT II HYPER TEXT MARKUP LANGUAGE (HTML) History of HTML and W3C – HTML and its Flavors - HTML Basics - Elements, Attributes, and Tags - Basic Tags -Advanced Tags – Frames.

(UNIT III JAVA SCRIPT Introduction – Variables – Literals – Operators – Control Structure – Conditional statements – Arrays – Functions – Objects. (10 L)

UNIT IV EXTENSIBLE MARKUP LANGUAGE (XML) Common Usage – Role of XML – Prolog – Body – Elements – Attributes – Validation – Displaying XML – Namespace.XML DTD: XML Schema Languages– Validation – Introduction to DTD–Purpose of DTD – Using a DTD in an XML Document. (12 L)

UNIT V COMMON GATEWAY INTERFACE (CGI) Internet Programming Paradigm – Server – side Programming – Languages for CGI – Applications – Server Environment – Environment Variables – CGI Building Blocks – CGI Scripting Using C, Shell Script – Writing CGI programs – CGI Security – Alternatives and Enhancements to CGI. Servlet: Server – Side Java – Advantages Over Applets - Servlet Alternatives – Servlet Strength – Servlet Architecture – Servlet Life Cycle. (12 L)

| Hour | Class Schedule |
|-----------|---------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 16.06.2017 |
| 1-L1 | UNIT I INTRODUCTION TO THE WEB Understanding the Internet and |
| | World Wide Web |
| 2-L2 | History of the Web |
| 3- L3 | Protocols Governing the Web |
| 4-L4 | Creating Websites for Individuals and the Corporate World |
| 5-L5 | Web Applications |
| 6-L6 | Writing Web projects |
| 7-L7 | - Identification of Objects |
| 8- P1 | Welcoming of First year and Inauguration of BCA Association |
| 9- L8 | Target Users |
| 10- L9 | Web Team |
| 11-L10 | Planning and Process Development |
| 12-L11 | Web Architecture |
| 13-L12 | Internet Standards |
| 14-L13 | TCP/IP Protocol Suite |
| 15-L14 | IP Address |
| 16-L15 | MIME – Cyber Laws. Hyper Text Transfer Protocol (HTTP) |
| 17- L16 | UNIT II HYPER TEXT MARKUP LANGUAGE (HTML) History of HTML |
| | and W3C |
| 18- L17 | HTML and its Flavors |
| 19- L18 | – HTML Basics |
| 20- L19 | – Elements, Attributes, and Tags |
| 21- L20 | Allotting portion for Internal Test-I |
| | Internal Test I begins(31.07.2017) |
| 22- L21 | Basic Tags |
| 23- IT-1 | Internal Test-I |
| 24- L22 | Advanced Tags |
| 25- L23 | Frames |
| 26- L24 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 27- L25 | UNIT III JAVA SCRIPT Introduction |

| 28- L26 | Variables |
|--------------------|------------------------------------------------------------|
| 28- L20 29- L27 | Literals |
| 29- L27 30- P2 | |
| 31-L28 | College level meeting/Cell function |
| 31-L28 32-L29 | Operators. Control Structure |
| 32-L29 33-L30 | Conditional statements |
| 34- L31 | |
| 35- L32 | Arrays Functions |
| 36- L32 | Objects |
| 30- L33 37- L34 | UNIT IV EXTENSIBLE MARKUP LANGUAGE (XML) Common Usage |
| 38-L35 | Role of XML |
| 39-L36 | Prolog |
| 40- L37 | Body – Elements |
| 41- L38 | Attributes |
| 42-P3 | Department Seminar |
| 43- L39 | Validation Validation |
| 44- L40 | Displaying xml |
| 45- L41 | Namespace.XML DTD |
| 46- L42 | XML Schema Languages |
| 47- L43 | - Allotting portion for Internal Test-II |
| | Internal Test II begins(30.08.2017) |
| 48- L44 | introduction of DTD |
| 49-IT-II | Internal Test-II |
| 50-L45 | Purpose of DTD |
| 51- L46 | - Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 52- L47 | UNIT V COMMON GATEWAY INTERFACE (CGI) Internet Programming |
| | Paradigm |
| 53- L48 | Server side Program |
| 54- L49 | Client side Programming |
| 55- L50 | Languages for CGI |
| 56- L51 | Applications |
| 57- L52 | Server environment |
| 58- L53 | Environment Variables |
| 59-P4 | College level meeting/ function |
| 60- L54 | CGI Building Blocks |
| 61- L55 | CGI Scripting Using C |
| 62- L56 | Shell Script |
| 63- L57 | Writing CGI programs |
| 64- L58 | - Allotting portion for Internal Test-III |
| CF 7 50 | Internal Test III begins(03.10.2017) |
| 65- L59 | CGI Security |
| 66- L60 | Alternatives and Enhancements to CGI |
| 67-IT-III | Internal Test-III |
| 68- L61 | Servlet: Server |
| 69- L62 | Side Java |
| 70- L63 | - Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |

| 71-MT | Model Test begins(19.10.17) |
|--------|---------------------------------------------------------------------------|
| 72-MT | Model Test |
| 73-MT | Model Test |
| 74-L64 | Model test paper distribution and previous year university question paper |
| | discussion |
| 75-L65 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 19.10.2017 |

| Learning Outcomes | WEB TECHNOLOGY |
|--------------------------|--------------------------------------------------------------------|
| | |
| CO1 | Employ fundamental computer theory to basic programming |
| | techniques. |
| CO2 | Use fundamental skills to maintain web server services required to |
| | host a website |
| CO3 | Select and apply markup languages for processing, identifying, and |
| | presenting of information in web pages |
| CO4 | Use scripting languages and web services to transfer data and add |
| | interactive components to web pages. |
| Experimental | |
| Learning | |
| EL1 | Languages for CGI |
| EL2 | Client Side Programming |
| EL3 | Server Side Scripting Language |
| EL4 | DHTML |
| Integrated Activity | |
| IA1 | XML |
| IA2 | Script Language-VB,JAVA |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2017-2018)

(Prepared by staff member handling the course)

Remaining 80 Hrs (5 units; 5×16=80; 16Hrs /unit)

| B.C.A. |
|--------------------------|
| RDBMS |
| GMCA63 |
| III year (2017-2018) |
| Odd |
| MRS.A.BATHSHEBA PARIMALA |
| 6 |
| 6 / WK |
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| |

Course Objectives

- To understand relational database concepts and transaction management concepts in database system.
- To write PL/SQL programs that use: procedure, function, package, cursor and Exceptions.
- To Use current techniques and tools necessary for complex computing practices.

Syllabus

UNIT I AN OVERVIEW: PERSONAL DATABASES Client server databases – Oracle 9i An introduction – The SQL*Plus Environment – SQL – SQL*PLUS commands – Sample Databases. Oracle Tables; Naming rules and conventions – Data types – Constraints – Creating an Oracle table – Displaying table information's – Altering and exiting table – Dropping a table – Renaming a table – Truncating a table. (12 L)

UNIT II WORKING WITH TABLES DML statements – Arithmetic operations – Where clause – sorting – Define command – Built in functions – Grouping data. (10 L)

UNIT III MULTIPLE TABLES Joints – Set operators – Subquery – Top – N Analysis .Advanced features: Views – Subsequences – Synonyms – Index. (12 L)

UNIT IV PL/SQL: FUNDAMENTALS PL/SQL: FUNDAMENTALS – Block structure – Comments – Data types –Variable declaration – Anchored declaration – Assignment

operation – Bind variables – Substitution Variables – Arithmetic operators. Structures in PL/SQL: Control structures – Nested blocks – SQL in PL/SQL DML in PL/SQL – Transaction Control Statement. (14L)

UNIT V PL/SQL CURSORS & EXCEPTIONS PL/SQL Cursors & Exceptions - PL/SQL Composite data types: Records, Tables and VARRAYS. (12L)

| Hour | Class Schedule |
|-----------|-------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 16.06.2017 |
| 1-L1 | UNIT I AN OVERVIEW: PERSONAL DATABASES Client server |
| | databases |
| 2-L2 | Oracle 9i An introduction |
| 3- L3 | The SQL*Plus Environment |
| 4-L4 | SQL , SQL*PLUS commands |
| 5-L5 | Sample Databases |
| 6-L6 | Naming rules and conventions |
| 7-L7 | Displaying table information's |
| 8-L8 | Creating an Oracletable |
| 9-L9 | Altering and exiting table |
| 10-P1 | BCA Association |
| 11-L10 | Dropping a table |
| 12-L11 | Renaming a table |
| 13-L12 | Truncating a table |
| 14-L13 | UNIT II WORKING WITH TABLES |
| | |
| 15-L14 | DML statements |
| 16-L15 | Arithmetic operations |
| 17-L16 | Where clause |
| 18-L17 | Sorting |
| 19-L18 | Define command |
| 20-L19 | Built in functions |
| 21-L20 | Single row functions |
| 22-L21 | Character functions |
| 23-L22 | Allotting portion for Internal Test-I |
| | Internal Test I begins(31.07.2017) |
| 24-L23 | Grouping data |
| 25-L24 | UNIT III MULTIPLE TABLES: —(12 L) |
| | |
| 26-IT-1 | Internal Test-I |
| 27-L25 | Joints |
| 28-L26 | Set operators |
| 29-L27 | Subquery |
| 30-L28 | - Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 31- L29 | Тор |

| 32- L30 | N Analysis |
|-----------------------------|--------------------------------------------------------|
| 33- L31 | Advanced features |
| 34-P2 | College level meeting/Cell function |
| 35- L32 | Views |
| 36- L32 | Subsequences |
| 37- L34 | Synonyms |
| 38- L35 | Select,insert,delete |
| 39- L36 | Index |
| 40- L37 | UNIT IV PL/SQL: FUNDAMENTALS PL/SQL: FUNDAMENTALS |
| 40- L37 | ONT IV IL/SQL. FUNDAMENTALS IL/SQL. FUNDAMENTALS |
| 41 1 20 | |
| 41- L38 | Blockstructure |
| 42- L39 | Comments |
| 43- L40 | Data types |
| 44- L41 | Variable declaration |
| 45- L42 | Anchored declaration |
| 46- L43 | Assignment operation |
| 47- L44 | Substitution Variables |
| 48- L45 | Arithmetic operator |
| 49- L46 | Structures in PL/SQL |
| 50- L47 | Control structures |
| 51- P3 | Department Seminar |
| 52- L48 | Nested blocks |
| 53- L49 | SQL in PL/SQL DML in PL/SQL |
| 54- L50 | Transaction Control Statement |
| 55- L51 | UNIT V PL/SQL CURSORS & EXCEPTIONS |
| 56-L52 | Allotting portion for Internal Test-II |
| | Internal Test II begins(30.08.2017) |
| 57-L53 | PL/SQL Cursors |
| 58-L54 | Exceptions |
| 59-IT-II | Internal Test-II |
| 60- L55 | Types of expections |
| 61- L56 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 62- L57 | An error code |
| 63- L58 | A message |
| 64- L59 | Types of cursor |
| 65- L60 | Implicit cursor |
| 66- L61 | Explicit cursor |
| 67- L62 | Attributes |
| 68- L63 | %found |
| 69- L64 | %isopen |
| 70- L65 | %notfound |
| 71- L66 | %rowcount |
| | 0/1 11 |
| 72- L67 | %bulk_rowcount |
| 72- L67 73- L68 74-P4 | %bulk_rowcount %bulkexceptions Declaring the cursor |

| 75- L69 | Opening the cursor |
|-----------|---------------------------------------------------------------------|
| 76- L70 | Fetching the cursor |
| 77- L71 | Closing the cursor |
| 78- L72 | |
| 79- L73 | Allotting portion for Internal Test-III |
| | Internal Test III begins(03.10.2017 |
| |) |
| 80- L74 | PL/SQL Composite data types |
| 81- L75 | Records |
| 82-IT-III | Internal Test-III |
| 83- L76 | Tables |
| 84- L77 | - Test Paper distribution and result analysis |
| 85- L78 | VARRAYS |
| | Entering Internal Test-III Marks into University portal |
| 86- L79 | Model Test begins(19.10.17) |
| 87-MT | Model Test |
| 88-MT | Model Test |
| 89-MT | Model test paper distribution and previous year university question |
| | paper discussion |
| 90-L-80 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 06.11.2017 |
| | |

| Learning Outcomes | RDBMS |
|----------------------------|---------------------------------------|
| | |
| CO1 | Query-PL/SQL |
| CO2 | To gain the Knowledge about DataBases |
| CO3 | Cursor Concepts |
| CO4 | Trigger |
| CO5 | Operators |
| Experimental | |
| Learning | |
| EL1 | Trigger |
| EL2 | Cursor |
| EL3 | Conditional Constructs |
| EL4 | Decision Making |
| Integrated Activity | |
| IA1 | SQL in PL/SQL DML in PL/SQL |
| IA2 | Transaction Control Statement |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2017-2018)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|---------------------|
| Course Name | DATA STRUCTRUE |
| Course Code | JACA31 |
| Class | II year (2017-2018) |
| Semester | Odd |
| Staff Name | Ms.G.PRISKILLAL |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| T . 1 | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To understand different methods of organizing large amounts of data.
- > To efficiently implement different data structure.
- > To efficiently implement solution for different problems.

Syllabus

UNIT I DATATYPES INTRODUCTION

Introduction: Pseudo code – The Abstract Data Type – A Model for an Abstract Data Type – Algorithms Efficiency. Searching: List Searches – Hashed List Searches – Collision Resolution. (10 L)

UNIT II LINKED LISTS

Linear List Concepts – Linked List Concepts – linked List Algorithms – Processing a Linked List – Complex Linked List Structures. (10 L)

UNIT III STACKS AND QUEUES

Basic Stacks Operations – Stack Linked List Implementation – Stack Applications – Queue operations – Queue Linked List Design. (10L)

UNIT IV TREES

Basic Tree Concepts – Binary Tree - Binary Tree Traversals – Expression Trees- General Trees – Binary Search Trees – Heap definition – Heap Structure – Basic Heap Algorithm. (8L)

UNIT V INTRODUCTION TO GRAPHS

Sorting And Graphs: General Sort Concepts – Quick sort – External sorts. Graphs: Terminology – Operations – Graph storage Structure – Networks.

| Hour | Class Schedule | |
|-----------|-------------------------------------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 16.06.2017 | |
| 1-L1 | UNIT I DATATYPES INTRODUCTION | |
| | Pseudo Code | |
| 2-L2 | The Abstract Data Type | |
| 3- L3 | A Model For An Abstract Data Type | |
| 4-L4 | Algorithm Efficiency | |
| 5-L5 | Searching | |
| 6-L6 | List Searches | |
| 7-L7 | Hashed List Searches | |
| 8- P1 | Welcoming of First year and Inauguration of BCA Association | |
| 9- L8 | Collision Resolution | |
| 10- L9 | UNIT II LINKED LISTS | |
| | Linear List Concepts | |
| 11-L10 | Linked List Concept | |
| 12-L11 | Linked List Algorithm | |
| 13-L12 | Processing A Link List | |
| 14-L13 | Complex Linked List Structrue | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(31.07.2017) | |
| 16-L15 | UNIT III STACKS AND QUEUES | |
| | Basic Stacks Operations | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Stack Linked List Implementation | |
| 19-L17 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Stack Application | |
| 21- L19 | Queue Operation | |
| 22- P2 | College level meeting/Cell function | |

| 23-L20 | Queue Linked List Design |
|--------------------|---------------------------------------------------------------------------|
| 23-L20 24-L21 | UNIT IV TREES |
| 27 1221 | Basic Tree Concepts |
| 25-L22 | Binary Tree |
| 26-L23 | Binary Tree Traversal |
| 27-L24 | Expression Trees |
| 28-L25 | General Trees |
| 29-L26 | Binary Search Tree |
| 30-L27 | Heap Definition |
| 31-L28 | Heap Structrue |
| 32-L29 | Basic Heap Algorithm |
| 33-L30 | UNIT V INTRODUCTION TO GRAPHS |
| | Sorting And Graphs |
| 34- P3 | Department Seminar |
| 35-L31 | General Sort Concept |
| 36-L32 | - Allotting portion for Internal Test-II |
| 27 7 22 | Internal Test II begins(30.08.2017) |
| 37- L33 | Quick Sort |
| 38- IT-II | Internal Test-II |
| 39-L34 | External Sort |
| 40-L35 | - Test Paper distribution and result analysis |
| 41-L36 | Entering Internal Test-II Marks into University portal Graphs |
| 41-L30 42- L37 | Terminology |
| 42- L37 43- L38 | Operation |
| 43- L36 44- P4 | College level meeting/ function |
| 45-L39 | Graph Storage Structrue |
| 46-L40 | Network |
| 47-L41 | Abstract Data Type |
| 48-L42 | Pseudo Code |
| 49-L43 | List Searches |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(03.10.2017 |
| | |
| 51 L45 | Hashed List Searches |
| 52- L46 | Stack Application |
| 53-IT-III | Internal Test-III |
| 54-L47 | Heap Definition |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(19.10.17) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| 60 150 | discussion Finally of the Course analysis and variety managetics |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 06.11.2017 |

| Learning Outcomes | DATA STRUCTRUE |
|----------------------------|-------------------------------------------------------------------------------|
| CO1 | Select appropriate data structures as applied to specified problem definition |
| CO2 | To Implement operations |
| CO3 | To implement linear and non-linear data structure |
| CO4 | Determine complexity of the given algorithm |
| Experimental | |
| Learning | |
| EL1 | To implement sorting |
| EL2 | To implement the search operations |
| EL3 | Implementation of the Queue and Stack |
| EL4 | Implementation of Binary Trees |
| Integrated Activity | |
| IA1 | IT system integration |
| IA2 | Alternation mode choices shared about data structure |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2017-2018)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|---------------------|-----------------------|
| Course Name | Java programming |
| Course Code | JMCA31 |
| Class | II year (2017-2018) |
| Semester | Odd |
| Staff Name | Mr.I.THOMAS JEBASINGH |
| Credits | 6 |
| L. Hours /P. Hours | 6 / WK |
| Total 90 Hrs/Sem | |
| Internal Test-3 Hrs | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 80 Hrs (5 units; 5×16=80; 16Hrs /unit)

Course Objectives

- Wrapper classes
- Control structures
- Constructors and methods in throwable classes
- ➤ File and I/O streams

Syllabus

UNIT -I Java language fundamentals: The building blocks of Java - Data types - Variable declarations - Wrapper classes - Operators and assignment - Control structures - Arrays -Strings.

UNIT- II Java as an OOP language: Defining classes – Modifiers – Packages – Interfaces Exception handling: Introduction – Basics of exception handling in JAVA – Exception hierarchy – Constructors and methods in throwable classes – Unchecked and checked exceptions – Handling **Exceptions in Java**

UNIT- III Multithreading: Creating threads - Thread life-cycle - Thread priorities and thread scheduling – Thread synchronization. File and I/O streams: Java I/O – File streams – File Input Stream and File Output Stream – Filter streams

UNIT- IV Applets: Java applications versus Java applets – Applet Life-cycle – working with applets – the HTML APPLET tag. Database handling using JDBC: JDBC architecture – working with JDBC – Processing queries – Transaction commit and Rollback – Handling exceptions – Accessing Metadata

UNIT- V The Abstract Window Toolkit: Basic classes in AWT – Drawing with graphics class – Class hierarchy of AWT – Event handling – AWT controls – Layout managers.

| Hour | Class Schedule | |
|-----------|------------------------------------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 16.06.2017 | |
| 1-L1 | UNIT -I Java language fundamentals | |
| 2-L2 | Data types | |
| 3- L3 | Variable declarations | |
| 4-L4 | Wrapper classes | |
| 5-L5 | Operators and assignment | |
| 6-L6 | Control structures | |
| 7-L7 | Arrays | |
| 8-L8 | Strings | |
| 9-L9 | UNIT- II Java as an OOP language: Defining classes | |
| 10-P1 | Welcoming of First year and Inauguration of BCAAssociation | |
| 11-L10 | Modifiers | |
| 12-L11 | Interfaces | |
| 13-L12 | Exception handling: Introduction | |
| 14-L13 | Basics of exception handling in JAVA | |
| 15-L14 | Exception hierarchy | |
| 16-L15 | Constructors and methods in throwable classes | |
| 17-L16 | Unchecked and checked exceptions | |
| 18-L17 | Handling | |
| 19-L18 | Exceptions in Java | |
| 20-L19 | UNIT- III Multithreading: Creating threads | |
| 21-L20 | Thread life-cycle | |
| 22-L21 | Thread priorities | |
| 23-L22 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(31.07.2017) | |
| 24-L23 | thread scheduling | |
| 25-L24 | Thread synchronization | |
| 26-IT-1 | Internal Test-I | |
| 27-L25 | File and I/O streams | |
| 28-L26 | Java I/O – File streams | |
| 29-L27 | File Input Stream and File Output Stream | |
| 30-L28 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 31- L29 | Filter streams | |

| 32- L30 | LINIT IV Applete lava applications versus lava applets | |
|-------------------------------------|----------------------------------------------------------------------------|--|
| 32- L30 33- L31 | UNIT- IV Applets: Java applications versus Java applets Applet Life-cycle | |
| 34-P2 | College level meeting/Cell function | |
| 35- L32 | Thread priorities and thread scheduling | |
| 36- L33 | - Thread synchronization | |
| 37- L34 | File and I/O streams | |
| 38- L35 | Java I/O – File streams | |
| 39- L36 | File Input Stream and File Output Stream | |
| 40- L37 | Filter streams | |
| 41- L38 | UNIT- IV Applets: Java applications versus Java applets | |
| 42- L39 | Applet Life-cycle | |
| 43- L40 | working with applets | |
| 44- L41 | the HTML APPLET tag | |
| 45- L42 | Database handling using JDBC | |
| 46- L43 | JDBC architecture | |
| 47- L44 | working with JDBC | |
| 48- L45 | Processing queries | |
| 49- L46 | Transaction commit and Rollback | |
| 50- L47 | - Handling exceptions | |
| 51- P3 | Department Seminar | |
| 52- L48 | Accessing Metadata | |
| 53- L49 | UNIT- V The Abstract Window Toolkit: Basic classes in AWT | |
| 54- L50 | Drawing with graphics class | |
| 55- L51 | Class hierarchy of AWT | |
| 56-L52 | Allotting portion for Internal Test-II | |
| Internal Test II begins(30.08.2017) | | |
| 57-L53 | Event handling | |
| 58-L54 | AWT controls | |
| 59-IT-II | Internal Test-II | |
| 60- L55 | Layout managers. | |
| 61- L56 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 62- L57 | Literals | |
| 63- L58 | Applet skeleton | |
| 64- L59 | audio clip interface | |
| 65- L60 | applet display method | |
| 66- L61 | Event handling mechanism | |
| 67- L62 | AWT classes | |
| 68- L63 | Applet basics | |
| 69- L64 | event handling mechanisms | |
| 70- L65 | Bars and menus Understanding leveut managers | |
| 71- L66 72- L67 | Understanding layout managers Inter thread communication | |
| 72- L67 73- L68 | Java thread model | |
| 73- L68 74-P4 | | |
| 74-P4 75- L69 | College level meeting/ function writing console output | |
| 75- L69 76- L70 | the printwriter class | |
| 10- L/0 | | |
| 77- L71 | using object as parameters | |

| 78- L72 | Argument passing |
|-----------|---------------------------------------------------------------------------|
| 79- L73 | - Allotting portion for Internal Test-III |
| | Internal Test III begins(03.10.2017) |
| 80- L74 | Creating multiple threads |
| 81- L75 | multiple catch clauses |
| 82-IT-III | Internal Test-III |
| 83- L76 | Stack class |
| 84- L77 | - Test Paper distribution and result analysis |
| 85- L78 | Try and catch |
| | Entering Internal Test-III Marks into University portal |
| 86- L79 | Model Test begins(19.10.17) |
| 87-MT | Model Test |
| 88-MT | Model Test |
| 89-MT | Model test paper distribution and previous year university question paper |
| | discussion |
| 90-L-80 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 06.11.2017 |

| Learning Outcomes | COs of the course "Java programming" |
|--------------------------|--------------------------------------|
| | |
| CO1 | audio clip interface |
| CO2 | event handling mechanisms |
| CO3 | Bars and menus |
| Experimental | |
| Learning | |
| EL1 | AWT classes |
| EL2 | Thread synchronization |
| EL3 | audio clip interface |
| Integrated Activity | |
| IA1 | Inter thread communication |
| IA2 | using object as parameters |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2017-2018)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. | |
|----------------------|--------------------|--|
| Course Name | Programming in C | |
| Course Code | SMCA11 | |
| Class | I year (2017-2018) | |
| Semester | Odd | |
| Staff Name | Mrs.G.Priskillal | |
| Credits | 4 | |
| L. Hours /P. Hours | 4 / WK | |
| Total 60Hrs/Sem | | |
| Internal Test-3 Hrs | | |
| Model Test-3 Hrs | | |
| Dept. Meetings-2 Hrs | | |

Course Objectives

College Meetings-2 Hrs

- > Importance of C
- Decision making and looping
- > User defined functions

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

> Arrays

Syllabus

Programming in C

Unit I Overview of C: Introduction- Importance of C - Sample C Programs - Basic structure of C - Executing C program **Constant, variables and data types:** Introduction- Character set - tokens - keywords and identifiers - constants - variables- data types - declaration of variables - assigning values of variables. **Operators and expressions:** Introduction - arithmetic of operations- relational operator - assignment operator - increment and decrement operator - conditional operator - bitwise operator - special operator - evaluation of expressions - precedence of arithmetic operators - type conversion in expression- operator precedence and associatively- mathematical functions

Unit II Managing input and output operators: Introduction: Reading a character- writing a character – formatted input – formatted output **Decision making and branching:** Introduction – decision making with IF statement- simple IF statement – The IF ELSE

statement- nesting of IF —ELSE statement —ELSE IF ladders- The switch statement — The?: operators — The GOTO statement **Decision making and looping:** The While statement — The Do statement — The for statement- Jump in loops

Unit III Arrays: One dimensional arrays – two dimensional arrays -Initializing two dimensional arrays – multi dimensional arrays Page **4** of **12**

Handling of character strings: Introduction: declaring and Initializing string variables-Reading string from terminal- writing string to screen – arithmetic operation on characters – putting strings together – comparison of two strings together – string handling functions

Unit IV User defined functions: Introduction – need for user- define functions- A multifunction program – The form of C functions- return values and their types – calling a function- category of function – no argument and no return values – argument with no return values – argument with return values – handling of non integer functions – nesting of functions – recursion – function with arrays – the scope and life time of variables in functions.

Unit V Pointers Introduction: understanding pointers – accessing the address of variables – declaring and initializing pointers – accessing a variable through its pointer – pointer expressions – pointer increments and scale factor – pointers and character strings – pointers and functions – points on pointer.

| Hour | Class Schedule | |
|-----------|----------------------------------------------------------------------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 16.06.2017 | |
| 1-L1 | Introduction- Importance of C, Sample C Programs | |
| 2-L2 | Basic structure of C, Executing C program | |
| 3- L3 | Executing C program | |
| 4-L4 | Constant, variables and data types: Introduction | |
| 5-L5 | Character set, tokens, keywords and identifiers | |
| 6-L6 | constants ,variables, data types | |
| 7-L7 | declaration of variables , assigning values of variables. | |
| 8- P1 | Welcoming of First year and Inauguration of BCA seminar | |
| 9- L8 | Operators and expressions: Introduction, arithmetic of operations | |
| 10- L9 | relational operator ,assignment operator ,increment and decrement operator | |
| 11-L10 | conditional operator ,bitwise operator ,special operator | |
| 12-L11 | evaluation of expressions, precedence of arithmetic operators ,type conversion in expression | |
| 13-L12 | Type conversion in expression ,operator precedence and associatively,mathematical functions | |
| 14-L13 | Unit II Managing input and output operators: Introduction: Reading a character | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(31.07.2017) | |
| 16-L15 | writing a character, formatted input, formatted output | |
| 17-IT-1 | Internal Test-I | |

| 18-L16 | Decision making and branching: Introduction – decision making with IF statement |
|-----------|---------------------------------------------------------------------------------------------------|
| 19-L17 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | simple IF statement ,The IF ELSE statement, nesting of IF –ELSE statement |
| 21- L19 | ELSE IF ladders |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | The switch statement, The?: operators |
| 24-L21 | The GOTO statement |
| 25-L22 | Decision making and looping: The While statement |
| 26-L23 | – The Do statement, The for statement- Jump in loops |
| 27-L24 | Unit III Arrays: One dimensional arrays, two dimensional arrays, |
| 28-L25 | Initializing two dimensional arrays ,multi dimensional arrays |
| 29-L26 | Handling of character strings: Introduction: declaring and Initializing string variables |
| 30-L27 | Reading string from terminal, writing string to screen, arithmetic operation on characters |
| 31-L28 | putting strings together, comparison of two strings together, multi dimensional arrays |
| 32-L29 | string handling functions, Unit IV User defined functions: Introduction |
| 33-L30 | need for user- define functions, A multi- function program |
| 34- P3 | Department Seminar |
| 35-L31 | The form of C functions, return values and their types , calling a function, category of function |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(30.08.2017) |
| 37- L33 | no argument and no return values |
| 38- IT-II | Internal Test-II |
| 39-L34 | argument with no return values, argument with return values |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | handling of non integer functions, nesting of functions, |
| 42- L37 | recursion, function with arrays, the scope and life time of variables in functions. |
| 43- L38 | Unit V Pointers Introduction: understanding pointers |
| 44- P4 | College level meeting/ function |
| 45-L39 | understanding pointers |
| 46-L40 | accessing the address of variables ,declaring and initializing pointers |
| 47-L41 | accessing a variable through its pointer |
| 48-L42 | pointer expressions |
| 49-L43 | pointer increments and scale factor |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(03.10.2017) |
| 51 L45 | pointers and character strings |
| 52- L46 | pointers and functions |
| 53-IT-III | Internal Test-III |
| 54-L47 | points on pointer. |

| 55-L48 | Test Paper distribution and result analysis |
|---------|---------------------------------------------------------------------------|
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(19.10.17) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 06.11.2017 |

| Learning Outcomes | Programming in C |
|----------------------------|------------------------------------------------------------------|
| | |
| CO1 | Basic structure of C, Executing C program |
| CO2 | The form of C functions,return values and their types, calling a |
| | function, category of function |
| CO3 | pointer expressions |
| Experimental | |
| Learning | |
| EL1 | accessing the address of variables ,declaring and initializing |
| | pointers |
| EL2 | pointer increments and scale factor |
| Integrated Activity | |
| IA1 | understanding pointers – accessing the address of variables |
| IA2 | Array-Various Dimensions |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2018-2019)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|--------------------------|
| Course Name | COMPUTER NETWORK |
| Course Code | JMCA62 |
| Class | III year (2018-2019) |
| Semester | EVEN |
| Staff Name | MRS.A.BATHSHEBA PARIMALA |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |

Total 75 Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 65 Hrs (5 units; 5×13=65; 13Hrs /unit)

Course Objectives

- To understand the basic networking concepts, types of addresses, data communication, protocols etc.
- To understand wired and wireless networks, its types, functionality of each layer.
- To understand importance of network security and cryptography

Syllabus

UNIT I NETWORK HARDWARE& SOFTWARE LAN-WAN-MAN – Wireless – Home Networks. Network Software: Protocol Hierarchies – Design issues for the layers – connection oriented and connection less services – Service primitives – The relationship of services to protocols. Reference Models: OSI Reference Model - TCP/IP reference Model Comparison of OSI and TCP/IP Critique of OSI and protocols – Critique of TCP/IP reference Model (**12 L**)

UNIT II PHYSICAL LAYER Guided Transmission Media: Magnetic Media: Twisted-Pair Cable, Coaxial Cable, Fiber-Optic Cable, Wireless Transmission: Electro Magnetic Spectrum - Radio Transmission - Microwave Transmission - Infrared and Millimeter Waves - Light waves - Communication satellites: Geostationary, Medium- Earth orbit, Low earth Orbit Satellites - Satellites versus fiber. (12 L)

UNIT III DATA LINK LAYER Error Detection and corrections – Elementary Data – Link protocols - Sliding window protocols, Medium –access control – Sub Layer: Multiple Access Protocols – Ethernet –Wireless LANs – Broad band wireless – Bluetooth. **(12 L)**

UNIT IV NETWORK & TRANSPORT LAYER Network layers: Routing algorithms – congestion control algorithms. Transport layer: Elements of transport protocols – Internet Transfer protocols: TCP. (12 L)

UNIT V APPLICATIONLAYER Application Layer: DNS – Email, network security: cryptography – symmetric key algorithms – public key algorithms - digital signatures. (12 L)

| Hour | Class Schedule | |
|-----------|------------------------------------------------------------------|--|
| allotment | | |
| | Even Semester Begin on 03.12.2019 | |
| 1-L1 | UNIT I NETWORK HARDWARE& SOFTWARE LAN, WAN, MAN | |
| 2-L2 | Wireless | |
| 3- L3 | Network Software: Protocol Hierarchies | |
| 4-L4 | Design issues for the layers | |
| 5-L5 | connection oriented and connection less services | |
| 6-L6 | Service primitives | |
| 7-L7 | The relationship of services to protocols | |
| 8- P1 | BCA Association | |
| 9- L8 | Reference Models | |
| 10- L9 | OSI Reference Model | |
| 11-L10 | TCP/IP reference Model Comparison of OSI | |
| 12-L11 | TCP/IP Critique of OSI and protocols | |
| 13-L12 | Critique of TCP/IP reference Model | |
| 14-L13 | UNIT II PHYSICAL LAYER | |
| 15-L14 | Guided Transmission Media | |
| 16-L15 | Magnetic Media | |
| 17- L16 | Twisted-Pair Cable, Coaxial Cable, Fiber-Optic Cable | |
| 18- L17 | Wireless Transmission | |
| 19- L18 | Electro Magnetic Spectrum | |
| 20- L19 | Radio Transmission | |
| 21- L20 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(18.01.19) | |
| 22- L21 | Microwave Transmission | |
| 23- IT-1 | Internal Test-I | |
| 24- L22 | Infrared and Millimeter Waves | |
| 25- L23 | Light waves | |
| 26- L24 | - Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 27- L25 | Communication satellites: Geostationary, Medium | |
| 28- L26 | Earth orbit, Low earth Orbit Satellites ,Satellites versus fiber | |
| 29- L27 | UNIT III DATA LINK LAYER Error Detection and corrections | |
| 30- P2 | College level meeting/Cell function | |
| 31-L28 | Elementary Data | |
| | | |

| | · |
|-----------|---------------------------------------------------------|
| 32-L29 | Link protocols |
| 33-L30 | Sliding window protocols |
| 34- L31 | Medium |
| 35- L32 | access control |
| 36- L33 | Sub Layer |
| 37- L34 | Multipl Access Protocols |
| 38- L35 | Ethernet |
| 39- L36 | Wireless LANs |
| 40- L37 | Broad band wireless |
| 41- L38 | Bluetooth |
| 42-P3 | Department Seminar |
| 43- L39 | UNIT IV NETWORK & TRANSPORT LAYER |
| 44- L40 | Network layers |
| 45- L41 | Routing algorithms |
| 46- L42 | congestion control algorithms |
| 47- L43 | Allotting portion for Internal Test-II |
| | Internal Test II begins(25.02.19) |
| 48- L44 | Transport layer |
| 49-IT-II | Internal Test-II |
| 50-L45 | Elements of transport protocols |
| 51- L46 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 52- L47 | Addressing |
| 53- L48 | Connection Establishment |
| 54- L49 | Connection Release |
| 55- L50 | Multiplexing |
| 56- L51 | Internet Transfer protocols |
| 57- L52 | TCP |
| 58- L53 | UNIT V APPLICATIONLAYER |
| 59-P4 | College level meeting/ function |
| 60- L54 | Application Layer |
| 61- L55 | DNS |
| 62- L56 | Email |
| 63- L57 | network security |
| 64- L58 | Allotting portion for Internal Test-III |
| | Internal Test III begins(08.04.19) |
| 65- L59 | Cryptography |
| 66- L60 | symmetric key algorithms |
| 67-IT-III | Internal Test-III |
| 68- L61 | public key algorithms |
| 69- L62 | digital signatures |
| 70- L63 | - Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 71-MT | Model Test begins(08.04.19) |
| 72-MT | Model Test |
| 73-MT | Model Test |
| | |

| 74-L64 | Model test paper distribution and previous year university question | |
|--------|---------------------------------------------------------------------|--|
| | paper discussion | |
| 75-L65 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 23.04.2019 | |

| Learning Outcomes | COMPUTER NETWORK |
|----------------------------|--------------------------------------------------------------|
| | |
| CO1 | Describe the functions of each Layer in OSI and TCP/IP model |
| CO2 | Functions of Application and Presentation Layer and Paradigm |
| CO3 | Routing Protocol Classification |
| CO4 | Functions of Data Link Layer |
| CO5 | Types of Transmission Medium |
| CO6 | Guides Media/Un guided Media |
| CO7 | Real Time Application |
| CO8 | Shortest Path Algorithm |
| CO9 | Network Layer Paradigm |
| Experimental | |
| Learning | |
| EL1 | LAN,MAN Connection |
| EL2 | Routing Connection |
| EL3 | Explore the Network Devices |
| EL4 | Trouble Shooting Devices |
| Integrated Activity | |
| IA1 | Sharing Resources |
| IA2 | Collabration/Discussion |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2018-2019)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|-------------------------|
| Course Name | Personality Development |
| Course Code | JCSB5A |
| Class | IIIyear (2018-2019) |
| Semester | Even |
| Staff Name | Mrs.G.PRISKILLAL |
| Credits | 2 |
| L. Hours /P. Hours | 2 / WK |
| Total 30Hrs/Sem | |
| | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 20 Hrs (5 units; 5×4=20; 4Hrs /unit)

Course Objectives

- Personality Traits
- > Effective goal setting
- ➤ Measurement of Attitudes

Syllabus

UNIT-I

PERSONALITY - Definition – Determinants – Personality Traits – Theories of Personality – Importance of Personality Development. SELF AWARENESS – Meaning – Benefits of Self – Awareness – Developing Self – Awareness. SWOT – Meaning – Importance – Application – Components. GOAL SETTING Meaning- Importance – Effective goal setting – Principles of goal setting – Goal setting at the Right level.

UNIT - II

SELF MONITORING – Meaning – High self – monitor versus low self monitor – Advantages and Disadvantages self monitor- Self –monitoring and job performance. PERCEPTION- Definition- Factor influencing perception- Perception process –Errors in perception – Avoiding perceptual errors. ATTITUDE – Meaning- Formation of attitude – Types of attitude - Measurement of Attitudes – Barriers to attitude change – Methods to

attitude change. ASSERTIVENESS - Meaning – Assertiveness in Communication – Assertiveness Techniques – Benefits of being Assertive – Improving Assertiveness.

UNIT – III

TEAM BUILDING – Meaning – Types of teams – Importance of Team building- Creating Effective Team. LEADERSHIP – Definition – Leadership style- Theories of leadership – Qualities of an Effect leader. NEGOTIATION SKILLS – Meaning – Principles of Negotiation – Types of Negotiation – The Negotiation Process – Common mistakes in Negotiation process. CONFLICT MANAGEMENT – Definition- Types of Conflict- Levels of Conflict – Conflict Resolution – Conflict management.

UNIT-IV

COMMUNICATION – Definition – Importance of communication – Process of communication - Communication Symbols – Communication network – Barriers in communication – Overcoming Communication Barriers. TRANSACTIONAL ANALYSIS – Meaning – EGO States – Types of Transactions – Johari Window- Life Positions. EMOTIONAL INTELLIGENCE- Meaning – Components of Emotional Intelligence-Significance of managing Emotional intelligence – How to develop Emotional Quotient. STRESS MANAGEMENT – Meaning – Sources of Stress – Symptoms of Stress – Consequences of Stress – Managing Stress

UNIT - V

SOCIAL GRACES – Meaning – Social Grace at Work – Acquiring Social Graces. TABLE MANNERS – Meaning – Table Etiquettes in Multicultural Environment- Do's and Don'ts of Table Etiquettes. DRESS CODE – Meaning- Dress Code for selected Occasions – Dress Code for an Interview. GROUP DISCUSSION – Meaning – Personality traits required for Group Discussion- Process of Group Discussion- Group Discusson Topics. INTERVIEW – Definition- Types of skills – Employer Expectations – Planning for the Interview – Interview Questions- Critical Interview Questions

| Hour allotment | Class Schedule |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Even Semester Begin on 03.12.2018 |
| 1-L1 | UNIT -I PERSONALITY - Definition – Determinants – Personality Traits – Theories of Personality – Importance of Personality Development. SELF AWARENESS – Meaning – Benefits of Self – Awareness – Developing Self – Awareness |
| 2-L2 | SWOT – Meaning – Importance- Application – Components. GOAL SETTING Meaning- Importance – Effective goal setting – Principles of goal setting – Goal |

| | setting at the Right level. |
|---------|-------------------------------------------------------------------------------|
| 3- P1 | Welcoming of First year and Inauguration of BCA Association |
| 4-L3 | UNIT – II SELF MONITORING – Meaning – High self – monitor versus low |
| T L3 | self monitor – Advantages and Disadvantages self monitor- Self –monitoring |
| | and job performance. PERCEPTION- Definition- Factor influencing perception- |
| | Perception process –Errors in perception – Avoiding perceptual errors. |
| | ATTITUDE |
| 5-L4 | Allotting portion for Internal Test-I |
| - | Internal Test I begins(18.01.19) |
| 6-IT-I | Internal Test-I |
| 7-L5 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 8-L6 | Meaning- Formation of attitude – Types of attitude - Measurement of Attitudes |
| | - Barriers to attitude change - Methods to attitude change. ASSERTIVENESS - |
| | Meaning – Assertiveness in Communication – Assertiveness Techniques – |
| | Benefits of being Assertive – Improving Assertiveness |
| 9-L7 | UNIT – III |
| | TEAM BUILDING - Meaning - Types of teams - Importance of Team |
| | building- Creating Effective Team. LEADERSHIP – Definition – Leadership |
| | style- Theories of leadership – Qualities of an Effect leader. NEGOTIATION |
| | SKILLS |
| 10-P2 | College level meeting/Cell function |
| 11-L8 | Meaning – Principles of Negotiation – Types of Negotiation – The Negotiation |
| | Process – Common mistakes in Negotiation process. CONFLICT |
| | MANAGEMENT – Definition- Types of Conflict- Levels of Conflict – Conflict |
| | Resolution – Conflict management . |
| 12-L9 | UNIT –IV COMMUNICATION – Definition – Importance of communication – |
| | Process of communication - Communication Symbols – Communication |
| | network – Barriers in communication – Overcoming Communication Barriers |
| 13-P3 | Department Seminar |
| 14-L10 | TRANSACTIONAL ANALYSIS - Meaning - EGO States - Types of |
| | Transactions – Johari Window- Life Positions. EMOTIONAL |
| | INTELLIGENCE- Meaning - Components of Emotional Intelligence- |
| | Significance of managing Emotional intelligence |
| 15-L11 | How to develop Emotional Quotient. STRESS MANAGEMENT – Meaning – |
| | Sources of Stress – Symptoms of Stress – Consequences of Stress – Managing |
| | Stress |
| 16-L12 | Allotting portion for Internal Test-II |
| | Internal Test II begins(25.02.2019) |
| 17-IT-1 | Internal Test-II |
| 18-L13 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 19-L14 | UNIT – V SOCIAL GRACES – Meaning – Social Grace at Work – Acquiring |
| | Social Graces. TABLE MANNERS – Meaning – Table Etiquettes in |
| | Multicultural Environment- Do's and Don'ts of Table Etiquettes. DRESS CODE |
| 20- P2 | College level meeting/ function |
| 21-L15 | - Meaning- Dress Code for selected Occasions - Dress Code for an Interview. |
| | GROUP DISCUSSION – Meaning – Personality traits required for Group |
| | Discussion- Process of Group Discussion |

| 22-L16 | Group Discussion Topics. INTERVIEW – Definition- Types of skills – |
|------------|---------------------------------------------------------------------------|
| | Employer Expectations –Planning for the Interview – Interview Questions- |
| | Critical Interview Questions |
| 23- L17 | Allotting portion for Internal Test-III |
| | Internal Test III begins(22.03.19) |
| 24- IT-III | Internal Test-III |
| 25-L18 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 26-MT | Model Test begins (08.04.19) |
| 27-MT | Model Test |
| 28-MT | Model Test |
| 29-L19 | Model test paper distribution and previous year university question paper |
| | discussion |
| 30-L20 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23.04.2019 |

| Learning Outcomes | Personality Development | |
|----------------------------|--------------------------------------------------------------|--|
| | | |
| CO1 | How to develop Emotional Quotient. STRESS MANAGEMENT | |
| CO2 | Group Discussion Topics. INTERVIEW – Definition- Types of | |
| | skills – Employer Expectations | |
| Experimental | | |
| Learning | | |
| EL1 | Process of Group Discussion | |
| EL2 | Personality traits required for Group Discussion | |
| Integrated Activity | | |
| IA1 | GROUP DISCUSSION – Meaning – Personality traits required for | |
| | Group Discussion- Process of Group Discussion | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2018-2019)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|------------------------|----------------------|
| Course Name | Mobile Communication |
| Course Code | JMCA5C |
| Class | III year (2018-2019) |
| Semester | Even |
| Staff Name | MR .K.APPASAMY |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |
| Dept. Meetings-2 Hrs | |
| College Meetings-2 Hrs | |

Course Objectives:

• To study the need and nature of mobile applications.

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

- To learn the tools and platforms required for mobile applications.
- To understand the design issues in mobile applications.

Syllabus

UNIT I INTRODUCTION Mobile Communication: Need for Mobile Communication – Requirements of Mobile Communication – History of Mobile Communication – Properties of Wireless Medium – Radio Propagation – Propagation Coverage Calculation. Introduction to Cellular Mobile Communication: Cellular Structure – Frequency Reuse – System Architecture – Authentication Centre (AUC) – Home Location Register (HLR) – Visiting Location Register (VLR) – Equipment Identify Register (EIR) – Base Station System - Cellular Mobile Communication Switching. (12 L)

UNIT I INTRODUCTION Mobile Communication Standards: First generation Wireless Networks – Second generation Wireless System – Third generation and Beyond Wireless Systems – Implementation Organization – Regional Organization – Global Organization – Global System for Mobile communication (GSM) – GSM Architecture – Advanced Mobile Phone Service (AMPS) – Digital Advanced Mobile Phone Service. Cordless Telephony Standards: - Personal Access Communication Standards (PACS) – EIA/TIA IS-136-EIA TIA IS – 95 Standards – Digital European Cordless Telephone (DECT) – Personal Handy Phone System (PHS) – IEEE 802.11 - Other Standards – Handoff Techniques - Handoff Detection and Assignment – Types of Handoff – Mobile controlled Handoff – Network controlled

Handoff – Mobile Assisted handoff – Radio Link Transfer – Roaming Management – Connection to Public Telephone Network – Connection from Mobile Unit to a Fixer User, Cellular. System Spectrum: Adaptive channel allocation – Frequency Division – Spectrum Utilization – Channel Reservation for Handoff Calls – Control Channels – Channel Assignment Methods – Channel Borrowing and Sharing – Non – Fixed Assignment Methods – Permanent Cell Splitting – Temporary Cell Splitting. (12 L)

UNIT I INTRODUCTION Cordless Mobile Communication System: Cordless Telephone
Home – Multichannel Cordless Telephone System – Wireless Private Box Exchange History
of Data networks – Classification of Mobile Data Networks – Independent Data networks –
Shared Mobile Data – Overlay Mobile Data – Cellular Digital Part data (CDPD) System –
Architecture of CDPD – Satellite Classification – Earth Orbit Satellites – Medium Earth
Orbit Satellite, Low Earth Orbit Global Satellite Communication. Changeover from One
Satellite to Requirements of Global Mobile Communication - Global User Number –
Configuration – Third Generation Global Mobile System Satellite System for mobility. (12

UNIT IV INTERFERENCES Interferences in Cellular Mobile Communication: Nature of Co- Channel Interference – Measurement of Co- Channel Interference - Measurement of Co- Channel Interference with mobile Unit – Frequency Reuse - Co- Channel Interference Omni directional Radiation – directional Antennas for Co- Channel Interference Reduction – Other Methods of Co- Channel Reduction – Non-Co- Channel Interference – Measurement of Signal to Noise and Distortion Ratio (SINAD) – Design Objective – Basic Specification - Co- Channel Interference Reduction Factor – Adjacent Channel Interference – Propagation Attenuation – Fading – Factors to be Considered at the Base Station – Working of Mobile IP – Wireless Threads – Authentication and Access control –to Communication – Anonymity – Security Arrangement in CDMA – Security of Wireless Data Networks. (12 L) Secrecy

UNIT V WIRELESS LOCAL LOOP ARCHITECTURE Components in Will – Problems in WLL – Modern Wireless Local Loop – Local Multipoint Distribution Service (LMDS) - Properties of WAP – Beater Services – Wireless Datagram Protocol (WDP) – Wireless Transport Layer Security (WTLS) – WAP Transaction Protocol (WTP) Wireless Session Protocol (WSP) Wireless Application Environment (WAE) – Components Integration – Bearer Adaptation – WAP Client Supporting Networks – System Description – Advantages of Microcellular – Layout of the Optical Fiber Microcellular Communication System – Need for Ad hoc Networks – MANET and Technical Factors Affecting Ad hoc Network - Ad hoc Nodes System Description – Routing in Ad hoc Network – Bluetooth Technology – Limitation on the Bluetooth Physical Layer – Types of Intelligent Cells – Power Delivery Intelligent Cells – Processing Gain Intelligent Cells – User Controlled Services – Reconfigurable Technology – Vision of 4G – 4G Mobile System Convergence. (12 L)

| Hour | Class Schedule | |
|-------------------|------------------------------------------------------------------------|--|
| allotment | | |
| | Even Semester Begin on 03.12.2018 | |
| 1-L1 | UNIT I: INTRODUCTION Mobile Communication | |
| 2-L2 | Need for Mobile Communication. | |
| 3- L3 | Requirements of Mobile Communication. | |
| 4-L4 | History of Mobile Communication. | |
| 5-L5 | Properties of wireless medium. | |
| 6-L6 | Radio Propagation. | |
| 7-L7 | Propagation Coverage Calculation | |
| 8- P1 | Welcoming of First year and Inauguration of BCA Association | |
| 9- L8 | Introduction to Cellular Mobile Communication. | |
| 10- L9 | Cellular Structure. | |
| 11-L10 | Frequency Reuse. | |
| 12-L11 | System Architecture | |
| 13-L12 | Authentication Centre (AUC) | |
| 14-L13 | Home Location Register (HLR). | |
| 15-L14 | Allotting portion for Internal Test-I | |
| 16-L15 | Internal Test I begins (18.01.19) | |
| 16-L15 17-IT-1 | UNIT II: INTRODUCTION Mobile communication Standards. Internal Test-I | |
| 17-11-1 18-L16 | First generation Wireless Networks. | |
| 19-L17 | - Test Paper distribution and result analysis | |
| 17-L17 | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Second generation Wireless System. | |
| 21- L19 | Third generation and Beyond Wireless system. | |
| 22- P2 | College level meeting/Cell function | |
| 23-L20 | Implementation Organization | |
| 24-L21 | Regional Organization. | |
| 25-L22 | Global Organization. | |
| 26-L23 | Global System for Mobile communication (GSM). | |
| 27-L24 | GSM Architecture. | |
| 28-L25 | Advanced Mobile Phone Service (AMPS). | |
| 29-L26 | Digital Advanced Mobile Phone Service. | |
| 30-L27 | Telephony Standards. | |
| 31-L28 | Personal Access Communication Standards (PACS), TIA IS-136-EIA TIA IS, | |
| | 95 Standards. | |
| 32-L29 | Digital European Cordless Telephone (DECT). | |
| 33-L30 | Personal Handy Phone System (PHS). | |
| 34- P3 | Department Seminar | |
| 35-L31 | UNIT III INTRODUCTION | |
| 36-L32 | Allotting portion for Internal Test-II | |
| 27 1 22 | Internal Test II begins(25.02.19) | |
| 37- L33 | Cordless Telephone Home. | |
| 38- IT-II | Internal Test-II Multiphennal Condless Telephone System | |
| 39-L34 | Multichannel Cordless Telephone System. | |
| 40-L35 | Test Paper distribution and result analysis | |

| | Entering Internal Test-II Marks into University portal |
|-----------|-------------------------------------------------------------------------------|
| 41-L36 | Global User Number, Configuration, Third Generation Global Mobile System |
| | Satellite System for mobility. |
| 42- L37 | UNIT IV INTERFERENCES Interferences in Cellular Mobile |
| | Communication: Nature of Co, Channel Interference ,Measurement of Co- |
| | Channel Interference |
| 43- L38 | Frequency Reuse ,Co- Channel Interference Omni directional Radiation |
| | directional Antennas for Co. |
| 44- P4 | College level meeting/ function |
| 45-L39 | Channel Interference Reduction ,Other Methods of Co,Channel Reduction ,Non- |
| | Co- Channel Interference. |
| 46-L40 | Adjacent Channel Interference ,Propagation Attenuation ,Fading ,Factors to be |
| | Considered. |
| 47-L41 | Working of Mobile IP, Wireless Threads, Authentication and Access control –to |
| | Communication. |
| 48-L42 | UNIT V WIRELESS LOCAL LOOP ARCHITECTURE Components in |
| | Will, Problems in WLL, Modern Wireless Local Loop. |
| 49-L43 | Advantages of Microcellular, Layout of the Optical Fiber Microcellular |
| | Communication System. |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(22.03.19) |
| 51 L45 | Need for Ad hoc Networks ,MANET and Technical Factors Affecting Ad hoc |
| | Network -,Ad hoc Nodes System Description |
| 52- L46 | Limitation on the Bluetooth Physical Layer ,Types of Intelligent Cells |
| 53-IT-III | Internal Test-III |
| 54-L47 | Reconfigurable Technology ,Vision of 4G,4G Mobile System Convergence. |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(08.04.19) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| 00-L30 | Feedback of the Course, analysis and report preparation |

| Learning Outcomes | COs of the course "Mobile Communication" |
|-----------------------|-------------------------------------------------------------|
| | |
| CO1 | Channel Interference Reduction ,Other Methods of Co,Channel |
| | Reduction ,Non-Co- Channel Interference. |
| CO2 | Authentication Centre (AUC) |
| CO3 | GSM Architecture |
| Experimental Learning | |
| EL1 | Properties of wireless medium. |
| EL2 | Channel Interference Reduction ,Other Methods of |

| | Co,ChannelReduction ,Non-Co- Channel Interference |
|---------------------|------------------------------------------------------------------|
| Integrated Activity | |
| IA1 | Adjacent Channel Interference ,Propagation Attenuation ,Fading |
| | ,Factors to be Considered . |
| IA2 | Limitation on the Bluetooth Physical Layer ,Types of Intelligent |
| | Cells |

Blended Learning : using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for higher study.

For slow learner : special care taken, motivate the advanced learner to support the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Application& Networking

COURSE ACADEMIC PLAN(2018-2019)

(Prepared by staff member handling the course)

| Programme Name | BCA |
|--------------------|------------------------------------------------|
| Course Name | Computer Graphics |
| Course Code | JMCA64 |
| Class | III year (2018-2019) |
| Semester | Even |
| Staff Name | Mrs. G. Priskillal |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60 Hrs/Sem | <u>, </u> |

Total 60 Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2Hrs

Practicals: 2Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- To understand the structure of modern computer graphics system.
- To understand the basic principle of implementing computer graphics primitives.
- > To write algorithms for modelling and rendering graphical data.
- > To develop design and problem solving skills with application.
- To gain experience in constructing interactive computer graphics programs

Computer Graphics

UNIT I INPUT AND OUTPUT DEVICES

Introduction: Application and Operations of Computer Graphics - Graphics Packages -Requirements of a Graphical System – GUI. Common Input Devices – Graphical output Devices – Raster Scan Video Principle - Raster Scan CRT Monitors – Color Raster Scan System - Plasma Display - LCD - Hard copy Raster Devices - Raster Scan System - Memory Tube Displays - Plotters - Graphics Accelerators - Coprocessors.

UNIT II ALGORITHMS

Scan Conversion – Methods – Polynomial Method – DDA algorithms for line drawing Algorithm, Circle, Ellipse, Parabola - Bresenham's Line Drawing Algorithm - Bresenham's Circle Drawing Algorithm – Problem of Scan Conversion – Solid Areas – Odd Even Methods – Winding Number Method - Solid Area Filling – Algorithms – Boundary, Flood Fill Algorithm.

UNIT III TRANSFORMATION

Two Dimension Transformations – Translation – Scaling – Rotation – Transformations of Points and Objects – Homogenous Coordinate System and Transformations – Reflection – Shearing – Three Dimension Transformations - Translation – Scaling – Rotation – Reflection – Shearing.

UNIT IV CLIPPING ALGORITHMS

2D Viewing and Clipping – Windows and View Ports – Viewing Transformations – Clipping of lines in 2D – Cohen Sutherland Clipping Algorithms – Visibility – Midpoint subdivision method – parametric Clipping – Polygon Clipping – Sutherland Hodgeman Algorithm – Clipping against Concave windows.

UNIT V HIDDEN SURFACE ALGORITHMS

Hidden Surface Elimination – Black Face Removable Algorithm Z buffer Algorithm.

| Hour allotment | Class Schedule | |
|-------------------|--------------------------------------------------------------------------|--|
| anoment | Even Semester Begin on 03-12-2018 | |
| 1-L1 | UNIT I INPUT AND OUTPUT DEVICES – Introduction | |
| 2-L2 | Application and operations of computer graphics | |
| 3- L3 | Graphics packages | |
| 4-L4 | Requirements of graphical system | |
| 5-L5 | GUI – Common input devices | |
| 6-L6 | Graphical output devices | |
| 7-L7 | Raster scan video principle | |
| 8-L8 | Raster scan CRT monitor – color raster scan system | |
| 9-L9 | Plasma display | |
| 10-P1 | LCD – Hard copy raster devices | |
| 11-L10 | Memory tube displays | |
| 12-L11 | Plotters, graphics accelerator and coprocessor | |
| 13-L12 | UNIT II ALGORITHMS – Introduction | |
| 14-L13 | Scan conversion – Polynomial method - DDA line drawing algorithm | |
| 15-L14 | Circle, ellipse, parabola | |
| | Internal exam I begins (18.01.19) | |
| 16-L15 | Bresenham's line drawing algorithms | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Bresenham's circle drawing algorithms | |
| 19-L17 | Test Paper distribution and result analysis – Problem of scan conversion | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Solid Areas | |

| 22 T 10 | |
|-----------|---------------------------------------------------------------------------|
| 22-L19 | Odd even method and winding number method |
| 23-L20 | Solid area filling |
| 24-L21 | Flood fill algorithms |
| 25-L22 | Boundary Fill algorithms |
| 26-L23 | UNIT – III TRANSFORMATIONS – Introduction |
| 27-L24 | Two dimensional transformations |
| 28-L25 | Translation and scaling |
| 29-L26 | Rotation |
| 30-L27 | Transformation of points and objects |
| 31-L28 | Homogeneous coordinate system and transformations |
| 32-L29 | Reflection – shearing |
| 33-L30 | 3D transformations |
| | Allotting portion for Internal Test-II |
| 34- P3 | Department Seminar |
| 35-L31 | Translation, Scaling and rotation |
| | Internal exam II begins(25.02.19). |
| 36-L32 | Reflection – shearing |
| | Allotting portion for Assignment/seminar |
| 37-IT-II | Internal Test-II |
| 38-L33 | UNIT - IV CLIPPING ALGORITHMS – Introduction |
| 39-L34 | 2D viewing and clipping |
| 40-L35 | Windows and view ports |
| 41-L36 | Test Paper distribution and result analysis- Viewing Transformations |
| | Entering Internal Test-II Marks into University portal |
| 42-P4 | Department seminar |
| 43-L37 | Cohen – sutherland clipping algorithms – visibility |
| 44-L38 | Mid-point sub division method – Parametric clipping |
| 45-L39 | Polygon clipping – sutherlandHodgeman clipping |
| | Submission of Assignment/take the seminar |
| 46-L40 | Clipping against concave windows |
| 47-L41 | UNIT - V HIDDEN SURFACE ALGORITHMS - Introduction |
| 48-L42 | Hidden surface elimination |
| | Allotting portion for Internal Test-III |
| 49-L43 | Backface removal algorithms |
| | Internal exam III begins(22.03.19) |
| 50-L44 | Black dot removal algorithm |
| 51-IT-III | Internal Test-III |
| 52-L45 | Z buffer algorithms- Test Paper distribution and result analysis |
| 53-L46 | Model Test Announcement |
| 54-L47 | Over all view of the course by PPT |
| 55-L48 | Entering Internal Test-III Marks into University portal |
| 56-L49 | Model Test begins (08.04.19) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59-MT | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| 55 250 | Last Working day on 23-04-2019 |
| L | And HOLDING MU OF MULT |

| Learning Outcomes | COs of the course "COMPUTER GRAPHICS" |
|--------------------------|------------------------------------------------------------------------------|
| CO1 | Understand the structure of modern computer graphics system. |
| CO2 | Understand the basic principle of implementing computer graphics primitives. |
| CO3 | Familiarity with key algorithms for modelling and rendering graphical data. |
| CO4 | Gain experience in constructing interactive computer graphics |
| | programs |
| Experimental | |
| Learning | |
| EL1 | To write a program for graphics operations. |
| EL2 | To perform 2D Transformations |
| EL3 | To perform 3D Transformations |
| Integrated Activity | |
| IA1 | How transformations are used in animation |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

Forslow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2018-2019)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|----------------------|
| Course Name | Operating system |
| Course Code | JMCA61 |
| Class | III year (2018-2019) |
| Semester | Even |
| Staff Name | MR.L.ABRAHAM DAVID |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| T + 1 COII /C | · |

Total 60Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To understand the structure of Operating system and design issues related to process management and various related algorithms.
- > To understand design issues related to memory management and various related algorithms.
- > To understand design issues related to File management and various related algorithms

Syllabus

CORE SUBJECT - I

OPERATING SYSTEMS

UNIT I INTRODUCTION What is an Operating System: Mainframe Systems – Desktop Systems – Multiprocessor Systems – Distributed Systems – Clustered Systems – Real – time Systems– Handheld Systems. $(10\ L)$

UNIT II PROCESS CONCEPT Process Concept – Process Scheduling – Operations on Process – Co-operating processes – Inter Processes - Inter Process communication. CPU Scheduling: Basic Concepts –Scheduling Criteria - Scheduling algorithms – Multi processor Scheduling - Real time Scheduling – Algorithms evaluation. (12 L)

UNIT III PROCESS SYNCHRONIZATION & DEADLOCKS Process Synchronization: Background – the critical section problem – Synchronization hardware – Semaphores – Classical problems of Synchronization – critical regions – Monitors – Atomic transaction. Deadlocks: System model – Deadlock Characterization – methods for handling Deadlocks – Deadlock prevention – Deadlock Avoidance – Deadlock detection – recovery from Deadlock.(14 L)

UNIT IV MEMORY MANAGEMENT Memory management: Background – Swapping – Contiguous memory allocation – paging – segmentation – segmentation with paging. Virtual Memory: Background – Demand paging – Page replacement – Allocation of frames. (12 L)

UNIT V File System Interface: File concept – Access methods– File system structure – File system implementation – File system structure – Filesystem implementation – Directories structure – Directory implementation – Allocation methods – Free space management – Efficiency and performance – Recovery. Mass Storage Structure: Disk Structure – Disk Scheduling – Disk management – Swap space management – RAID structure – Disk attachment – Stable Storage. (12 L)

| Hour | Class Schedule |
|-----------|----------------------------------------------------------|
| allotment | |
| | Even Semester Begin on 03.12.2018 |
| 1-L1 | INTRODUCTION- What is an Operating System |
| 2-L2 | Mainframe Systems |
| 3- L3 | Batchsystem - multiprogrammed system-time sharing system |
| 4-L4 | Desktop Systems |
| 5-L5 | Multiprocessor Systems |
| 6-L6 | Distributed Systems |
| 7-L7 | Client-server system, peer-to-peer system |
| 8- P1 | Welcoming of First year and Inauguration |
| 9- L8 | Real |
| 10- L9 | Time Systems |
| 11-L10 | Handheld Systems. |
| 12-L11 | PROCESS CONCEPT Process Concept |
| 13-L12 | Process Scheduling |
| 14-L13 | Operations on Process |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins(18.01.19) |
| 16-L15 | Inter Processes |
| 17-IT-1 | Internal Test-I |

| 18-L16 | Inter Process communication. CPU Scheduling | |
|-----------|------------------------------------------------------------------------------|--|
| 19-L17 | Test Paper distribution and result analysis | |
| 19-L17 | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Basic Concepts | |
| 21- L19 | Scheduling Criteria | |
| 22- P2 | College level meeting/Cell function | |
| 23-L20 | Scheduling algorithms | |
| 24-L21 | Multi processor Scheduling | |
| 25-L22 | Real time Scheduling | |
| 26-L23 | Algorithms evaluation | |
| 27-L24 | PROCESS SYNCHRONIZATION & DEADLOCKS Process Synchronization: | |
| 27 124 | Background | |
| 28-L25 | the critical section problem | |
| 29-L26 | Synchronization hardware | |
| 30-L27 | Semaphores Semaphores | |
| 31-L28 | Classical problems of Synchronization | |
| 32-L29 | critical regions | |
| 33-L30 | Monitors | |
| 34- P3 | Department Seminar | |
| 35-L31 | Atomic transaction. Deadlocks: System model | |
| 36-L32 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(22.03.19) | |
| 37- L33 | Deadlock Characterization | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | methods for handling Deadlocks | |
| 40-L35 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Deadlock prevention | |
| 42- L37 | Deadlock Avoidance | |
| 43- L38 | Deadlock detection, recovery from Deadlock. | |
| | | |
| 44- P4 | College level meeting/ function | |
| 45-L39 | File System Interface: File concept ,Access methods | |
| 46-L40 | File system structure, File system implementation | |
| 47-L41 | Directories structure ,Directory implementation | |
| 48-L42 | Allocation methods, Free space management | |
| 49-L43 | Efficiency and performance ,Recovery. Mass Storage Structure: Disk Structure | |
| 50-L44 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(08.04.19) | |
| 51 L45 | Disk Scheduling, Disk management | |
| 52- L46 | Swap space management , RAID structure | |
| 53-IT-III | Internal Test-III | |
| 54-L47 | Disk attachment, Stable Storage | |
| 55-L48 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 56- MT | Model Test begins(08.04.19) | |
| 57-MT | Model Test | |
| 58-MT | Model Test | |

| 59- L49 | Model test paper distribution and previous year university question paper discussion |
|---------|--------------------------------------------------------------------------------------|
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23.04.2019 |

| Learning Outcomes | COs of the course " <operating system="">"</operating> |
|----------------------------|---------------------------------------------------------------|
| | |
| CO1 | Process Synchronization |
| CO2 | Scheduling Algorithm |
| CO3 | DeadLock |
| CO4 | Dinning Philosopher Algorithm |
| CO5 | Page Allocation Algorithm |
| Experimental | |
| Learning | |
| EL1 | File System Interface: File concept ,Access methods |
| EL2 | Directories structure ,Directory implementation |
| EL3 | Efficiency and performance ,Recovery. Mass Storage Structure: |
| | Disk Structure |
| Integrated Activity | |
| IA1 | Deadlock Characterization |
| IA2 | Atomic transaction. Deadlocks: System model |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2018-2019)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|---------------------|--------------------------------------|
| Course Name | Object Oriented Programming with C++ |
| Course Code | SMCA21 |
| Class | I year (2018-2019) |
| Semester | EVEN |
| Staff Name | L.ABRAHAM DAVID |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; $5\times10=50$; 10Hrs /unit)

Course Objectives

- > To understand how C++ improves C with object-oriented features.
- > To learn how to write inline functions for efficiency and performance.
- ➤ To learn the syntax and semantics of the C++ programming language.
- ➤ To learn how to design C++ classes for code reuse.

Syllabus

OBJECT ORIENTED PROGRAMMING WITH C++

UNIT I Principles of Object-oriented Programming: Software Evolution - A look at Procedure-Oriented Programming – Object-Oriented Programming Paradigm – Basic concepts of object-Oriented Programming - Benefits of OOP - Object-Oriented Languages-Applications of OOP Beginning with C++: What is C++? - Applications of C++ - A simple C++ Program - More C++ statements - An example with Class- Structure of C++ Program -Reference Variables - Operators in C++ - Scope Resolution Operator - Member De referencing Operators - Memory Management Operators - Manipulators - Type Cast **Operators**

UNIT II Functions in C++: Introduction – The Main Function – Function prototyping – Call by Reference – Return by reference – Inline Functions - Default Arguments – const Arguments - Function Overloading - Math Library Functions Classes and Objects: Introduction - C Structure Revisited - Specifying a Class - Defining Member Function-A C++ Program with Class -Making an outside Function Inline -Nesting of Member Function - Private member functions- Arrays with in a class - Memory allocation for objects - Static Data Members - Static Member Functions, Arrays of objects – Objects as Function arguments – Friendly Functions – Returning Objects - Pointers to Members – Local Classes –

UNIT III Constructors and Destructors: Introduction – Constructors – Parameterized constructors – multiple constructors in a class – Constructors with Default arguments – Dynamic Initialization of Objects- Copy Constructors – Dynamic Constructors – Constructing two dimensional Arrays – Destructors **Operator Overloading and Type Conversion:** Introduction – Defining Operator Overloading – Overloading unary operators – Overloading Binary Operators – Overloading binary operators using Friends – Manipulation of strings using operators – Rules for overloading operators – Type conversions

UNIT IV Inheritance : Extending Classes : Introduction – Defining Derived Classes – Single inheritance – Making a Private Member Inheritable – Multilevel Inheritance – Multiple Inheritance – Hierarchical Inheritance – Hybrid Inheritance – Virtual Base Classes -Abstract Classes – Constructors in Derived Classes – Member Classes – Nesting of Classes

Unit V Managing Console I/O Operations: Introduction - C++ Streams - C++ Stream Classes - Unformatted I/O Operations - Formatted Console I/O Operation - Managing output with Manipulators **Working with Files:** Introduction - Classes for File Stream Operators - Opening and closing a File - Detecting end-of-file _ File Pointers and their Manipulators - Sequential Input and Output Operations - Error Handling during File Operations - Command - Line Arguments. **TOTAL: 60 HOURS**

Text Book: Object Oriented Programming C++ Third Edition – E Balagurusamy, Tata McGraw-Hill Publishing Company Limited.

Reference Book:

- 1. Complete Reference C++ Herbert Schildt, Fourth Edition, Tata McGraw-Hill Publishing Company Limited
- 2. Object Oriented Programming with ANSI and Turbo C++ Ashok N. Kamthane, Pearson Edition
- 3. C++ How to Program Deitel, Fifth Edition Prentice Hall of India
- 4. Programming with C++ D.Ravichandran, Second Edition , Tata McGraw-Hill Publishing Company Limited

| Hour | Class Schedule |
|---------------|---------------------------------------------------------------------------------------------------------------------------------|
| allotment | |
| | Even Semester Begin on 03.12.2018 |
| 1-L1 | UNIT I Principles of Object-oriented Programming : Software Evolution – A |
| 2.1.2 | look at Procedure |
| 2-L2 | Oriented Programming, Object-Oriented Programming Paradigm |
| 3- L3 4-L4 | Basic concepts of object-Oriented Programming, Benefits of OOP |
| 5-L5 | Object-Oriented Languages, Applications of OOP Regiming with Color What is Color 2. Applications of Color |
| 6-L6 | Beginning with C++ : What is C++? ,Applications of C++ A simple C++ Program , More C++ statements ,An example with Class |
| 7-L7 | Structure of C++ Program, Reference Variables, Operators in C++ |
| 8- P1 | Welcoming of First year and Inauguration |
| 9- L8 | Scope Resolution Operator, Member De referencing Operators |
| 10- L9 | Memory Management Operators ,Manipulators, Type Cast Operators |
| 11-L10 | UNIT II Functions in C++: Introduction ,The Main Function |
| 12-L11 | Function prototyping, Call by Reference, Return by reference, Inline Functions, |
| 12 211 | Default Arguments |
| 13-L12 | const Arguments – Function Overloading – Math Library Functions |
| 14-L13 | Classes and Objects: Introduction ,C Structure Revisited, Specifying a Class , |
| | Defining Member Function |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins(18.01.19) |
| 16-L15 | A C++ Program with Class ,Making an outside Function Inline,Nesting of |
| | Member Function |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Private member functions, Arrays with in a class, Memory allocation for objects |
| 19-L17 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | Static Data Members, Static Member Functions, Arrays of objects |
| 21- L19 | Objects as Function arguments, Friendly Functions |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | Returning Objects, Pointers to Members ,Local Classes |
| 24-L21 | UNIT III Constructors and Destructors : Introduction, Constructors , Parameterized constructors |
| 25-L22 | multiple constructors in a class, Constructors with Default arguments |
| 26-L23 | Dynamic Initialization of Objects, Copy Constructors |
| 27-L24 | Dynamic Constructors, Constructing two dimensional Arrays |
| 28-L25 | Destructors Operator Overloading and Type Conversion: Introduction |
| 29-L26 | Defining Operator Overloading , Overloading unary operators |
| 30-L27 | Overloading Binary Operators ,Overloading binary operators using Friends |
| 31-L28 | Manipulation of strings using operators ,Rules for overloading operators |
| 32-L29 | Type Conversion |
| 33-L30 | UNIT IV Inheritance : Extending Classes : Introduction |
| 34- P3 | Department Seminar |
| 35-L31 | Defining Derived Classes ,Single inheritance |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(25.02.19) |

| 37- L33 | Making a Private Member Inheritable | |
|-----------|---------------------------------------------------------------------------|--|
| 38- IT-II | Internal Test-II | |
| 39-L34 | Multilevel Inheritance ,Multiple Inheritance | |
| 40-L35 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Hierarchical Inheritance, Hybrid Inheritance | |
| 42- L37 | Virtual Base Classes ,Abstract Classes | |
| 43- L38 | Constructors in Derived Classes | |
| 44- P4 | College level meeting/ function | |
| 45-L39 | Member Classes ,Nesting of Classes | |
| 46-L40 | Unit V Managing Console I/O Operations: Introduction, C++ Streams | |
| 47-L41 | C++ Stream Classes – Unformatted I/O Operations | |
| 48-L42 | Formatted Console I/O Operation ,Managing output with Manipulators | |
| 49-L43 | Working with Files: Introduction, Classes for File Stream Operators | |
| 50-L44 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(22.03.19) | |
| 51 L45 | Detecting end-of-file, File Pointers and their Manipulators | |
| 52- L46 | Sequential Input and Output Operations | |
| 53-IT-III | Internal Test-III | |
| 54-L47 | Error Handling during File Operations ,Command ,Line Arguments. | |
| 55-L48 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 56- MT | Model Test begins(08.04.19) | |
| 57-MT | Model Test | |
| 58-MT | Model Test | |
| 59- L49 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 60-L50 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 23.04.2018 | |

| Learning Outcomes | Object Oriented Programming with C++ |
|--------------------------|-------------------------------------------------------------------------------------------------------------------------|
| CO1 | a) Describe the procedural and object oriented paradigm with concepts of streams, classes, functions, data and objects. |
| CO2 | Understand dynamic memory management techniques using pointers, constructors, destructors, etc |
| CO3 | Describe the concept of function overloading, operator overloading, virtual functions and polymorphism |
| CO4 | Classify inheritance with the understanding of early and late binding, usage of exception handling, generic programming |
| CO5 | Demonstrate the use of various OOPs concepts with the help of programs |
| Experimental Learning | |
| EL1 | Classes |
| EL2 | Objects |

| EL3 | Constructor |
|---------------------|-------------------|
| EL4 | Inheritance |
| Integrated Activity | |
| IA1 | Method Overriding |
| IA2 | Polymorphism |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Application

COURSE ACADEMIC PLAN(2018-2019)

(Prepared by staff member handling the course)

| Programme Name | BCA |
|--------------------|---------------------|
| Course Name | Visual Basic |
| Course Code | SMCA41 |
| Class | II year (2018-2019) |
| Semester | Even |
| Staff Name | 1.Mr. B.JEFFERSON |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| T / 1 (0 II /0 | |

Total 60 Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- ➤ To understand the benefits of using Visual Basic for windows as an application tool.
- > To understand the Visual Basic event-driven programming concepts, terminology and available tools
- ➤ Learn the fundamentals of designing, implementing and distributing a vb application.
- ➤ Learn to use the Visual Basic toolbox
- > To study connectivity between VB and databases.

VISUAL BASIC

UNIT I GETTING STARTED WITH VISUAL BASIC 6.0 Introduction to Visual Basic, Visual Basic 6.0 Programming Environment, Working with Forms, Developing an Application, Variables, Data types and Modules, Procedure and Control Structures, Array in Visual Basic, Additional examples. Working with Controls: Introduction, Creating and Using Controls, Working with Control Arrays, Additional examples.

UNIT II MENUS & GRAPHICS Menus, Mouse Events and Dialog Boxes: Introduction, Mouse Events, Dialog Boxes, Additional examples. Graphics, MDI and Flex Grid: Introduction, Graphics

for Applications, Multiple Document Interface (MDI), Using the flex Grid Control, Additional examples.

UNIT III OPEN DATABASE CONNECTIVITY ODBC and Data Access Objects: Evolution of Computer Architecture, Data Options, Additional examples. ODBC Using Data Access Objects and Remote Data objects: Open Database Connectivity (ODBC), Remote Data objects, Additional examples.

UNIT IV REPORT CREATION Data Environment and Data Report: Introduction, Data Environment Designer, Data Report, Additional examples. Object Linking and Embedding: Introduction, OLE Fundamentals, Using OLE Container Controls, Using OLE Automation Objects, OLE Drag and Drop, Additional examples.

UNIT V ACTIVE X CONTROLS Built – in Active X Controls: Working with Built – In ActiveXControls, Additional examples. Working with Active X Data objects; An Overview of ADO and OLE DB, ADO Object Model, Additional examples. Files, and File System Controls: Introduction, File System Controls, Accessing Files, Interface with Windows, Additional examples.

| Hour | Class Schedule |
|-----------|-------------------------------------------------------------------------------|
| allotment | |
| | Even Semester Begin on 03.12-2018 |
| 1-L1 | UNIT I GETTING STARTED WITH VISUAL BASIC 6.0 Introduction to Visual Basic, |
| | Visual Basic 6.0 Programming Environment. |
| 2-L2 | Working with Forms, Developing an Application, Variables, Data types |
| 3- L3 | Modules, Procedure and Control Structures |
| 4-L4 | Array in Visual Basic,1-D array, 2-D array- Additional examples. |
| 5-L5 | Working with Controls: Introduction-tool box – available controls |
| 6-L6 | Creating and Using Controls-command button, textbox control, dropdown listbox |
| 7-L7 | Picture box, option button, check box – scroll bars |
| 8-L8 | Common dialog control with examples |
| 9-L9 | Working with Control Arrays, Additional examples. |
| 10-L10 | Explanation for calculator programme |
| | |
| 11-L11 | UNIT II MENUS & GRAPHICS Menus, popup menu-introduction- sample |
| | programme |
| 13-L12 | Mouse Events |
| 14-L13 | Dialog Boxes: Introduction – Input box- Additional examples. |
| 15-L14 | Graphics – Image box- picturebox-pixel manipulation |
| | -Allotting portion for Internal Test-I |
| | Internal exam I begins(18.01.19) |
| 16-L15 | MDI-Multiple document interface- creating MDI form and child form- sample |
| | programme and output |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Flex Grid - Using the flex Grid Control |
| 19-L17 | Test Paper distribution and result analysis- sample programme for flex grid |
| | control design a form with flex grid – setting properties. |

| | Entering Internal Test-I Marks into University portal |
|-----------|--------------------------------------------------------------------------------------|
| 20-L18 | Programme for matrix addition using flex grid. |
| 21-P2 | College level meeting |
| 22-L19 | Dir listbox, drive listbox – sample programme to explain Dir and drive list boxes |
| 23-L20 | Exlaining the calculator programme. – Designing form – using contol arrays. |
| 24-L21 | UNIT III OPEN DATABASE CONNECTIVITYODBC - introduction |
| 25-L22 | Data Access Objects: Evolution of Computer Architecture, |
| 26-L23 | Data Options, Additional examples. ODBC Using Data Access Objects |
| 27-L24 | Remote Data objects |
| 28-L25 | Creating DSN using Open Database Connectivity (ODBC) |
| 29-L26 | Remote Data objects using ODBC - Additional examples. |
| 30-L27 | Insert – Delete – Update- coding using DAO |
| | Internal exam II begins(25.02.19) |
| 31-L28 | Creating a student database in MS Access – connecting the database – |
| | Manipulating the data using RDO |
| 32-L29 | Linking database with data grid – Bound data with grid. |
| 33-L30 | Seminar By Students – Topic: Open database connectivity and RDO |
| | Allotting portion for Internal Test-II |
| 34- P3 | Unit IV:Report CreationData Environment and Data Report: Introduction |
| 35-L31 | Data Environment Designer, Data Report, Additional Examples |
| 36-L32 | Object Linking and Embedding: Introduction |
| 37-IT-II | OLE Fundamentals |
| 38-L33 | Using OLE Container Controls |
| 39-L34 | Using OLE Automation Objects |
| 40-L35 | OLE Drag and Drop |
| 41-L36 | Additional examples. |
| 42-P4 | UNIT - V ACTIVE X CONTROLS Built – in Active X Controls: |
| 43-L37 | Working with Built in controls |
| 44-L38 | ActiveX Controls- using and creating controls |
| 45-L39 | Additional examples. |
| 46-L40 | Working with Active X Data objects |
| 47-L41 | An Overview of ADO and OLE DB |
| 48-L42 | ADO Object Model. |
| | Internal exam III begins(22.03.19) |
| 49-L43 | Additional examples |
| 50-L44 | Files, and File System Controls: Introduction |
| 51-IT-III | File System Controls |
| 52-L45 | Accessing Files |
| 53-L46 | Interface with Windows |
| 54-L47 | Additional Examples |
| 55-L48 | Entering Internal Test-III Marks into University portal |
| 56-L49 | Model Test begins(08.04.19) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59-MT | Model test paper distribution and previous year university question paper discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |

Course Outcomes

| Learning Outcomes | COs of the course "VISUAL BASIC" |
|--------------------------|--------------------------------------------------------|
| CO1 | Gain knowledge about GUI |
| CO2 | Skilled in form design and event driven programming |
| CO3 | Usage of various tools in visual basic |
| CO4 | Able to connect and access database |
| CO5 | Able to connect external data base using ODBC |
| CO6 | How to prepare data report |
| Experimental | |
| Learning | |
| EL1 | To do working models to explain Database connectivity |
| EL2 | Getting resources about Visual basic through Internet |
| EL3 | GD on merit and demerit GUI |
| EL4 | Discussion about Facebook and its database maintenance |
| Integrated Activity | |
| IA1 | Designing a billing software for grocery shop |
| IA2 | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

Forslow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

Department of Computer Application & Networking

1. Questionnaires for Course Feedback from Students

| Name of the student | |
|---------------------|--|
| Programme Name | |
| Course Name | |
| Course code | |
| Year of Joining | |
| Semester | |
| Date | |

Put a tick in the best represents your response to each statement.

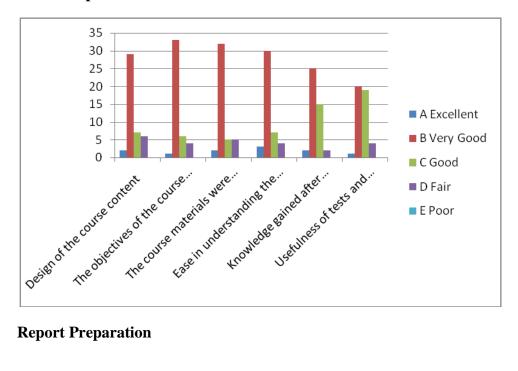
| No. | Parameters | A | В | С | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | The objectives of the course | A | В | С | D | Е |
| | were clearly stated. | | | | | |
| 3 | The course materials were | A | В | C | D | Е |
| | clearly explained. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | Е |
| | course content. | | | | | |
| 5 | Knowledge gained after | A | В | C | D | Е |
| | completion of the course. | | | | | |
| 6 | Usefulness of tests and | A | В | C | D | Е |
| | assignments | | | | | |
| 7 | Extent of efforts required by | A | В | C | D | Е |
| | students. | | | | | |

Course Feedback Analysis and Report Preparation

Number of responses: 44

| No. | Parameters | A | В | С | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 2 | 29 | 7 | 6 | 0 |
| 2 | The objectives of the course | 1 | 33 | 6 | 4 | 0 |
| | were clearly stated. | 1 | 33 | U | 4 | U |
| 3 | The course materials were | 2 | 32 | 5 | 5 | 0 |
| | clearly explained. | 2 | 32 | 3 | 3 | U |
| 4 | Ease in understanding the | 3 | 30 | 7 | 4 | 0 |
| | course content. | 3 | 30 | , | 7 | U |
| 5 | Knowledge gained after | 2 | 25 | 15 | 2 | 0 |
| | completion of the course. | 2 | 23 | 13 | 2 | U |
| 6 | Usefulness of tests and | 1 | 20 | 19 | 4 | 0 |
| | assignments | 1 | 20 | 17 | 4 | U |
| 7 | Extent of efforts required by | 2 | 25 | 10 | 7 | 0 |
| | students. | 2 | 23 | 10 | / | U |

Chart Preparation



Department of Computer Application & Networking

2. Questionnaires for Course Feedback from Teachers

| Name of the Teacher | |
|---------------------|--|
| Programme Name | |
| Course Name | |
| Course code | |
| Semester/Year | |
| Date | |

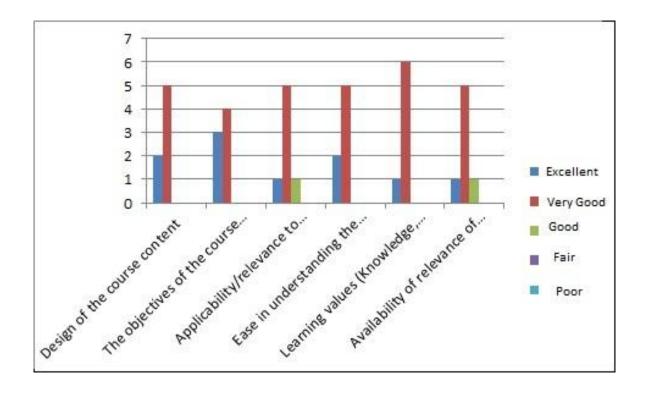
Put a tick in the best represents your response to each statement.

| No. | Parameters | A | В | C | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | The objectives of the course | A | В | C | D | Е |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | A | В | C | D | Е |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | Е |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | A | В | C | D | Е |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | A | В | C | D | Е |
| | additional source materials | | | | | |

Number of Responses: 7

| No. | Parameters | A | В | С | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 2 | 5 | 0 | 0 | 0 |
| 2 | The objectives of the course | 3 | 4 | 0 | 0 | 0 |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | 1 | 5 | 1 | 0 | 0 |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | 2 | 5 | 0 | 0 | 0 |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | 1 | 6 | 0 | 0 | 0 |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | 1 | 5 | 1 | 0 | 0 |
| | additional source materials | | | | | |

Chart preparation



Department of Application & Networking

3. Questionnaires for Course Feedback from Alumni

| Name of the Alumni | |
|--------------------|--|
| Programme Name | |
| Course Name | |
| Contact No/Mail id | |
| Semester and year | |
| Date | |

Put a tick in the best represents your response to each statement.

| No. | Parameters | A | В | C | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | The objectives of the course | A | В | C | D | Е |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | A | В | C | D | Е |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | Е |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | A | В | C | D | Е |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | A | В | C | D | Е |
| | additional source materials | | | | | |

Number of Responses: 10

| No. | Parameters | A | В | С | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 5 | 1 | 5 | 3 | 0 |
| 2 | The objectives of the course | 2 | 7 | 4 | 4 | 0 |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | 2 | 5 | 2 | 1 | 0 |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | 1 | 4 | 1 | 8 | 0 |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | 5 | 2 | 1 | 5 | 0 |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | 4 | 2 | 8 | 5 | 0 |
| | additional source materials | | | | | |

4. Questionnaires for Course Feedback from Parents

| Name of the Parent | |
|--------------------------|--|
| Name of the Student | |
| Programme Name | |
| Course Name | |
| Contact Number/Mail id | |
| Year of Joining/Semester | |
| Date | |

Put a tick in the best represents your response to each statement. 15

| No. | Parameters | A | В | С | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | Course materials available in | A | В | C | D | Е |
| | Library. | | | | | |
| 3 | The course materials were | A | В | C | D | Е |
| | clearly explained. | | | | | |
| 4 | Improvement in soft skills, | A | В | C | D | Е |
| | knowledge, observed by you in | | | | | |
| | your ward. | | | | | |
| 5 | Usefulness of the course for | A | В | C | D | E |
| | getting job. | | | | | |
| 6 | Extent of efforts required by | A | В | C | D | E |
| | students. | | | | | |

Department of Computer Application & Networking

COURSE ACADEMIC PLANSMCA42

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|---------------------|
| Course Name | E-COMMERCE |
| Course Code | SMCA42 |
| Class | II year (2018-2019) |
| Semester | Even |
| Staff Name | Mr.S.IMMANUEL |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60 Hrs/Sem | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings: 2Hrs Dept. Seminars: 2Hrs

Remaining 50 Hrs (5 units; 5×10=55; 10Hrs /unit)

Course Objectives

- To provide adequate basic understanding about Management Education among the students.
- To prepare students to exploit opportunities being newly created in the Management Profession.
- To train the students in communication skills effectively.

MSU/2017-18 / UG-Colleges / Part-III (B.C.A) / Semester – II / Core - 2

E - COMMERCE INTRODUCTION What is Electronic Commerce? – Types of Electronic Commerce Technology. (12 L)

E - COMMERCE MODELS AND TYPES Types of E-Business Models and Markets - Types of E-Commerce Providers and Vendors - Ecommerce website Creation. (12 L)

UNIT III E - COM WEB DEVELOPMENT Managing E-Commerce website Development Building Mobile Electronic Commerce. Shopping Cart **Applications** (12 L)

UNIT IV E - COM DATABASES Enhancing a web server with E-Commerce Application Development – Strategies, Techniques and tools – Implementing Merchandising Strategies – Implementing E-Commerce Databases. (12 L)

UNIT V E - COMMERCE APPLICATIONS Applying and Managing E-Business Intelligence Tools for Application Development – Types of Security Technologies – protocols for the Public Transport of Private Information.

| Hour allotment | Class Schedule | | |
|----------------|-----------------------------------------------------------------------|--|--|
| | Odd Semester Begin on 3-12-2018 | | |
| 1-L1 | UNIT I. E - COMMERCE INTRODUCTION What is Electronic Commerce? | | |
| 2-L2 | E-commerce:Doing business on the internet | | |
| 3- L3 | Direct marketing, selling and service | | |
| 4-L4 | Financial and information service | | |
| 5-L5 | The scope of the internet and the web | | |
| 6-L6 | Enabling multimedia e-commerce with SIP | | |
| 7-L7 | Using the web to reach customers | | |
| 8-L8 | The shift to e-bussiness | | |
| 9-L9 | Benefit of the e-commerce market | | |
| 10-P1 | Department Meetings | | |
| 11-L10 | e-commerce technology –the internet environment | | |
| 12-L11 | UNIT-II E-Commerce models and types | | |
| 13-L12 | E-bussiness models | | |
| | Internal exam I begins(18.01.19) | | |
| 14-L13 | E-bussiness markets | | |
| 15-L14 | Types of e-commerce provides and vendors | | |
| 16-L15 | Traditional buy /build approach | | |
| 17-IT-1 | Internal Test-I | | |
| 18-L16 | Online sales channels:internet selling environment | | |
| 19-L17 | The advantage of outsourcing an infrastructure to an ECISP | | |
| 20-L18 | Focus and decision making improvment | | |
| 21-P2 | Department Seminars | | |
| 22-L19 | The element of e-commerce | | |
| 23-L20 | <u>UNIT_III_E - COM WEB DEVELOPMENT</u> | | |
| 24-L21 | Managing E-Commerce website Development | | |
| 25-L22 | Website server | | |
| 26-L23 | Developing a commerce site | | |
| 27-L24 | Requirements and building sites | | |
| 28-L25 | Building shopping cart application | | |
| 29-L26 | Customer servlet | | |
| 30-L27 | Loose component coupling | | |
| 31-L28 | Mobile electronic commerce | | |
| 32-L29 | Wireless industry standards | | |
| 33-L30 | Wireless WANs | | |
| 34- P3 | Department Meetings | | |
| 35-L31 | UNIT-IV E - COM DATABASES | | |

| | Internal exam II begins(25.02.19) |
|-----------|---------------------------------------------------------------------------|
| 36-L32 | Enhancing a web server with E-Commerce Application Development |
| 37-IT-II | Internal Test-II |
| 38-L33 | Business demand |
| 39-L34 | Enterprise development needs |
| 40-L35 | Categories of business values |
| 41-L36 | Strategies, techniques and tools |
| 42-P4 | Department Seminar |
| 43-L37 | Building and effective e-business strategy |
| 44-L38 | Implementing ecommerce databases |
| 45-L39 | <u>Interface solution</u> |
| 46-L40 | Heterogeneous development |
| 47-L41 | UNIT V E - COMMERCE APPLICATIONS |
| 48-L42 | Applying and managing e-business intelligence tools for application |
| | development |
| | Internal exam III begins(22.03.19) |
| 49-L43 | e-business requirements for rapid application development |
| 50-L44 | Types of security technologies |
| 51-IT-III | Internal Test-III |
| 52-L45 | Inside and outside attacks |
| 53-L46 | Internet security education |
| 54-L47 | Application security technologies |
| 55-L48 | Protocols |
| 56-L49 | Model Test begins(08.04.19) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59-MT | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23-04-2019 |

Course Outcomes

| Learning Outcomes | COs of the course "E-COMMERCE" | |
|--------------------------|----------------------------------------------------------------|--|
| | | |
| CO1 | Design and implement an e-commerce application with a shopping | |
| | cart. | |
| CO2 | Integrate the waterfall model in the development of e-commerce | |
| | applications | |
| CO3 | Integrate user-centered design guidelines in developing user- | |
| | friendly websites. | |
| Experimental | | |
| Learning | | |
| EL1 | Learned how to create business web site. | |
| EL2 | Learned E-Commerce types & technologies | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

Forslow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2018-2019)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|------------------------------|
| Course Name | PROGRAMMING WITH PHP & MYSQL |
| Course Code | SSCA3A |
| Class | II year (2018-2019) |
| Semester | Even |
| Staff Name | L. Abraham David |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | · |
| 1.0 .0.11 | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- To understand the concepts of open sources.
- To learn and use open source database management system MySQL
- To create dynamic web pages and websites.
- > To connect webpages with database.

Syllabus

UNIT-I

Introduction: Introduction- Open source PHP – PHP history- features-variables- statements operators conditional statements-if-switch-nesting conditions-merging forms with conditional statements-loops-while-do-for – loop iteration with break and continue.

UNIT – II

Arrays and Functions: Arrays: Creating an array- modifying array-processing array-grouping form with arrays- using array functions- creating user defined functions- using files sessions cookies- executing external programs- Creating sample applications using PHP.

UNIT -III

File Handling Opening files using fopen - looping over a files content with feof- reading text from a file using fgets - closing a file- reading character with fgetc- reading whole file with file_get_contentsreading a fle into into an array with file-checking if a file existsfscanfparse_ini_file- Getting file information with stat-fseek- copying files with copydeleting fileswriting to a file-reading and writing binary files —locking files.

UNIT-IV

MySQL: Effectiveness of MySQL -MySQL Tools-Prerequisites for MySQL connectionDatabases and tables- MySQL data types-Creating and manipulating tables-Insertion-updation and deletion of rows in tables -Retrieving data- Sorting and filtering retrieved data -Advanced data filteringData manipulation functions-Aggregate functions - Grouping data- Sub queriesJoining Tables- Set operators-Full text searching.

UNIT-V

PHP with MySQL: Working MySQL with PHP-database connectivity- usage of MYSQL commands in PHP processing result sets of queries- handling errors-debugging and diagnostic functions validating user input through Database layer and Application layer formatting query output with Character- Numeric Date and time –sample database applications.

| Hour | Class Schedule | | |
|-----------|------------------------------------------------------------------------------|--|--|
| allotment | | | |
| | Even Semester Begin on 03.12.2018 | | |
| 1-L1 | Introduction: Introduction- Open source PHP – PHP history- features | | |
| 2-L2 | Variables- statements operators | | |
| 3- L3 | If-switch-nesting conditions | | |
| 4-L4 | merging forms with conditional statements- | | |
| 5-L5 | Loops | | |
| 6-L6 | While – do-for – loop iteration with break and continue | | |
| 7-L7 | Arrays and Functions: Arrays: Creating an array | | |
| 8- P1 | Welcoming of First year and Inauguration | | |
| 9- L8 | Modifying array-processing array-grouping form with arrays | | |
| 10- L9 | Using array functions- creating user defined functions | | |
| 11-L10 | Using files - sessions cookies | | |
| 12-L11 | Executing external programs | | |
| 13-L12 | Creating sample applications using PHP | | |
| 14-L13 | File Handling | | |
| 15-L14 | Allotting portion for Internal Test-I | | |
| | Internal Test I begins(18.01.19) | | |
| 16-L15 | Opening files using fopen | | |
| 17-IT-1 | Internal Test-I | | |
| 18-L16 | Looping over a files content with feof- reading text from a file using fgets | | |

| 19-L17 | Test Paper distribution and result analysis | |
|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| 1, 21, | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Closing a file- reading character with fgetc | |
| 21- L19 | Reading whole file with file_get_contents | |
| 22- P2 | Seminar-By INETZ | |
| 23-L20 | Reading a fle into into an array with file-checking if a file | |
| 23 220 | existsfscanfparse_ini_file | |
| 24-L21 | Getting file information with stat-fseek | |
| 25-L22 | Copying files with copy- deleting files | |
| 26-L23 | Writing to a file-reading and writing binary files | |
| 27-L24 | Locking files | |
| 28-L25 | MySQL: Effectiveness of MySQL | |
| 29-L26 | MySQL Tools-Prerequisites for MySQL connection | |
| 30-L27 | Databases and tables | |
| 31-L28 | MySQL data types | |
| 32-L29 | Creating and manipulating tables | |
| 33-L30 | Insertion-updation and deletion of rows in tables | |
| 34- P3 | Department Seminar | |
| 35-L31 | Retrieving data | |
| 36-L32 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(25.02.19) | |
| 37- L33 | Sorting and filtering retrieved data | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | Advanced data filteringData manipulation functions | |
| 40-L35 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Aggregate functions | |
| 42- L37 | Grouping data | |
| | Grouping data | |
| 43- L38 | Sub queries Joining Tables | |
| 43- L38 44- P4 | | |
| | Sub queriesJoining Tables | |
| 44- P4 | Sub queriesJoining Tables College level meeting/ function | |
| 44- P4 45-L39 | Sub queriesJoining Tables College level meeting/ function Set operators-Full text searching | |
| 44- P4 45-L39 46-L40 | Sub queriesJoining Tables College level meeting/ function Set operators-Full text searching PHP with MySQL: Working MySQL with PHP-database connectivity | |
| 44- P4 45-L39 46-L40 | Sub queriesJoining Tables College level meeting/ function Set operators-Full text searching PHP with MySQL: Working MySQL with PHP-database connectivity Usage of MYSQL commands in PHP processing result sets of queries- handling | |
| 44- P4 45-L39 46-L40 47-L41 48-L42 | Sub queriesJoining Tables College level meeting/ function Set operators-Full text searching PHP with MySQL: Working MySQL with PHP-database connectivity Usage of MYSQL commands in PHP processing result sets of queries- handling errors Debugging and diagnostic functions validating user input through Database layer and | |
| 44- P4 45-L39 46-L40 47-L41 | Sub queriesJoining Tables College level meeting/ function Set operators-Full text searching PHP with MySQL: Working MySQL with PHP-database connectivity Usage of MYSQL commands in PHP processing result sets of queries- handling errors Debugging and diagnostic functions validating user input through Database layer and Application layer | |
| 44- P4 45-L39 46-L40 47-L41 48-L42 | Sub queriesJoining Tables College level meeting/ function Set operators-Full text searching PHP with MySQL: Working MySQL with PHP-database connectivity Usage of MYSQL commands in PHP processing result sets of queries- handling errors Debugging and diagnostic functions validating user input through Database layer and Application layer Allotting portion for Internal Test-III | |
| 44- P4 45-L39 46-L40 47-L41 48-L42 49-L43 | Sub queriesJoining Tables College level meeting/ function Set operators-Full text searching PHP with MySQL: Working MySQL with PHP-database connectivity Usage of MYSQL commands in PHP processing result sets of queries- handling errors Debugging and diagnostic functions validating user input through Database layer and Application layer Allotting portion for Internal Test-III Internal Test III begins(22.03.19) | |
| 44- P4 45-L39 46-L40 47-L41 48-L42 49-L43 50-L44 | Sub queriesJoining Tables College level meeting/ function Set operators-Full text searching PHP with MySQL: Working MySQL with PHP-database connectivity Usage of MYSQL commands in PHP processing result sets of queries- handling errors Debugging and diagnostic functions validating user input through Database layer and Application layer Allotting portion for Internal Test-III Internal Test III begins(22.03.19) formatting query output with Character | |
| 44- P4 45-L39 46-L40 47-L41 48-L42 49-L43 50-L44 51 L45 52- L46 | Sub queriesJoining Tables College level meeting/ function Set operators-Full text searching PHP with MySQL: Working MySQL with PHP-database connectivity Usage of MYSQL commands in PHP processing result sets of queries- handling errors Debugging and diagnostic functions validating user input through Database layer and Application layer Allotting portion for Internal Test-III Internal Test III begins(22.03.19) formatting query output with Character Numeric Date and time | |
| 44- P4 45-L39 46-L40 47-L41 48-L42 49-L43 50-L44 51 L45 52- L46 53-IT-III | Sub queriesJoining Tables College level meeting/ function Set operators-Full text searching PHP with MySQL: Working MySQL with PHP-database connectivity Usage of MYSQL commands in PHP processing result sets of queries- handling errors Debugging and diagnostic functions validating user input through Database layer and Application layer Allotting portion for Internal Test-III Internal Test III begins(22.03.19) formatting query output with Character Numeric Date and time Internal Test-III | |
| 44- P4 45-L39 46-L40 47-L41 48-L42 49-L43 50-L44 51 L45 52- L46 53-IT-III 54-L47 | Sub queriesJoining Tables College level meeting/ function Set operators-Full text searching PHP with MySQL: Working MySQL with PHP-database connectivity Usage of MYSQL commands in PHP processing result sets of queries- handling errors Debugging and diagnostic functions validating user input through Database layer and Application layer Allotting portion for Internal Test-III Internal Test III begins(22.03.19) formatting query output with Character Numeric Date and time Internal Test-III sample database applications. | |
| 44- P4 45-L39 46-L40 47-L41 48-L42 49-L43 50-L44 51 L45 52- L46 53-IT-III | Sub queriesJoining Tables College level meeting/ function Set operators-Full text searching PHP with MySQL: Working MySQL with PHP-database connectivity Usage of MYSQL commands in PHP processing result sets of queries- handling errors Debugging and diagnostic functions validating user input through Database layer and Application layer Allotting portion for Internal Test-III Internal Test III begins(22.03.19) formatting query output with Character Numeric Date and time Internal Test-III sample database applications. Test Paper distribution and result analysis | |
| 44- P4 45-L39 46-L40 47-L41 48-L42 49-L43 50-L44 51 L45 52- L46 53-IT-III 54-L47 | Sub queriesJoining Tables College level meeting/ function Set operators-Full text searching PHP with MySQL: Working MySQL with PHP-database connectivity Usage of MYSQL commands in PHP processing result sets of queries- handling errors Debugging and diagnostic functions validating user input through Database layer and Application layer Allotting portion for Internal Test-III Internal Test III begins(22.03.19) formatting query output with Character Numeric Date and time Internal Test-III sample database applications. Test Paper distribution and result analysis Entering Internal Test-III Marks into University portal | |
| 44- P4 45-L39 46-L40 47-L41 48-L42 49-L43 50-L44 51 L45 52- L46 53-IT-III 54-L47 55-L48 | Sub queriesJoining Tables College level meeting/ function Set operators-Full text searching PHP with MySQL: Working MySQL with PHP-database connectivity Usage of MYSQL commands in PHP processing result sets of queries- handling errors Debugging and diagnostic functions validating user input through Database layer and Application layer Allotting portion for Internal Test-III Internal Test III begins(22.03.19) formatting query output with Character Numeric Date and time Internal Test-III sample database applications. Test Paper distribution and result analysis Entering Internal Test-III Marks into University portal Model Test begins(08.04.19) | |
| 44- P4 45-L39 46-L40 47-L41 48-L42 49-L43 50-L44 51 L45 52- L46 53-IT-III 54-L47 55-L48 | Sub queriesJoining Tables College level meeting/ function Set operators-Full text searching PHP with MySQL: Working MySQL with PHP-database connectivity Usage of MYSQL commands in PHP processing result sets of queries- handling errors Debugging and diagnostic functions validating user input through Database layer and Application layer Allotting portion for Internal Test-III Internal Test III begins(22.03.19) formatting query output with Character Numeric Date and time Internal Test-III sample database applications. Test Paper distribution and result analysis Entering Internal Test-III Marks into University portal | |

| 59- L49 | Model test paper distribution and previous year university question paper discussion |
|---------|--------------------------------------------------------------------------------------|
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23.04.2019 |

Course Outcomes

| Learning Outcomes | COs of the course "PROGRAMMING WITH PHP & MYSQL" | |
|----------------------------|------------------------------------------------------------------|--|
| | | |
| CO1 | MySQL Tools-Prerequisites for MySQL connection | |
| CO2 | Debugging and diagnostic functions validating user input through | |
| | Database layer and | |
| CO3 | formatting query output with Character | |
| Experimental | | |
| Learning | | |
| EL1 | Set operators-Full text searching | |
| EL2 | Advanced data filteringData manipulation functions | |
| Integrated Activity | | |
| IA1 | Usage of MYSQL commands in PHP processing result sets of | |
| | queries- handling errors | |
| IA2 | Sub queriesJoining Tables | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

Department of Computer Application& Networking

COURSE ACADEMIC PLAN(2017-2020)

(Prepared by staff member handling the course)

| Programme Name | BCA |
|--------------------|---------------------|
| Course Name | MicroProcessor |
| Course Code | SSCA4A |
| Class | II year (2017-2020) |
| Semester | Even |
| Staff Name | Mrs. G. Priskillal |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |

Total 60 Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

Practicals: 2Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- To name the basic components of any computer system.
- ➤ To explain the difference between von Neumann and Harvard architecture.
- ➤ To write short programs using either op-codes or mnemonics.
- > To explain the difference between a low-level language and a high-level language.
- > To read a memory map.
- > To explain what an accumulator or a register is.
- > To explain what a stack is and how to identify what type it is.
- ➤ To distinguish between SCI communications and SPI communications.
- ➤ To explain how an external resource can be connected to the microprocessor using the address bus, data bus, and control bus.

Micro Processor

UNIT I MICROPROCESSORS, MICROCOMPUTER AND ASSEMBLY LANGUAGE

Microprocessors – Microprocessors Instruction set and Computer Languages – Computers to single chip microcontrollers. Mention to 8085 assembly language Programming – The 8085 Programming model action Classification – Instruction, data format and storage – How to write, store and execute simple program, Overview of 8085 instruction set.

UNIT II MICROPROCESSOR ARCHITECTURE AND MICRO COMPUTER SYSTEMS

Microprocessor Architecture and its operations – Memory – Input and Output (I/O) – Example of a Micro Computer System. Microprocessor Architecture and Memory interfacing: The 8085 MPU – Example 8085 based microcomputer - Memory interfacing - Interfacing the 8155 memory.

UNIT III DATA TRANSFER OPERATION

Arithmetic operations – Logic operations – Branch operations - Writing assembling Language programs – Debugging a program. Programming techniques with additional Instruction: Programming techniques – Counting and Indexing – Additional data transfer and 16 bit arithmetic operations – Arithmetic operations related to memory - Logic operations related to memory - Logic operations – Rotate – Dynamic debugging.

UNIT IV COUNTERS AND TIME DELAYS

Counters Time Delays – Hexa decimal counter. Modulo ten counter – Pulse Wave forms – Debugging counter and time Delay programs. Subroutine: Stack – Subroutine – Restart – Conditional call and Return subroutine concepts.

UNIT V CONVERSIONS

BCD to Binary conversion – Binary to BCD conversion - BCD to seven segment. LED code conversion – BCD addition – BCD Subtraction – Multiplication- Subtractionwith carry.

| Hour | Class Schedule |
|-----------|----------------------------------------------------|
| allotment | |
| | Even Semester Begin on 03-12-2018 |
| 1-L1 | UNIT I MICROPROCESSORS, MICROCOMPUTER AND ASSEMBLY |
| | LANGUAGE – Introduction |
| 2-L2 | Explanation of Microprocessors and MPU |
| 3- L3 | Microprocessors Instruction set |
| 4-L4 | Microprocessor Computer Languages |
| 5-L5 | Computers to single chip microcontrollers |
| 6-L6 | Mention to 8085 assembly language Programming |
| 7-L7 | The 8085 Programming model |
| 8-L8 | The 8085 Programming model action Classification |
| 9-L9 | Instruction Set |
| 10-P1 | Data Formats and Storage |
| 11-L10 | How to write, store and execute simple program |
| 12-L11 | Overview of Microprocessors Instruction Set 8085 |
| 13-L12 | UNIT II MICROPROCESSOR ARCHITECTURE AND MICRO |
| | COMPUTER SYSTEMS – Introduction |
| 14-L13 | Microprocessor Architecture |
| 15-L14 | Microprocessor Operations |
| | Internal exam I begins(18.01.19) |
| 16-L15 | Memory |
| 17-IT-1 | Internal Test-I |

| 18-L16 | Input and Output (I/O) |
|-----------|--------------------------------------------------------------------------------------|
| 19-L17 | Test Paper distribution and result analysis –Example of 8085 Micro |
| 19 117 | Computer System |
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | Memory interfacing–MPU |
| 22-L19 | The 8085 MPU |
| 23-L20 | Example 8085 based microcomputer |
| 24-L21 | Memory interfacing |
| 25-L22 | Interfacing the 8155 memory |
| 26-L23 | UNIT III DATA TRANSFER OPERATION |
| 27-L24 | Arithmetic operations – Logic operations – Branch operations |
| 28-L25 | Writing assembling Language programs – Debugging a program |
| 29-L26 | Programming techniques with additional Instruction: Programming techniques |
| 30-L27 | Counting and Indexing |
| 31-L28 | Additional data transfer and 16 bit arithmetic operations |
| 31-L20 | Internal exam II begins(25.02.19) |
| 32-L29 | Arithmetic operations related to memory |
| 33-L30 | Logic operations – Rotate – Dynamic debugging. |
| 34- P3 | Department Seminar |
| 35-L31 | <u>.</u> |
| | Lasers – principle, types and uses. |
| 36-L32 | Discussion on Photochemical laws –from video uploaded |
| 37-IT-II | Allotting portion for Assignment/seminar Internal Test-II |
| | |
| 38-L33 | UNIT IV COUNTERS AND TIME DELAYS |
| 39-L34 | Counters Time Delays – Hexa decimal counter |
| 40-L35 | Modulo ten counter |
| 41-L36 | Pulse Wave forms |
| 43-L37 | Debugging counter and time Delay programs |
| 44-L38 | Subroutine: Stack |
| 45-L39 | Subroutine – Restart |
| 46 1 40 | Submission of Assignment/take the seminar |
| 46-L40 | Conditional call and Return subroutine concepts. |
| 47-L41 | UNIT V CONVERSIONS |
| 48-L42 | BCD to Binary conversion |
| 40 T 42 | Internal exam III begins(22.03.19) |
| 49-L43 | Binary to BCD conversion |
| 50-L44 | BCD to seven segment. LED code conversion |
| 51-IT-III | Internal Test-III |
| 52-L45 | BCD addition – BCD Subtraction |
| 53-L46 | Multiplication- Subtraction with carry. |
| 5 A T A T | Model Test Announcement |
| 54-L47 | Over all view of the course by PPT |
| 55-L48 | Entering Internal Test-III Marks into University portal |
| 56-L49 | Model Test begins(08.04.19) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59-MT | Model test paper distribution and previous year university question paper discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |

Last Working day on 23-04-2019

Course Outcomes

| Learning Outcomes | COs of the course "MICRO PROCESSOR" | |
|----------------------------|-------------------------------------------------------------------------------------------|--|
| CO1 | Be able to name the basic components of any computer system. | |
| CO2 | Be able to write short programs using either op-codes or mnemonics. | |
| CO3 | Be able to explain the difference between a low-level language and a high-level language. | |
| CO4 | Be able to read a memory map. | |
| CO5 | Be able to explain what an accumulator or a register is. | |
| Experimental Learning | | |
| EL1 | To do microprocessor Arithmetic operations | |
| EL2 | To do Logical Operations | |
| Integrated Activity | | |
| IA1 | Analyze system design model of microprocessor | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

Forslow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

St. John's College, Palayamkottai

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN (2018-2019)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|---------------------|----------------------|
| Course Name | FINANCIAL ACCOUNTING |
| Course Code | SMCA32 |
| Class | II year (2018-2019) |
| Semester | Odd |
| Staff Name | Mr.B.EDWARD DANIEL |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| Internal Test 2 Ura | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To impart basic accounting knowledge
- > To provide knowledge on the fundamental of financial accounting.
- > To expose the student to various financial transaction and its current applications.

Syllabus

UNIT I BASIC CONCEPTS OF ACCOUNTING

Introduction to Accounting: Need for Accounting –Accounting as the language of business – Attributes and steps of Accounting –Book keeping Vs Accounting – Branches of Accounting – Methods of Accounting – Types of Accounting – Accounting Rules - Bases of Accounting – Accounting terminology. Basic Accounting Concepts: Meaning and classification of Accounting-Accounting Concepts – Accounting Conversion – Accounting equations. (10 L)

UNIT II JOURNAL AND LEDGER

Recording a Financial Data: Memorandum Book, business transaction, Journal, Rules for Debit and Credit, Compound Journal entry, Advantages of Journal, Ledger, Ledger Account, Ledger Posting, Process of Posting, Balancing of An Account, Significance of Balances, Relation between Journal and edger-Subsidiary Books. (15 L)

UNIT III PREPARING TRIAL BALANCE

Trial Balance: Objects, Methods of Preparing Trial balance, how to locate errors, hints for the preparation of trial balance & problems. (11 L)

UNIT IV FINAL ACCOUNTS

Trading account – individual items posted to the debit of trading account – individual items credited to trading account – advantages of trading account – profit & loss account - advantages of profit & loss account - manufacturing account- balance sheet- classification of assets & liabilities. (12 L)

UNIT V ACCOUNTS FOR NON PROFIT ORGANISATION

Introduction – Final accounts of no trading concern- receipts and payments account – featuresincome& expenditure account – feature- distinction between the two – treatment of special items – some important adjustments – types of problems – Distinction between income and expenditure account and profit and loss account – accounts of professional men.

| Hour | Class Schedule | |
|-----------|-------------------------------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 18.06.2018 | |
| 1-L1 | UNIT I BASIC CONCEPTS OF ACCOUNTING | |
| | Introduction to Accounting | |
| 2-L2 | Need for Accounting | |
| 3- L3 | Accounting as the language of business | |
| 4-L4 | Attributes and steps of Accounting | |
| 5-L5 | Book keeping Vs Accounting | |
| 6-L6 | Branches of Accounting | |
| 7-L7 | Methods of Accounting | |
| 8- P1 | Welcoming of First year and Inauguration | |
| 9- L8 | Types of Accounting | |
| 10- L9 | Accounting Rules | |
| 11-L10 | Bases of Accounting | |
| 12-L11 | Accounting terminology | |
| 13-L12 | Basic Accounting Concepts | |
| 14-L13 | Meaning and classification of Accounting | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(30.07.2018) | |
| 16-L15 | Accounting Concepts | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Accounting Conversion | |
| 19-L17 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Accounting equations. | |

| 21- L19 UNIT II JOURNAL AND LE Recording a Financial Data 22- P2 College level meeting/Cell for 23-L20 Memorandum Book 24-L21 business transaction | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| 22- P2 College level meeting/Cell for 23-L20 Memorandum Book | |
| 23-L20 Memorandum Book | unction |
| | unction |
| 1 /4-1 / 1 I hilsiness fransaction | |
| 25-L22 Journals | |
| 26-L23 Rules for Debit and Credit | |
| 27-L24 Compound Journal entry, | |
| 28-L25 Advantages of Journal | |
| 29-L26 Ledger Account | |
| 30-L27 Ledger Posting | |
| 31-L28 Process of Posting | |
| 32-L29 Balancing of An Account, | |
| 33-L30 Significance of Balances, | |
| 34- P3 Department Seminar | |
| 35-L31 Relation between Journal and | Ladger |
| 36-L32 Allotting portion for Intern | |
| Internal Test II begins (03.0 | |
| 37- L33 Subsidiary Books. | 7.2010) |
| 38- IT-II Internal Test-II | |
| 39-L34 UNIT III PREPARING TRIA | AL RALANCE |
| Trial Balance | AL DALANCE |
| 40-L35 Test Paper distribution and | recult analysis |
| Entering Internal Test-II M | · |
| 41-L36 Methods of Preparing Trial b | |
| 42- L37 how to locate errors | arance |
| 43- L38 hints for the preparation of tri | ial balance |
| 44- P4 College level meeting/ funct | |
| 45-L39 Problems | 1011 |
| 46-L40 UNIT IV FINAL ACCOUNT | 97 |
| Trading account | |
| 47-L41 individual items posted to the | debit of trading account |
| 48-L42 individual items credited to tr | |
| 49-L43 advantages of trading accoun | <u> </u> |
| 50-L44 Allotting portion for Intern | |
| Internal Test III begins (08.) | |
| 51 L45 profit & loss account | I O M O I O J |
| 52- L46 Advantage of profit | |
| 53-IT-III Internal Test-III | |
| 54-L47 loss account | |
| 55-L48 Test Paper distribution and | result analysis |
| | Marks into University portal |
| 56- MT Model Test begins (22.10.18) | V 1 |
| 57-MT Model Test begins (22.10.16) | J |
| 58-MT Model Test | |
| | on and previous year university question paper |
| discussion | on and previous year university question paper |
| | alysis and report preparation |

Course Outcomes

| Learning Outcomes | COs of the course " <financial accounting="">"</financial> | |
|----------------------------|------------------------------------------------------------|--|
| | | |
| CO1 | Process of Posting | |
| CO2 | individual items posted to the debit of trading account | |
| CO3 | advantages of trading account | |
| Experimental | | |
| Learning | | |
| EL1 | Business transaction, Journal, Rules for Debit and Credit, | |
| | Compound Journal entry | |
| EL2 | Significance of Balances | |
| Integrated Activity | | |
| IA1 | IA1 Final accounts of no trading concern | |
| IA2 | manufacturing account | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2018-2019)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. | |
|-------------------------------------------------|----------------------|--|
| Course Name | Software Engineering | |
| Course Code | GMCA51 | |
| Class | III year (2018-2019) | |
| Semester | odd | |
| Staff Name | MR.B.EDWARD DANIEL | |
| Credits | 4 | |
| L. Hours /P. Hours | 4 / WK | |
| Total 60Hrs/Sem | | |
| Internal Test-3 Hrs | | |
| Model Test-3 Hrs | | |
| Dept. Meetings-2 Hrs | | |
| College Meetings-2 Hrs | | |
| Remaining 50Hrs (5 units: 5×10=50: 10Hrs /unit) | | |

Course Objectives

- To study the need and nature of mobile applications.
- To learn the tools and platforms required for mobile applications.
- To understand the design issues in mobile applications.

Syllabus

UNIT I SOFTWARE AND SOFTWARE ENGINEERING The Nature of Software – The Nature of Software? The Nature of Software – Stack holders in Software engineering – Stack holders in Software engineering – Activities common to Software projects – Difficult and risk in software engineering as a whole. Review of Object Orientation: What is object orientation/ - Classes and objects – Instance variables – Methods, Operations and Polymorphism – Concepts best define object orientation – Difficulties and risks in programming language choice and object – oriented programming. (12 L)

UNIT II DEVELOPING REQUIREMENTS Domain analysis – The starting point for software projects – Defining the problem and the scope – What is a requirement? – Types of requirements – Some techniques for gathering and analyzing requirements – Managing changing requirements – Difficulties and risks in domain and requirements analysis. (12 L)

UNIT III MODELING WITH CLASSES What is UML? – Essentials of UML class diagrams – Associations and Multiplicity – Generalization – Instance diagrams – More advanced features of class diagrams. Modeling Interactions and Behavior: Interaction diagram – State diagrams – Activity diagrams. (12 L)

UNIT IV ARCHITECTING AND DESIGNING SOFTWARE The process of design — Principles leading to good design — Techniques for making good design decisions — Software architecture — Architectural patterns — Writing a good designing document. (12 L) UNIT V TESTING AND INSPECTING TO ENSURE HIGH QUALITY Basic definitions — Effective and efficient testing — Defects in ordinary Algorithms — Defects in numerical algorithms — Defects in timing and co-ordination. Managing the Software Process: What is project management? — Software process models — Cost estimation — building software engineering teams — Project scheduling and tracking. Course Calendar

| Hour | Class Schedule | |
|-----------|------------------------------------------------------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 18.06.2018 | |
| 1-L1 | UNIT I SOFTWARE AND SOFTWARE ENGINEERING: The Nature | |
| | of Software | |
| 2-L2 | Stack holders in Software engineering | |
| 3- L3 | Activities common to Software projects | |
| 4-L4 | Difficult and risk in software engineering as a whole. Review of Object | |
| | Orientation | |
| 5-L5 | What is object orientation. | |
| 6-L6 | Classes and objects | |
| 7-L7 | Instance variables. | |
| 8- P1 | Methods, Operations and | |
| 9- L8 | Concepts best define object orientation. | |
| 10- L9 | Difficulties and risks in programming language choice and object | |
| 11-L10 | Polymorphism. | |
| 12-L11 | oriented programming. | |
| 13-L12 | UNIT II DEVELOPING REQUIREMENTS Domain analysis | |
| 14-L13 | The starting point for software projects ,Defining the problem and the scope | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(30.07.2018) | |
| 16-L15 | What is a requirement | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Some techniques for gathering | |
| 19-L17 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Types of requirements | |
| 21- L19 | and analyzing requirements | |
| 22- P2 | College level meeting/ | |
| 23-L20 | Managing changing requirements | |
| 24-L21 | Difficulties and risks in domain | |
| 25-L22 | Cell function | |
| 26-L23 | analysis and requirements | |
| 27-L24 | UNIT III MODELING WITH CLASSES What is UML | |
| 28-L25 | Essentials of UML class diagrams. | |
| 29-L26 | Associations and Multiplicity | |
| 30-L27 | Generalization | |
| 31-L28 | Instance diagrams | |
| 32-L29 | More advanced features of class diagrams. | |

| 33-L30 | Modeling Interactions and Behavior | |
|-----------|---------------------------------------------------------------------------|--|
| 34- P3 | Interaction diagram | |
| 35-L31 | State diagrams ,Activity diagrams. | |
| 36-L32 | Allotting portion for Internal Test-II(03.09.2018) | |
| | Internal Test II begins | |
| 37- L33 | UNIT IV ARCHITECTING AND DESIGNING SOFTWARE The process | |
| | of design: | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | Principles leading to good design | |
| 40-L35 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Techniques for making good design decisions | |
| 42- L37 | Software architecture | |
| 43- L38 | Architectural patterns. | |
| 44- P4 | Writing a good designing document | |
| 45-L39 | UNIT V TESTING AND INSPECTING TO ENSURE HIGH QUALITY | |
| | Basic definitions. | |
| 46-L40 | Effective and efficient testing | |
| 47-L41 | Defects in ordinary Algorithms | |
| 48-L42 | Defects in numerical algorithms | |
| 49-L43 | Managing the Software Process | |
| 50-L44 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(08.10.2018) | |
| 51 L45 | Software process models | |
| 52- L46 | Cost estimation ,building software engineering teams | |
| 53-IT-III | Internal Test-III | |
| 54-L47 | Project scheduling and tracking. | |
| 55-L48 | - Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 56- MT | Model Test begins (22.10.18) | |
| 57-MT | Model Test | |
| 58-MT | Model Test | |
| 59- L49 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 60-L50 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 23.11.2018 | |

Course Outcomes

| Learning Outcomes | COs of the course " <software engineering="">"</software> |
|-----------------------|------------------------------------------------------------------|
| | |
| CO1 | Defects in ordinary Algorithms |
| CO2 | Software process models |
| CO3 | Techniques for making good design decisions |
| CO4 | Concepts best define object orientation |
| Experimental Learning | |
| EL1 | Instance diagrams |
| EL2 | Classes and objects |

| Integrated Activity | |
|---------------------|---------------------------------------------|
| IA1 | Software process models |
| IA2 | Techniques for making good design decisions |

Blended Learning : using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for higher study.

For slow learner : special care taken, motivate the advanced learner to support the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN (2018-2019)

(Prepared by staff member handling the course)

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

| Programme Name | B.C.A. |
|------------------------|-----------------------------------|
| Course Name | Design and Analysis of Algorithms |
| Course Code | JMCA5B |
| Class | III year (2018-2019) |
| Semester | ODD |
| Staff Name | B.JEFFERSON |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |
| Dept. Meetings-2 Hrs | |
| College Meetings-2 Hrs | |

Course Objectives

- To analyse the asymptotic performance of algorithms.
- ➤ Demonstrate the familiarity with major algorithms and data structures
- > To learn sorting techniques and applications

Syllabus

 $\label{eq:UNIT-I} \textbf{UNIT-I} \quad \textbf{Algorithm specification} - \textbf{performance analysis} - \textbf{stacks and} \\ \textbf{queues-trees-graphs}$

UNIT- II Divide and conquer: Binary search – quick sort – merge sort –selection sort

UNIT- III Greedy method: Container loading – Knapsack problem – Job sequencing with deadlines – Minimum cost spanning trees.

UNIT- IV Basic traversal and search techniques: Techniques for binary trees – Techniques for graphs – Connected components and spanning trees. All pairs shortest paths

UNIT- V Backtracking: The general method – the 8-queens method – sum of subsets – graph coloring – Hamiltonian cycles – knapsack problem.

| Hour | Class Schedule |
|----------------------|------------------------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 16.06.2017 |
| 1-L1 | Algorithm specification |
| 2-L2 | performance analysis |
| 3- L3 | performance analysis |
| 4-L4 | stacks and queues |
| 5-L5 | stacks and queues |
| 6-L6 | Trees |
| 7-L7 | Trees |
| 8- P1 | Welcoming of First year and Inauguration |
| 9- L8 | Graphs |
| 10- L9 | Graphs |
| 11-L10 | Binary search |
| 12-L11 13-L12 | quick sort |
| 13-L12 14-L13 | quick sort |
| 15-L14 | Merge sort Allotting portion for Internal Test-I |
| 13-L14 | Internal Test I begins (30.07.2018) |
| 16-L15 | Merge sort |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Selection sort |
| 19-L17 | Test Paper distribution and result analysis |
| 1) 21, | Entering Internal Test-I Marks into University portal |
| 20-L18 | Selection sort |
| 21- L19 | |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | Container loading |
| 24-L21 | Container loading |
| 25-L22 | Knapsack problem |
| 26-L23 | Knapsack problem |
| 27-L24 | Job sequencing with deadlines |
| 28-L25 | Job sequencing with deadlines |
| 29-L26 | Minimum cost spanning trees |
| 30-L27 | Minimum cost spanning trees |
| 31-L28 | Techniques for binary trees |
| 32-L29 | Techniques for binary trees |
| 33-L30 | Techniques for graphs |
| 34- P3 | Department Seminar |
| 35-L31 | Techniques for graphs |
| 36-L32 | Allotting portion for Internal Test-II |
| 37- L33 | Internal Test II begins(03.09.2018) Connected components and spanning trees |
| 37- L33 38- IT-II | Internal Test-II |
| 39-L34 | Connected components and spanning trees |
| 40-L35 | Test Paper distribution and result analysis |
| +U-LJJ | 1 CSt 1 apet distribution and 1 csult analysis |

| | Entoning Internal Test II Monks into University newfol |
|-----------|---------------------------------------------------------------------------|
| 11 7 2 6 | Entering Internal Test-II Marks into University portal |
| 41-L36 | All pairs shortest paths |
| 42- L37 | All pairs shortest paths |
| 43- L38 | The general method |
| 44- P4 | College level meeting/ function |
| 45-L39 | The general method |
| 46-L40 | The 8-queens method |
| 47-L41 | The 8-queens method |
| 48-L42 | Sum of subsets |
| 49-L43 | Sum of subsets |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(08.10.2018) |
| 51 L45 | Graph colouring |
| 52- L46 | Hamiltonian cycles |
| 53-IT-III | Internal Test-III |
| 54-L47 | Knapsack problem |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins (22.10.18) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 06.11.2017 |
| 60-L50 | |

Course Outcomes

| Learning Outcomes | COs of the course "Design and Analysis of Algorithms" |
|----------------------------|-------------------------------------------------------|
| | |
| CO1 | performance analysis |
| CO2 | Minimum cost spanning trees |
| CO3 | Graph colouring |
| Experimental | |
| Learning | |
| EL1 | The 8-queens method |
| EL2 | Hamiltonian cycles |
| Integrated Activity | |
| IA1 | Connected components and spanning trees |
| IA2 | Knapsack problem |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN (2018-2019)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|---------------------|---------------------|
| Course Name | WEB TECHNOLOGY |
| Course Code | JMCA52 |
| Class | III YEAR(2018-2019) |
| Semester | Odd |
| Staff Name | MRS.G.PRISKILLAL |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |
| Total 75 Hrs/Sem | |
| Internal Test-3 Hrs | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 65 Hrs (5 units; $5 \times 13 = 65$; 13Hrs /unit)

Course Objectives

- To provide the conceptual and technological developments in the field of Internet and web designing with the emphasis on comprehensive knowledge of Internet, Describe the basic concepts for network implementation.
- To learn the basic working scheme of the Internet and World Wide Web.
- Understand fundamental tools and technologies for web design

Syllabus

UNIT I INTRODUCTION TO THE WEB Understanding the Internet and World Wide Web - History of the Web - Protocols Governing the Web - Creating Websites for Individuals and the Corporate World – Web Applications – Writing Web projects – Identification of Objects – Target Users – Web Team – Planning and Process Development – Web Architecture -Internet Standards - TCP/IP Protocol Suite - IP Address - MIME -Cyber Laws. Hyper Text Transfer Protocol (HTTP): Introduction – Web servers and clients – Resources – URL and its Anatomy – Message Format. (14 L)

UNIT II HYPER TEXT MARKUP LANGUAGE (HTML) History of HTML and W3C – HTML and its Flavors - HTML Basics - Elements, Attributes, and Tags - Basic Tags -Advanced Tags – Frames. (UNIT III JAVA SCRIPT Introduction – Variables – Literals – Operators – Control Structure – Conditional statements – Arrays – Functions – Objects. (10 L)

UNIT IV EXTENSIBLE MARKUP LANGUAGE (XML) Common Usage – Role of XML – Prolog – Body – Elements – Attributes – Validation – Displaying XML – Namespace.XML DTD: XML Schema Languages– Validation – Introduction to DTD– Purpose of DTD – Using a DTD in an XML Document. (12 L)

UNIT V COMMON GATEWAY INTERFACE (CGI) Internet Programming Paradigm – Server – side Programming – Languages for CGI – Applications – Server Environment – Environment Variables – CGI Building Blocks – CGI Scripting Using C, Shell Script – Writing CGI programs – CGI Security – Alternatives and Enhancements to CGI. Servlet: Server – Side Java – Advantages Over Applets - Servlet Alternatives – Servlet Strength – Servlet Architecture – Servlet Life Cycle. (12 L)

| Hour | Class Schedule |
|-----------|---------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 18.06.2018 |
| 1-L1 | UNIT I INTRODUCTION TO THE WEB Understanding the Internet and |
| | World Wide Web |
| 2-L2 | History of the Web |
| 3- L3 | Protocols Governing the Web |
| 4-L4 | Creating Websites for Individuals and the Corporate World |
| 5-L5 | Web Applications |
| 6-L6 | Writing Web projects |
| 7-L7 | Identification of Objects |
| 8- P1 | Welcoming of First year and Inauguration of BCA Association |
| 9- L8 | Target Users |
| 10- L9 | Web Team |
| 11-L10 | Planning and Process Development |
| 12-L11 | Web Architecture |
| 13-L12 | Internet Standards |
| 14-L13 | TCP/IP Protocol Suite |
| 15-L14 | IP Address |
| 16-L15 | MIME – Cyber Laws. Hyper Text Transfer Protocol (HTTP) |
| 17- L16 | UNIT II HYPER TEXT MARKUP LANGUAGE (HTML) History of HTML |
| | and W3C |
| 18- L17 | HTML and its Flavors |
| 19- L18 | HTML Basics |
| 20- L19 | Elements, Attributes, and Tags |
| 21- L20 | Allotting portion for Internal Test-I |
| | Internal Test I begins(30.07.18) |
| 22- L21 | Basic Tags |
| 23- IT-1 | Internal Test-I |
| 24- L22 | Advanced Tags |
| 25- L23 | Frames |
| 26- L24 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 27- L25 | UNIT III JAVA SCRIPT Introduction |

| 64- L58 | Allotting portion for Internal Test-III |
|----------|------------------------------------------------------------|
| 63- L57 | Writing CGI programs |
| 62- L56 | Shell Script |
| 61- L55 | CGI Scripting Using C |
| 60- L54 | CGI Building Blocks |
| 59-P4 | College level meeting/ function |
| 58- L53 | Environment Variables |
| 57- L52 | Server environment |
| 56- L51 | Applications |
| 55- L50 | Languages for CGI |
| 54- L49 | Client side Programming |
| 53- L48 | Server side Program |
| | Paradigm |
| 52- L47 | UNIT V COMMON GATEWAY INTERFACE (CGI) Internet Programming |
| | Entering Internal Test-II Marks into University portal |
| 51- L46 | Test Paper distribution and result analysis |
| 50-L45 | Purpose of DTD |
| 49-IT-II | Internal Test-II |
| 48- L44 | introduction of DTD |
| | Internal Test II begins(03.09.18) |
| 47- L43 | Allotting portion for Internal Test-II |
| 46- L42 | XML Schema Languages |
| 45- L41 | Namespace.XML DTD |
| 44- L40 | Displaying xml |
| 43- L39 | Validation |
| 42-P3 | Department Seminar |
| 41- L38 | Attributes |
| 40- L37 | Body – Elements |
| 39- L36 | Prolog |
| 38-L35 | Role of XML |
| 37- L34 | UNIT IV EXTENSIBLE MARKUP LANGUAGE (XML) Common Usage |
| 36- L33 | Objects |
| 35- L32 | Functions |
| 34- L31 | Arrays |
| 33-L30 | Conditional statements |
| 32-L29 | Control Structure |
| 31-L28 | Operators. |
| 30- P2 | College level meeting/Cell function |
| 29- L27 | Literals |
| 20 T 2- | Variables |

| 71-MT | Model Test begins (22.10.18) |
|--------|---------------------------------------------------------------------------|
| 72-MT | Model Test |
| 73-MT | Model Test |
| 74-L64 | Model test paper distribution and previous year university question paper |
| | discussion |
| 75-L65 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23.11.2018 |

| Learning Outcomes | |
|--------------------------|---------------------------------------------------------------------|
| | |
| CO1 | Employ fundamental computer theory to basic programming |
| | techniques. |
| CO2 | Use fundamental skills to maintain web server services required to |
| | host a website |
| CO3 | Select and apply mark up languages for processing, identifying, and |
| | presenting of information in web pages |
| CO4 | Use scripting languages and web services to transfer data and add |
| CO4 | |
| | interactive components to web pages. |
| Experimental | |
| Learning | |
| EL1 | Languages for CGI |
| EL2 | Client Side Programming |
| EL3 | Server Side Scripting Language |
| EL4 | DHTML |
| Integrated Activity | |
| IA1 | XML |
| IA2 | Script Language-VB,JAVA |

Blended Learning : using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for higher study.

For slow learner : special care taken, motivate the advanced learner to support the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN(2018-2019)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. | |
|---------------------------------------------------|--------------------------|--|
| Course Name | RDBMS | |
| Course Code | JMCA63 | |
| Class | III year (2018-2019) | |
| Semester | Odd | |
| Staff Name | MRS.A.BATHSHEBA PARIMALA | |
| Credits | 6 | |
| L. Hours /P. Hours | 6 / WK | |
| Total 90 Hrs/Sem | | |
| Internal Test-3 Hrs | | |
| Model Test-3 Hrs | | |
| Dept. Meetings-2 Hrs | | |
| College Meetings-2 Hrs | | |
| Remaining 80 Hrs (5 units; 5×16=80; 16Hrs /unit) | | |

Course Objectives

- To understand relational database concepts and transaction management concepts in database system.
- To write PL/SQL programs that use: procedure, function, package, cursor and Exceptions.
- To Use current techniques and tools necessary for complex computing practices.

Syllabus

UNIT I AN OVERVIEW: PERSONAL DATABASES Client server databases – Oracle 9i An introduction – The SQL*Plus Environment – SQL – SQL*PLUS commands – Sample Databases. Oracle Tables; Naming rules and conventions – Data types – Constraints – Creating an Oracle table – Displaying table information's – Altering and exiting table – Dropping a table – Renaming a table – Truncating a table. (12 L)

UNIT II WORKING WITH TABLES DML statements – Arithmetic operations – Where clause – sorting – Define command – Built in functions – Grouping data. (10 L)

UNIT III MULTIPLE TABLES Joints – Set operators – Subquery – Top – N Analysis .Advanced features: Views – Subsequences – Synonyms – Index. (12 L)

UNIT IV PL/SQL: FUNDAMENTALS PL/SQL: FUNDAMENTALS – Block structure – Comments – Data types –Variable declaration – Anchored declaration – Assignment

operation – Bind variables – Substitution Variables – Arithmetic operators. Structures in PL/SQL: Control structures – Nested blocks – SQL in PL/SQL DML in PL/SQL – Transaction Control Statement. (14L)

UNIT V PL/SQL CURSORS & EXCEPTIONS PL/SQL Cursors & Exceptions - PL/SQL Composite data types: Records, Tables and VARRAYS. (12L)

| Hour | Class Schedule | |
|-----------|-------------------------------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 18.06.2018 | |
| 1-L1 | UNIT I AN OVERVIEW: PERSONAL DATABASES Client server | |
| | databases | |
| 2-L2 | Oracle 9i An introduction | |
| 3- L3 | The SQL*Plus Environment | |
| 4-L4 | SQL , SQL*PLUS commands | |
| 5-L5 | Sample Databases | |
| 6-L6 | Naming rules and conventions | |
| 7-L7 | Displaying table information's | |
| 8-L8 | Creating an Oracletable | |
| 9-L9 | Altering and exiting table | |
| 10-P1 | BCA Association | |
| 11-L10 | Dropping a table | |
| 12-L11 | Renaming a table | |
| 13-L12 | Truncating a table | |
| 14-L13 | UNIT II WORKING WITH TABLES | |
| 15-L14 | DML statements | |
| 16-L15 | Arithmetic operations | |
| 17-L16 | Where clause | |
| 18-L17 | Sorting | |
| 19-L18 | Define command | |
| 20-L19 | Built in functions | |
| 21-L20 | Single row functions | |
| 22-L21 | Character functions | |
| 23-L22 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(30.07.18) | |
| 24-L23 | Grouping data | |
| 25-L24 | UNIT III MULTIPLE TABLES: (12 L) | |
| 26-IT-1 | Internal Test-I | |
| 27-L25 | Joints | |
| 28-L26 | Set operators | |
| 29-L27 | Subquery | |
| 30-L28 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 31- L29 | Тор | |
| 32- L30 | N Analysis | |
| 33- L31 | Advanced features | |

| 34-P2 | College level meeting/Cell function | |
|----------|-------------------------------------------------------------|--|
| 35- L32 | Views | |
| 36- L33 | Subsequences | |
| 37- L34 | Synonyms | |
| 38- L35 | Select,insert,delete | |
| 39- L36 | Index | |
| 40- L37 | UNIT IV PL/SQL: FUNDAMENTALS PL/SQL: FUNDAMENTALS | |
| 41- L38 | Blockstructure | |
| 42- L39 | Comments | |
| 43- L40 | Data types | |
| 44- L41 | Variable declaration | |
| 45- L42 | Anchored declaration | |
| 46- L43 | Assignment operation | |
| 47- L44 | Substitution Variables | |
| 48- L45 | Arithmetic operator | |
| 49- L46 | Structures in PL/SQL | |
| 50- L47 | Control structures | |
| 51- P3 | Department Seminar | |
| 52- L48 | Nested blocks | |
| 53- L49 | SQL in PL/SQL DML in PL/SQL | |
| 54- L50 | Transaction Control Statement | |
| 55- L51 | UNIT V PL/SQL CURSORS & EXCEPTIONS | |
| 56-L52 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(03.09.18) | |
| 57-L53 | PL/SQL Cursors | |
| 58-L54 | Exceptions | |
| 59-IT-II | Internal Test-II | |
| 60- L55 | Types of expections | |
| 61- L56 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 62- L57 | An error code | |
| 63- L58 | A message | |
| 64- L59 | Types of cursor | |
| 65- L60 | Implicit cursor | |
| 66- L61 | Explicit cursor | |
| 67- L62 | Attributes | |
| 68- L63 | %found | |
| 69- L64 | %isopen | |
| 70- L65 | %notfound | |
| 71- L66 | %rowcount | |
| 72- L67 | %bulk_rowcount | |
| 73- L68 | %bulkexceptions | |
| 74-P4 | Declaring the cursor | |
| 75- L69 | Opening the cursor | |
| 76- L70 | Fetching the cursor | |
| 77- L71 | Closing the cursor | |
| 78- L72 | Closing the cursor Allotting portion for Internal Test-III | |
| 79- L73 | | |

| | Internal Test III begins(08.10.18) |
|-----------|---------------------------------------------------------------------|
| 80- L74 | PL/SQL Composite data types |
| 81- L75 | Records |
| 82-IT-III | Internal Test-III |
| 83- L76 | Tables |
| 84- L77 | Test Paper distribution and result analysis |
| 85- L78 | VARRAYS |
| | Entering Internal Test-III Marks into University portal |
| 86- L79 | Model Test begins(22.10.18) |
| 87-MT | Model Test |
| 88-MT | Model Test |
| 89-MT | Model test paper distribution and previous year university question |
| | paper discussion |
| 90-L-80 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23.11.2018 |

| Learning Outcomes | RDBMS |
|----------------------------|----------------------------------------|
| | |
| CO1 | Query-PL/SQL |
| CO2 | To gain the Knowledge about Data Bases |
| CO3 | Cursor Concepts |
| CO4 | Trigger |
| CO5 | Operators |
| Experimental | |
| Learning | |
| EL1 | Trigger |
| EL2 | Cursor |
| EL3 | Conditional Constructs |
| EL4 | Decision Making |
| Integrated Activity | |
| IA1 | SQL in PL/SQL DML in PL/SQL |
| IA2 | Transaction Control Statement |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN (2018-2019)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|---------------------|
| Course Name | DATA STRUCTRUE |
| Course Code | SACA31 |
| Class | II year (2018-2019) |
| Semester | Odd |
| Staff Name | Ms.G.PRISKILLAL |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To understand different methods of organizing large amounts of data.
- > To efficiently implement different data structure.
- > To efficiently implement solution for different problems.

Syllabus

UNIT I DATATYPES INTRODUCTION

Introduction: Pseudo code – The Abstract Data Type – A Model for an Abstract Data Type – Algorithms Efficiency. Searching: List Searches – Hashed List Searches – Collision Resolution. (10 L)

UNIT II LINKED LISTS

Linear List Concepts – Linked List Concepts – linked List Algorithms – Processing a Linked List – Complex Linked List Structures. (10 L)

UNIT III STACKS AND QUEUES

Basic Stacks Operations – Stack Linked List Implementation – Stack Applications – Queue operations – Queue Linked List Design. (10L)

UNIT IV TREES

Basic Tree Concepts – Binary Tree - Binary Tree Traversals – Expression Trees- General Trees – Binary Search Trees – Heap definition – Heap Structure – Basic Heap Algorithm. (8L)

UNIT V INTRODUCTION TO GRAPHS

Sorting And Graphs: General Sort Concepts – Quick sort – External sorts. Graphs: Terminology – Operations – Graph storage Structure – Networks.

| Hour | Class Schedule | |
|-----------|-------------------------------------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 18.06.2018 | |
| 1-L1 | UNIT I DATATYPES INTRODUCTION | |
| | Pseudo Code | |
| 2-L2 | The Abstract Data Type | |
| 3- L3 | A Model For An Abstract Data Type | |
| 4-L4 | Algorithm Efficiency | |
| 5-L5 | Searching | |
| 6-L6 | List Searches | |
| 7-L7 | Hashed List Searches | |
| 8- P1 | Welcoming of First year and Inauguration of BCA Association | |
| 9- L8 | Collision Resolution | |
| 10- L9 | UNIT II LINKED LISTS | |
| | Linear List Concepts | |
| 11-L10 | Linked List Concept | |
| 12-L11 | Linked List Algorithm | |
| 13-L12 | Processing A Link List | |
| 14-L13 | Complex Linked List Structure | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(30.07.2018) | |
| 16-L15 | UNIT III STACKS AND QUEUES | |
| | Basic Stacks Operations | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Stack Linked List Implementation | |
| 19-L17 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Stack Application | |
| 21- L19 | Queue Operation | |
| 22- P2 | College level meeting/Cell function | |
| 23-L20 | Queue Linked List Design | |
| 24-L21 | UNIT IV TREES | |

| Basic Tree Concepts 25-L22 Binary Tree 26-L23 Binary Tree Traversal 27-L24 Expression Trees 28-L25 General Trees 29-L26 Binary Search Tree 30-L27 Heap Definition 31-L28 Heap Structrue 32-L29 Basic Heap Algorithm 33-L30 UNIT V INTRODUCTION TO GRAPHS Sorting And Graphs 34- P3 Department Seminar 35-L31 General Sort Concept 36-L32 Allotting portion for Internal Test-II Internal Test II begins(03.09.2018) 37- L33 Quick Sort 38- IT-II Internal Test-II 39-L34 External Sort 40-L35 Test Paper distribution and result analysis Entering Internal Test-II Marks into University portal | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| 26-L23 Binary Tree Traversal 27-L24 Expression Trees 28-L25 General Trees 29-L26 Binary Search Tree 30-L27 Heap Definition 31-L28 Heap Structrue 32-L29 Basic Heap Algorithm 33-L30 UNIT V INTRODUCTION TO GRAPHS Sorting And Graphs 34- P3 Department Seminar 35-L31 General Sort Concept 36-L32 Allotting portion for Internal Test-II Internal Test II begins(03.09.2018) 37- L33 Quick Sort 38- IT-II Internal Test-II 39-L34 External Sort 40-L35 Test Paper distribution and result analysis | |
| 27-L24 Expression Trees 28-L25 General Trees 29-L26 Binary Search Tree 30-L27 Heap Definition 31-L28 Heap Structrue 32-L29 Basic Heap Algorithm 33-L30 UNIT V INTRODUCTION TO GRAPHS Sorting And Graphs 34- P3 Department Seminar 35-L31 General Sort Concept 36-L32 Allotting portion for Internal Test-II Internal Test II begins(03.09.2018) 37- L33 Quick Sort 38- IT-II Internal Test-II 39-L34 External Sort 40-L35 Test Paper distribution and result analysis | |
| 28-L25 General Trees 29-L26 Binary Search Tree 30-L27 Heap Definition 31-L28 Heap Structrue 32-L29 Basic Heap Algorithm 33-L30 UNIT V INTRODUCTION TO GRAPHS Sorting And Graphs 34- P3 Department Seminar 35-L31 General Sort Concept 36-L32 Allotting portion for Internal Test-II Internal Test II begins(03.09.2018) 37- L33 Quick Sort 38- IT-II Internal Test-II 39-L34 External Sort 40-L35 Test Paper distribution and result analysis | |
| 29-L26 Binary Search Tree 30-L27 Heap Definition 31-L28 Heap Structrue 32-L29 Basic Heap Algorithm 33-L30 UNIT V INTRODUCTION TO GRAPHS Sorting And Graphs 34- P3 Department Seminar 35-L31 General Sort Concept 36-L32 Allotting portion for Internal Test-II Internal Test II begins(03.09.2018) 37- L33 Quick Sort 38- IT-II Internal Test-II 39-L34 External Sort 40-L35 Test Paper distribution and result analysis | |
| 30-L27 Heap Definition 31-L28 Heap Structrue 32-L29 Basic Heap Algorithm 33-L30 UNIT V INTRODUCTION TO GRAPHS Sorting And Graphs 34- P3 Department Seminar 35-L31 General Sort Concept 36-L32 Allotting portion for Internal Test-II Internal Test II begins(03.09.2018) 37- L33 Quick Sort 38- IT-II Internal Test-II 39-L34 External Sort 40-L35 Test Paper distribution and result analysis | |
| 31-L28 Heap Structrue 32-L29 Basic Heap Algorithm 33-L30 UNIT V INTRODUCTION TO GRAPHS Sorting And Graphs 34- P3 Department Seminar 35-L31 General Sort Concept 36-L32 Allotting portion for Internal Test-II Internal Test II begins(03.09.2018) 37- L33 Quick Sort 38- IT-II Internal Test-II 39-L34 External Sort 40-L35 Test Paper distribution and result analysis | |
| 32-L29 Basic Heap Algorithm 33-L30 UNIT V INTRODUCTION TO GRAPHS Sorting And Graphs 34- P3 Department Seminar 35-L31 General Sort Concept 36-L32 Allotting portion for Internal Test-II Internal Test II begins(03.09.2018) 37- L33 Quick Sort 38- IT-II Internal Test-II 39-L34 External Sort 40-L35 Test Paper distribution and result analysis | |
| 33-L30 UNIT V INTRODUCTION TO GRAPHS Sorting And Graphs 34- P3 Department Seminar 35-L31 General Sort Concept 36-L32 Allotting portion for Internal Test-II Internal Test II begins(03.09.2018) 37- L33 Quick Sort 38- IT-II Internal Test-II 39-L34 External Sort 40-L35 Test Paper distribution and result analysis | |
| Sorting And Graphs 34- P3 Department Seminar 35-L31 General Sort Concept 36-L32 Allotting portion for Internal Test-II Internal Test II begins(03.09.2018) 37- L33 Quick Sort 38- IT-II Internal Test-II 39-L34 External Sort 40-L35 Test Paper distribution and result analysis | |
| 34- P3 Department Seminar 35-L31 General Sort Concept 36-L32 Allotting portion for Internal Test-II Internal Test II begins(03.09.2018) 37- L33 Quick Sort 38- IT-II Internal Test-II 39-L34 External Sort 40-L35 Test Paper distribution and result analysis | |
| 35-L31 General Sort Concept 36-L32 Allotting portion for Internal Test-II Internal Test II begins(03.09.2018) 37- L33 Quick Sort 38- IT-II Internal Test-II 39-L34 External Sort 40-L35 Test Paper distribution and result analysis | |
| 36-L32 Allotting portion for Internal Test-II Internal Test II begins(03.09.2018) 37- L33 Quick Sort 38- IT-II Internal Test-II 39-L34 External Sort 40-L35 Test Paper distribution and result analysis | |
| Internal Test II begins(03.09.2018) 37- L33 Quick Sort 38- IT-II Internal Test-II 39-L34 External Sort 40-L35 Test Paper distribution and result analysis | |
| 37- L33 Quick Sort 38- IT-II Internal Test-II 39-L34 External Sort 40-L35 Test Paper distribution and result analysis | |
| 38- IT-II Internal Test-II 39-L34 External Sort 40-L35 Test Paper distribution and result analysis | |
| 39-L34 External Sort 40-L35 Test Paper distribution and result analysis | |
| 40-L35 Test Paper distribution and result analysis | |
| | |
| | |
| 41-L36 Graphs | |
| 42- L37 Terminology | |
| 43- L38 Operation | |
| 44- P4 College level meeting/ function | |
| 45-L39 Graph Storage Structure | |
| 46-L40 Network | |
| 47-L41 Abstract Data Type | |
| 48-L42 Pseudo Code | |
| 49-L43 List Searches | |
| 50-L44 Allotting portion for Internal Test-III | - |
| Internal Test III begins(08.10.18) | |
| 51 L45 Hashed List Searches | |
| 52- L46 Stack Application | |
| 53-IT-III Internal Test-III | |
| 54-L47 Heap Definition | |
| 55-L48 Test Paper distribution and result analysis | |
| Entering Internal Test-III Marks into University portal | |
| 56- MT Model Test begins (22.10.18) | |
| 57-MT Model Test | |
| 58-MT Model Test | |
| 59- L49 Model test paper distribution and previous year university question p | aper |
| discussion | |
| 60-L50 Feedback of the Course, analysis and report preparation | |
| Last Working day on 23.11.2018 | |

| Learning Outcomes | |
|--------------------------|--------------------------------------------------------------------|
| | |
| CO1 | Select appropriate data structures as applied to specified problem |
| | definition |
| CO2 | To Implement operations |
| CO3 | To implement linear and non-linear data structure |
| CO4 | Determine complexity of the given algorithm |
| Experimental | |
| Learning | |
| EL1 | To implement sorting |
| EL2 | To implement the search operations |
| EL3 | Implementation of the Queue and Stack |
| EL4 | Implementation of Binary Trees |
| Integrated Activity | |
| IA1 | IT system integration |
| IA2 | Alternation mode choices shared about data structure |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN (2018-2019)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|------------------------|-----------------------|
| Course Name | Environmental Studies |
| Course Code | SEVS11 |
| Class | I (2018-2019) |
| Semester | ODD |
| Staff Name | Miss. ARULEENA KIRUBA |
| Credits | 2 |
| L. Hours /P. Hours | 2 / WK |
| Total 30Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |
| Dept. Meetings-2 Hrs | |
| College Meetings-2 Hrs | |

Course Objectives

- ➤ Use and over-utilization of surface and ground water
- ➤ Mineral resources: Use and exploitation
- Growing energy needs

Remaining 20Hrs (5 units; 5×4=20; 4Hrs /unit)

Syllabus

UNIT I: THE MULTIDISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES

Definition, scope and importance Natural resources and associated problems:Forest resources: Use and over-exploitation, deforestation, timber extraction, dams and their effects on forests and tribal people. — Water resources: Use and over-utilization of surface and ground water, floods, drought, dams-benefits and problems, water conservation and watershed management. -Mineral resources: Use and exploitation, environmental effects.-Food resources: World food problems, changes, effects of modern agriculture, fertilizer-pesticide problems. -Energy resources: Growing energy needs, renewablesndlnon renewable energy sources, alternate energy sources.- Land resources: Land as a resource, land degradation, man-induced landslides, soil erosion and desertification.

UNIT II: ECOSYSTEMS

Forest Ecosystem -Grassland Ecosystem -Desert ecosystem - Aquatic Ecosystem (Ponds, rivers, oceans, estuaries) -Energy flow in the ecosystem-Ecological succession-Food Chains, Food Webs and Ecological Pyramids.

UNIT III: BIODIVERSITY AND ITS CONSERVATION

Introduction Definition: Genetic, species and ecosystem diversity-Biogeographical classification of Jndia -Values of Biodiversity- Biodiversity at global, national and local levels- India as a mega-diversity nation- Hot-Spots of biodiversity -Threats to biodiversity - Endangered and endemic species of India -Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

UNIT IV: ENVIRONMENTAL POLLUTION

Definition- Causes, effects and control measures of:-Air Pollution -Water Pollution -Soil Pollution - Marine Pollution - Noise Pollution.- Thermal Pollution -Solid Waste Management - Disaster Management: Floods, earthquake, cyclone and landslides.

UNIT V: SOCIAL ISSUES AND THE ENVIRONMENT

Climatic change, global warming, acid rain, ozone depletion.- Wasteland reclamation - Consumerism and Waste products, use and through plastics Environment Protection Act- Air (Prevention and Control of Pollution) Act -Water (Prevention and Control of Pollution) Act - Wildlife Protection Act Forest Conservation Act -Population Explosion — Family Welfare Programme Human Rights

| Hour | Class Schedule |
|-----------|-----------------------------------------------------------------------------------|
| allotment | |
| | ODD Semester Begin on 18.06.2018 |
| 1-L1 | Unit-1:Forest resources: Use and over-exploitation, deforestation, timber |
| | extraction, dams and their effects on forests and tribal people. Water resources: |
| | Use and over-utilization of surface and ground water, floods, drought, dams- |
| | benefits and problems, water conservation and watershed management. |
| 2-L2 | Energy resources: Growing energy needs, renewablesndlnon renewable energy |
| | sources, alternate energy sources- Land resources: Land as a resource, land |
| | degradation, man-induced landslides, soil erosion and desertification |
| 3- P1 | Welcoming of First year and Inauguration |
| 4-L3 | Mineral resources: Use and exploitation, environmental effects. |
| 5-L4 | Allotting portion for Internal Test-I |

| | Internal Test I begins(30.07.18) |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6-IT-I | Internal Test-I |
| 7-L5 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 8-L6 | Food resources: World food problems, changes, effects of modern |
| | agriculture, fertilizer-pesticide problems. |
| 9-L7 | Unit-2: Forest Ecosystem -Grassland Ecosystem -Desert ecosystem - Aquatic |
| | Ecosystem (Ponds, rivers, oceans, estuaries) |
| 10-P2 | College level meeting/Cell function |
| 11-L8 | Energy flow in the ecosystem-Ecological succession-Food Chains, Food Webs and Ecological Pyramids. |
| 12-L9 | Unit-3: Introduction Definition: Genetic, species and ecosystem diversity-Biogeographical classification of Jndia -Values of Biodiversity-Biodiversity at global, national and local levels |
| 13-P3 | Department Seminar |
| 14-L10 | India as a mega-diversity nation- Hot-Spots of biodiversity -Threats to biodiversity -Endangered and endemic species of India -Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity. |
| 15-L11 | Unit-4: Definition- Causes, effects and control measures of:-Air Pollution - Water Pollution - Soil Pollution - Marine Pollution |
| 16-L12 | Allotting portion for Internal Test-II |
| | Internal Test II begins(03.09.18) |
| 17-IT-1 | Internal Test-II |
| 18-L13 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 19-L14 | Noise Pollution Thermal Pollution -Solid Waste Management - Disaster |
| | Management: Floods, earthquake, cyclone and landslides. |
| 20- P2 | College level meeting/ function |
| 21-L15 | Unit-5: Climatic change, global warming, acid rain, ozone depletion Wasteland reclamation -Consumerism and Waste products, use and through plastics Environment Protection Act |
| 22-L16 | - Air (Prevention and Control of Pollution) Act -Water (Prevention and Control |
| | of Pollution) Act -Wildlife Protection Act Forest Conservation Act -Population |
| | Explosion — Family Welfare Programme Human Rights |
| 23- L17 | Allotting portion for Internal Test-III |
| | Internal Test III begins(08.10.18) |
| 24- IT-III | Internal Test-III |
| 25-L18 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 26-MT | Model Test begins(22.10.18) |
| 27-MT | Model Test |
| 28-MT | Model Test |
| 29-L19 | Model test paper distribution and previous year university question paper |
| | discussion |
| 30-L20 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23.11.2018 |

| Learning Outcomes | Environmental Studies | |
|----------------------------|-----------------------------------------------------------------|--|
| | | |
| CO1 | Energy flow in the ecosystem-Ecological succession-Food Chains, | |
| | Food Webs and Ecological Pyramids | |
| CO2 | Noise Pollution Thermal Pollution -Solid Waste Management - | |
| | Disaster Management: Floods, earthquake, cyclone and landslides | |
| CO3 | Climatic change, global warming, acid rain, ozone depletion | |
| | Wasteland reclamation | |
| Experimental | | |
| Learning | | |
| EL1 | Soil Pollution | |
| EL2 | Disaster Management | |
| Integrated Activity | | |
| IA1 | Field Work | |
| IA2 | Village Visit | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN (2018-2019)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|---------------------|--------------------|
| Course Name | Programming in C |
| Course Code | SMCA11 |
| Class | I year (2018-2019) |
| Semester | Odd |
| Staff Name | Mrs.G.Priskillal |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| Internal Test-3 Hrs | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > Importance of C
- > Decision making and looping
- > User defined functions
- > Problem solving

Syllabus

Programming in C

Unit I Overview of C: Introduction- Importance of C - Sample C Programs - Basic structure of C - Executing C program **Constant, variables and data types:** Introduction- Character set - tokens – keywords and identifiers – constants – variables- data types –declaration of variables – assigning values of variables. **Operators and expressions:** Introduction – arithmetic of operations- relational operator – assignment operator – increment and decrement operator – conditional operator – bitwise operator – special operator – evaluation of expressions – precedence of arithmetic operators – type conversion in expression- operator precedence and associatively- mathematical functions

Unit II Managing input and output operators: Introduction: Reading a character- writing a character – formatted input – formatted output **Decision making and branching:** Introduction – decision making with IF statement- simple IF statement – The IF ELSE

statement- nesting of IF –ELSE statement –ELSE IF ladders- The switch statement – The?: operators – The GOTO statement **Decision making and looping:** The While statement – The Do statement – The statement- Jump in loops

Unit III Arrays: One dimensional arrays – two dimensional arrays -Initializing two dimensional arrays – multi dimensional arrays Page **4** of **12**

Handling of character strings: Introduction: declaring and Initializing string variables-Reading string from terminal- writing string to screen – arithmetic operation on characters – putting strings together – comparison of two strings together – string handling functions

Unit IV User defined functions: Introduction – need for user- define functions- A multifunction program – The form of C functions- return values and their types – calling a function- category of function – no argument and no return values – argument with no return values – argument with return values – handling of non integer functions – nesting of functions – recursion – function with arrays – the scope and life time of variables in functions.

Unit V Pointers Introduction: understanding pointers – accessing the address of variables – declaring and initializing pointers – accessing a variable through its pointer – pointer expressions – pointer increments and scale factor – pointers and character strings – pointers and functions – points on pointer.

| Hour | Class Schedule |
|-----------|----------------------------------------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 18.06.2018 |
| 1-L1 | Introduction- Importance of C, Sample C Programs |
| 2-L2 | Basic structure of C, Executing C program |
| 3- L3 | Executing C program |
| 4-L4 | Constant, variables and data types: Introduction |
| 5-L5 | Character set, tokens, keywords and identifiers |
| 6-L6 | constants ,variables, data types |
| 7-L7 | declaration of variables , assigning values of variables. |
| 8- P1 | Welcoming of First year and Inauguration of BCA Association |
| 9- L8 | Operators and expressions: Introduction, arithmetic of operations |
| 10- L9 | relational operator ,assignment operator ,increment and decrement operator |
| 11-L10 | conditional operator ,bitwise operator ,special operator |
| 12-L11 | evaluation of expressions, precedence of arithmetic operators ,type conversion in expression |
| 13-L12 | Type conversion in expression ,operator precedence and |
| | associatively,mathematical functions |
| 14-L13 | Unit II Managing input and output operators: Introduction: Reading a |
| | character |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins(30.07.18) |

| 16-L15 | writing a character, formatted input, formatted output |
|-----------|---------------------------------------------------------------------------------|
| 17-IT-1 | Internal Test-I |
| 18-L16 | Decision making and branching: Introduction – decision making with IF |
| 10-L10 | statement |
| 19-L17 | Test Paper distribution and result analysis |
| 17 217 | Entering Internal Test-I Marks into University portal |
| 20-L18 | simple IF statement, The IF ELSE statement, nesting of IF –ELSE statement |
| 21- L19 | ELSE IF ladders |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | The switch statement, The?: operators |
| 24-L21 | The GOTO statement |
| 25-L22 | Decision making and looping: The While statement |
| 26-L23 | The Do statement, The for statement- Jump in loops |
| 27-L24 | Unit III Arrays: One dimensional arrays , two dimensional arrays , |
| 28-L25 | Initializing two dimensional arrays ,multi dimensional arrays |
| 29-L26 | Handling of character strings: Introduction: declaring and Initializing string |
| | variables |
| 30-L27 | Reading string from terminal, writing string to screen, arithmetic operation on |
| | characters |
| 31-L28 | putting strings together, comparison of two strings together, multi dimensional |
| | arrays |
| 32-L29 | string handling functions, Unit IV User defined functions: Introduction |
| 33-L30 | need for user- define functions, A multi- function program |
| 34- P3 | Department Seminar |
| 35-L31 | The form of C functions, return values and their types , calling a |
| | function,category of function |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(03.09.18) |
| 37- L33 | no argument and no return values |
| 38- IT-II | Internal Test-II |
| 39-L34 | argument with no return values, argument with return values |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | handling of non integer functions, nesting of functions, |
| 42- L37 | recursion, function with arrays, the scope and life time of variables in |
| | functions. |
| 43- L38 | Unit V Pointers Introduction: understanding pointers |
| 44- P4 | College level meeting/ function |
| 45-L39 | understanding pointers |
| 46-L40 | accessing the address of variables ,declaring and initializing pointers |
| 47-L41 | accessing a variable through its pointer |
| 48-L42 | pointer expressions |
| 49-L43 | pointer increments and scale factor |
| 50-L44 | Allotting portion for Internal Test-III |
| £1 T 45 | Internal Test III begins(08.10.18) |
| 51 L45 | pointers and character strings |
| 52- L46 | pointers and functions Internal Test III |
| 53-IT-III | Internal Test-III |

| 54-L47 | points on pointer. |
|---------|---------------------------------------------------------------------------|
| | |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(22.10.18) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23.11.2018 |

| Learning Outcomes | Programming in C | |
|----------------------------|-------------------------------------------------------------------|--|
| | | |
| CO1 | Basic structure of C, Executing C program | |
| CO2 | The form of C functions, return values and their types, calling a | |
| | function, category of function | |
| CO3 | pointer expressions | |
| Experimental | | |
| Learning | | |
| EL1 | accessing the address of variables ,declaring and initializing | |
| | pointers | |
| EL2 | pointer increments and scale factor | |
| Integrated Activity | | |
| IA1 | understanding pointers – accessing the address of variables | |
| IA2 | Array-Various Dimensions | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN (2018-2019)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|-----------------------|
| Course Name | Java programming |
| Course Code | SMCA31 |
| Class | II year (2018-2019) |
| Semester | Odd |
| Staff Name | Mr.I.THOMAS JEBASINGH |
| Credits | 6 |
| L. Hours /P. Hours | 6 / WK |
| Total 90 Hrs/Sem | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 80Hrs (5 units; 5×16=80; 16Hrs /unit)

Course Objectives

- Wrapper classes
- Control structures
- > Constructors and methods in throwable classes
- > File and I/O streams

Syllabus

UNIT -I Java language fundamentals: The building blocks of Java – Data types – Variable declarations – Wrapper classes – Operators and assignment – Control structures – Arrays – Strings.

UNIT- II Java as an OOP language: Defining classes – Modifiers – Packages – Interfaces **Exception handling:** Introduction – Basics of exception handling in JAVA – Exception hierarchy – Constructors and methods in throwable classes – Unchecked and checked exceptions – Handling Exceptions in Java

UNIT- III Multithreading: Creating threads – Thread life-cycle – Thread priorities and thread scheduling – Thread synchronization. File and I/O streams: Java I/O – File streams – File Input Stream and File Output Stream – Filter streams

UNIT- IV Applets: Java applications versus Java applets – Applet Life-cycle – working with applets – the HTML APPLET tag. Database handling using JDBC: JDBC architecture – working with JDBC – Processing queries – Transaction commit and Rollback – Handling exceptions – Accessing Metadata

UNIT- V The Abstract Window Toolkit: Basic classes in AWT – Drawing with graphics class – Class hierarchy of AWT – Event handling – AWT controls – Layout managers.

| Hour | Class Schedule |
|-----------|------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 18.06.2018 |
| 1-L1 | UNIT -I Java language fundamentals |
| 2-L2 | Data types |
| 3- L3 | Variable declarations |
| 4-L4 | Wrapper classes |
| 5-L5 | Operators and assignment |
| 6-L6 | Control structures |
| 7-L7 | Arrays |
| 8-L8 | Strings |
| 9-L9 | UNIT- II Java as an OOP language: Defining classes |
| 10-P1 | Welcoming of First year and Inauguration of BCAAssociation |
| 11-L10 | Modifiers |
| 12-L11 | Interfaces |
| 13-L12 | Exception handling: Introduction |
| 14-L13 | Basics of exception handling in JAVA |
| 15-L14 | Exception hierarchy |
| 16-L15 | Constructors and methods in throwable classes |
| 17-L16 | Unchecked and checked exceptions |
| 18-L17 | Handling |
| 19-L18 | Exceptions in Java |
| 20-L19 | UNIT- III Multithreading: Creating threads |
| 21-L20 | Thread life-cycle |
| 22-L21 | Thread priorities |
| 23-L22 | Allotting portion for Internal Test-I |
| | Internal Test I begins30.07.18) |
| 24-L23 | thread scheduling |
| 25-L24 | Thread synchronization |
| 26-IT-1 | Internal Test-I |
| 27-L25 | File and I/O streams |
| 28-L26 | Java I/O – File streams |
| 29-L27 | File Input Stream and File Output Stream |
| 30-L28 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 31- L29 | Filter streams |
| 32- L30 | UNIT- IV Applets: Java applications versus Java applets |

| 33- L31 | Applet Life-cycle | |
|-----------------------------|-----------------------------------------------------------------------------------------------------------------------------------|--|
| 34-P2 | College level meeting/Cell function | |
| 35- L32 | Thread priorities and thread scheduling | |
| 36- L33 | Thread synchronization | |
| 37- L34 | File and I/O streams | |
| 38- L35 | Java I/O – File streams | |
| 39- L36 | File Input Stream and File Output Stream | |
| 40- L37 | Filter streams | |
| 41- L38 | UNIT- IV Applets: Java applications versus Java applets | |
| 42- L39 | Applet Life-cycle | |
| 43- L40 | working with applets | |
| 44- L41 | the HTML APPLET tag | |
| 45- L42 | Database handling using JDBC | |
| 46- L43 | JDBC architecture | |
| 47- L44 | working with JDBC | |
| 48- L45 | Processing queries | |
| 49- L46 | Transaction commit and Rollback | |
| 50- L47 | Handling exceptions | |
| 51- P3 | Department Seminar | |
| 52- L48 | Accessing Metadata | |
| 53- L49 | UNIT- V The Abstract Window Toolkit: Basic classes in AWT | |
| 54- L50 | Drawing with graphics class | |
| 55- L51 | Class hierarchy of AWT | |
| 56-L52 | Allotting portion for Internal Test-II | |
| 20 202 | Internal Test II begins (03.09.18) | |
| 57-L53 | Event handling | |
| 58-L54 | AWT controls | |
| 59-IT-II | Internal Test-II | |
| 60- L55 | Layout managers. | |
| 61- L56 | Test Paper distribution and result analysis | |
| - | Entering Internal Test-II Marks into University portal | |
| 62- L57 | Literals | |
| 63- L58 | Applet skeleton | |
| 64- L59 | audio clip interface | |
| 65- L60 | applet display method | |
| 66- L61 | Event handling mechanism | |
| 67- L62 | AWT classes | |
| 68- L63 | Applet basics | |
| 69- L64 | event handling mechanisms | |
| 70- L65 | Bars and menus | |
| 71- L66 | Dars and menus | |
| | Understanding layout managers | |
| 72- L67 | | |
| 72- L67 73- L68 | Understanding layout managers | |
| | Understanding layout managers Inter thread communication | |
| 73- L68 | Understanding layout managers Inter thread communication Java thread model | |
| 73- L68 74-P4 | Understanding layout managers Inter thread communication Java thread model College level meeting/ function | |
| 73- L68 74-P4 75- L69 | Understanding layout managers Inter thread communication Java thread model College level meeting/ function writing console output | |

| 79- L73 | Allotting portion for Internal Test-III | |
|-----------|---------------------------------------------------------------------------|--|
| | Internal Test III begins(08.10.18) | |
| 80- L74 | Creating multiple threads | |
| 81- L75 | multiple catch clauses | |
| 82-IT-III | Internal Test-III | |
| 83- L76 | Stack class | |
| 84- L77 | Test Paper distribution and result analysis | |
| 85- L78 | Try and catch | |
| | Entering Internal Test-III Marks into University portal | |
| 86- L79 | Model Test (22.10.18) | |
| 87-MT | Model Test | |
| 88-MT | Model Test | |
| 89-MT | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 90-L-80 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 23.11.2018 | |

| Learning Outcomes | COs of the course " <java programming="">"</java> |
|----------------------------|---------------------------------------------------|
| | |
| CO1 | audio clip interface |
| CO2 | event handling mechanisms |
| CO3 | Bars and menus |
| Experimental | |
| Learning | |
| EL1 | AWT classes |
| EL2 | Thread synchronization |
| EL3 | audio clip interface |
| Integrated Activity | |
| IA1 | Inter thread communication |
| IA2 | using object as parameters |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN (2018-2019)

(Prepared by staff member handling the course)

| Programme Name | B.C.A. | |
|---------------------------------------------------|-------------------------------|--|
| Course Name | INTRODUCTION TO INTERNET WITH | |
| | HTML | |
| Course Code | SMCA32 | |
| Class | II year (2018-2019) | |
| Semester | Odd | |
| Staff Name | MR S.IMMANUEL | |
| Credits | 4 | |
| L. Hours /P. Hours | 4 / WK | |
| Total 60Hrs/Sem | | |
| Internal Test-3 Hrs | | |
| Model Test-3 Hrs | | |
| Dept. Meetings-2 Hrs | | |
| College Meetings-2 Hrs | | |
| Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit) | | |

Course Objectives

- To learn Object Oriented Programming language.
- To handle abnormal termination of a program using exception handling.
- To design user Interface using AWT.

Syllabus

UNIT I INTRODUCTION TO INTERNET Computer in business-networking-internet- e-mail-gopher-world wide web, Internet Technologies – Internet Browsers. (12L)

UNIT II INTRODUCTION TO HTML History of HTML - HTML generation and Documents – Tags and Links – Head and Body Section. (12 L)

UNIT III DESIGNING TABLES Designing Body Section – Ordered and Unordered List – Table Handling. (12 L)

UNIT IV INTRODUCTION TO DHTML Features of DHTML – Defining styles – Working with Colors – Text and Fonts with Style. (12 L)

$\begin{array}{ll} UNIT & V & FRAMES & Frame \ set \ Definition-Nested \ frames-A \ web \ design \ project-forms. \\ \end{array}$

| Hour | Class Schedule | |
|-----------|---------------------------------------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 18.06.2018 | |
| 1-L1 | UNIT I INTRODUCTION TO INTERNET WITH HTML | |
| 2-L2 | Computer in business | |
| 3- L3 | Networking | |
| 4-L4 | Internet | |
| 5-L5 | e-mail | |
| 6-L6 | Gopher | |
| 7-L7 | world wide web | |
| 8- P1 | Welcoming of First year and Inauguration of BCAAssociation | |
| 9- L8 | Internet Technologies | |
| 10- L9 | Usenet | |
| 11-L10 | Bulletin Board Service | |
| 12-L11 | Wide Area Information Service | |
| 13-L12 | Internet Browsers | |
| 14-L13 | UNIT II INTRODUCTION TO HTML | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(30.07.18) | |
| 16-L15 | History of HTML | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | HTML generation and Documents | |
| 19-L17 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Tags and Links | |
| 21- L19 | Hyper Links | |
| 22- P2 | College level meeting/Cell function | |
| 23-L20 | Anchor Tag | |
| 24-L21 | Head and Body Section | |
| 25-L22 | UNIT III DESIGNING TABLES (12 L) | |
| 26-L23 | Designing Body Section | |
| 27-L24 | Ordered List | |
| 28-L25 | Unordered List | |
| 29-L26 | Nested List | |
| 30-L27 | Aligning the Headings | |
| 31-L28 | UNIT III DESIGNING TABLES Designing Body Section ,Ordered and | |
| | Unordered List ,Table Handling. (12 L) | |
| 32-L29 | Table Handling | |

| 33-L30 | UNIT IV INTRODUCTION TO DHTML | |
|-----------|---------------------------------------------------------------------------|--|
| 34- P3 | Department Seminar | |
| 35-L31 | Features of DHTML | |
| 36-L32 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(03.09.18) | |
| 37- L33 | Defining styles and Elements of Styles | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | Working with Colours | |
| 40-L35 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Text and Fonts with Style | |
| 42- L37 | UNIT V FRAMES | |
| 43- L38 | Frame set Definition | |
| 44- P4 | College level meeting/ function | |
| 45-L39 | Nested frames | |
| 46-L40 | Action Attribute | |
| 47-L41 | Method Attribute | |
| 48-L42 | Enctype Attribute | |
| 49-L43 | Drop Down List | |
| 50-L44 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(08.10.18) | |
| 51 L45 | Sample Forms | |
| 52- L46 | A web design project | |
| 53-IT-III | Internal Test-III | |
| 54-L47 | Forms | |
| 55-L48 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 56- MT | Model Test begins(22.10.18) | |
| 57-MT | Model Test | |
| 58-MT | Model Test | |
| 59- L49 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 60-L50 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 23.11.2018 | |

| Learning Outcomes | COs of the course "INTRODUCTION TO INTERNET WITH | |
|----------------------------|-----------------------------------------------------|--|
| | HTML" | |
| CO1 | Action Attribute | |
| CO2 | Nested frames | |
| Experimental | | |
| Learning | | |
| EL1 | Internet Technologies | |
| EL2 | Working with Colours | |
| EL3 | Method Attribute | |
| Integrated Activity | | |
| IA1 | e-mail-gopher-world wide web, Internet Technologies | |
| IA2 | Ordered and Unordered List – Table Handling. | |
| | | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|--------------------|---------------------------------|
| Course Name | Network Security & Cryptography |
| Course Code | HNTE12 |
| Class | I year (2014-2015) |
| Semester | Odd |
| Staff Name | Mr.K.Appasamy |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| T-4-1 (OII/C | |

Total 60Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- To learn about Attacks, services and Mechanisms
- > To learn about Internet standards and RFCS.
- To learn about Substitution Techniques
- > To learn about Steganography.
- > Syllabus

Unit-I

Introduction:

Attacks, services and Mechanisms - security attacks - security services - A model for internetwork security - Internet standards and RFCS. Classical Encryption Techniques: symmetric cipher Model - Substitution Techniques - Transportation Techniques Rotor Mechanism – Steganography. (12L)

Unit-II

Block ciphers and the data encryption standard simplified DES

Block Cipher Principles -The Data encryption standard -The strength of DES - Differentials and Linear Cryptanalysis -Block Cipher design principles -Block Cipher modes of operations. Public Key Cryptography and RSA: Principles of Public - Key Cryptosystems The RSA Algorithm. (13L)

Unit-III

Key Management:

Other Public-Key Cryptosystems: Key Managements- Diffie Hellman Key Exchange-Elliptic curve Arithmetic - Elliptic curve Cryptography Message Authentication & Hash functions: Authentication Requirements-Authentication functions-message Authentication Codes- Hash

functions- Security of Hash functions & MACS. Digital Signatures -Authentication Protocols - Digital Signature Standard. (13L)

Unit-IV

Authentication applications:

Kerberos X 509 Authentication service. Electronic Mail security: Pretty good Privacy - S/MIME 445 IP Security: IP Security overview - IP Security Architecture -Authentication Header - Encapsulation security Payload. (10L)

Unit-V

Web Security:

Web Security Considerations - Secure Sockets Layer and Transport Layer Security - Secure Electronic Transactions System Security: Intruders - Intrusion detection -Password Management. Firewalls: Firewalls Design Principles - Trusted Systems (12L)

| Hour allotment | Class Schedule | |
|-------------------|-------------------------------------------------------|--|
| anoment | Odd Semester Begin on 18.06.2014 | |
| 1-L1 | Attacks | |
| 2-L2 | Services | |
| 3- L3 | Mechanisms | |
| 4-L4 | security attacks | |
| 5-L5 | security services | |
| 6-L6 | A model for internetwork security | |
| 7-L7 | Internet standards and RFCS | |
| 8- P1 | BCA&MSC IT Association | |
| 9- L8 | Classical Encryption Techniques | |
| 10- L9 | symmetric cipher Model | |
| 11-L10 | Substitution Techniques | |
| 12-L11 | Transportation Techniques Rotor Mechanism | |
| 13-L12 | Steganography. | |
| 14-L13 | Block Cipher Principles | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins (30.07.2014) | |
| 16-L15 | The Data encryption standard | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | The strength of DES | |
| 19-L17 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Differentials and Linear Cryptanalysis - | |
| 21- L19 | Block Cipher design principles | |
| 22- P2 | College level meeting/Cell function | |
| 23-L20 | Block Cipher modes of operations | |
| 24-L21 | Public Key Cryptography and RSA: | |
| 25-L22 | Principles of Public | |
| 26-L23 | Key Cryptosystems | |
| 27-L24 | The RSA Algorithm. | |
| 28-L25 | Other Public-Key Cryptosystems | |

| 29-L26 | Key Managements | |
|-----------|---------------------------------------------------------------------------------|--|
| 30-L27 | Hellman Key Exchange | |
| 31-L28 | Elliptic curve Arithmetic - | |
| 32-L29 | Elliptic curve Cryptography Message Authentication & Hash functions | |
| 33-L30 | Authentication Requirements | |
| 34- P3 | Department Seminar | |
| 35-L31 | Authentication functions-message Authentication Codes | |
| 36-L32 | Allotting portion for Internal Test-II | |
| | Internal Test II begins (18.08.2014) | |
| 37- L33 | Hash functions- Security of Hash functions & MACS | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | Digital Signatures -Authentication Protocols - Digital Signature Standard. | |
| 40-L35 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Kerberos X 509 Authentication service. Electronic Mail security | |
| 42- L37 | Pretty good Privacy | |
| | S/MIME 445 IP Security: IP Security overview - | |
| 43- L38 | | |
| 44- P4 | College level meeting/ function | |
| 45-L39 | IP Security overview - IP Security Architecture | |
| 46-L40 | Authentication Header - Encapsulation security Payload. | |
| 47-L41 | Web Security Considerations - Secure Sockets Layer and Transport Layer Security | |
| 48-L42 | Secure Electronic Transactions System Security | |
| 49-L43 | Intruders - Intrusion detection | |
| 50-L44 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(15.09.2014) | |
| 51 L45 | Password Management. | |
| 52- L46 | Firewalls: Firewalls Design Principles | |
| 53-IT-III | Internal Test-III | |
| 54-L47 | Trusted Systems | |
| 55-L48 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 56- MT | Model Test begins(24.10.2014) | |
| 57-MT | Model Test | |
| 58-MT | Model Test | |
| 59- L49 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 60-L50 | Feedback of the Course, analysis and report preparation | |
| | | |

| Learning Outcomes | Network Security & Cryptography |
|--------------------------|---------------------------------|
| CO1 | IP Security overview |
| CO2 | IP Security Architecture |
| CO3 | Web Security Considerations |
| CO4 | Password Management |
| CO5 | System Security |

| CO6 | Transport Layer Security |
|----------------------------|----------------------------------|
| CO7 | Secure Electronic Transactions |
| CO8 | System Security |
| CO9 | Firewalls Design Principles |
| Experimental | |
| Learning | |
| EL1 | Block Cipher modes of operations |
| EL2 | Public Key Cryptography and RSA: |
| EL3 | Principles of Public |
| EL4 | Key Cryptosystems |
| Integrated Activity | |
| IA1 | The RSA Algorithm. |
| IA2 | Other Public-Key Cryptosystems |

Blended Learning : using PPT, video, library resources, ICT techniques,

E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT | |
|---------------------------------------------------|-----------------------------|--|
| Course Name | OBJECT ORIENTED PROGRAMMING | |
| | C++ | |
| Course Code | HNTM12 | |
| Class | I YEAR (2014-2015) | |
| Semester | ODD | |
| Staff Name | Mr.K.APPASAMY | |
| Credits | 5 | |
| L. Hours /P. Hours | 5 / WK | |
| Total 75 Hrs/Sem | | |
| Internal Test-3 Hrs | | |
| Model Test-3 Hrs | | |
| Dept. Meetings-2 Hrs | | |
| College Meetings-2 Hrs | | |
| Remaining 65 Hrs (5 units; 5×13=65; 13Hrs /unit) | | |

Course Objectives

- To understand how C++ improves C with object-oriented features.
- > To learn how to write inline functions for efficiency and performance.
- ➤ To learn how to design C++ classes for code reuse.

Syllabus

Unit-I Principles of Object Oriented Programming: Basic Concepts of Object Oriented Programming-Benefits of OOP —Applications of OOP — Tokens, Expressions and Control Structures: Tokens-Keywords- Identifiers and constants-Basic data types- User Defined Data Types — Derived Data types — Symbolic Constants —Type Compatibility — Declaration of Variables —Operators in C++ - Expressions and their types — Control Structures. **(12L)**

Unit- II Classes and Objects Specifying a class –Defining Member functions – Memory allocation for objects – Static Member functions –Arrays of Objects –Objects as Function Arguments – Friendly functions –Returning Objects – Pointers to Members . Constructors and Destructors – Parameterized Constructors –Multiple Constructors – Constructors with Default Arguments – Copy Constructor – Destructors. **(12L)**

Unit-III

Operator Overloading and Type conversions: Defining Operator Overloading – Overloading Unary Operators –Overloading binary Operators – Overloading binary operators using friends – Manipulation of Strings using operators – Rules for overloading operators – Type Conversions. Inheritance: Defining derived classes – single inheritance – Multilevel

Inheritance – Multiple Inheritance – Hierarchical Inheritance – Virtual base classes – Abstract Classes – Constructors in Derived classes – Nesting of classes. (10L)

Unit- IV Pointers, Virtual Functions and Polymorphism - Pointers - Pointers to Objects - this Pointer - Pointers to Derived Classes - Virtual functions - Pure virtual functions Managing Console I/O Operations : C++ streams - C++ Stream Classes - Unformatted I/O Operations - Formatted Console I/O Operations - Managing Output with Manipulators . **(13L)**

Unit-V Working with Files – Opening and closing a File – Updating a file – Command-line arguments – Templates – Class templates – Class templates with Multiple Parameters – Function Templates - Function Templates with multiple parameters- Overloading of Template functions – Member function Template-Exception handling Mechanisms. (13L)

| Hour | Class Schedule | |
|-----------|------------------------------------------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 18.06.2014 | |
| 1-L1 | Principles of Object Oriented Programming : | |
| 2-L2 | Basic Concepts of Object Oriented Programming-Benefits of OOP | |
| 3- L3 | Applications of OOP – Tokens, Expressions and Control Structures | |
| 4-L4 | Tokens-Keywords- Identifiers and constants | |
| 5-L5 | Basic data types- User Defined Data Types | |
| 6-L6 | Derived Data types – Symbolic Constants – Type Compatibility – | |
| 7-L7 | Declaration of Variables –Operators in C++ | |
| 8- P1 | BCA &M.Sc(IT)Association | |
| 9- L8 | Expressions and their types | |
| 10- L9 | Control Structures. | |
| 11-L10 | Classes and Objects Specifying a class | |
| 12-L11 | Defining Member functions | |
| 13-L12 | Memory allocation for objects – Static Member functions | |
| 14-L13 | Arrays of Objects –Objects as Function Arguments | |
| 15-L14 | Friendly functions –Returning Objects | |
| 16-L15 | Pointers to Members . Constructors and Destructors – | |
| 17- L16 | Parameterized Constructors –Multiple Constructors | |
| 18- L17 | Constructors with Default Arguments – | |
| 19- L18 | Copy Constructor – Destructors. | |
| 20- L19 | Operator Overloading and Type conversions | |
| 21- L20 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(30.07.2014) | |
| 22- L21 | Defining Operator Overloading – Overloading Unary Operators – | |
| 23- IT-1 | Internal Test-I | |
| 24- L22 | Overloading binary Operators | |
| 25- L23 | Overloading binary operators using friends | |
| 26- L24 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 27- L25 | Manipulation of Strings using operators | |
| 28- L26 | Rules for overloading operators | |

| 71-MT | rks into University portal Model Test begins(24.10.2014) |
|--------------------|--------------------------------------------------------------------------|
| | |
| | Entering Internal Test-III Ma |
| 70- L63 | Test Paper distribution and result analysis |
| 69- L62 | Exception handling Mechanisms |
| 68- L61 | Member function Template |
| 67-IT-III | Internal Test-III |
| 66- L60 | Overloading of Template functions |
| 65- L59 | Overloading |
| <i>(F. 1.50)</i> | Internal Test III begins(15.09.2014) |
| 64- L58 | Allotting portion for Internal Test-III |
| 63- L57 | Function Templates with multiple parameters |
| 62- L56 | Function Templates with multiple parameters |
| 61- L55 | templates with Multiple Parameters |
| 60- L54 | Function Templates |
| 59-P4 | College level meeting/ function |
| | Class templates with Multiple Parameters College level meeting function |
| 57- L52 58- L53 | |
| 56- L51 57- L52 | Class templates |
| 56- L51 | Command-line arguments Templates |
| 55- L50 | |
| 54- L49 | Updating a file |
| 53- L48 | opening and closing a File |
| 52- L47 | Working with Files |
| <i>J</i> 1 L⊤0 | Entering Internal Test-II Marks into University portal |
| 51- L46 | Test Paper distribution and result analysis |
| 50-L45 | Managing Output with Manipulators |
| 49-IT-II | Internal Test-II |
| 48- L44 | Formatted Console I/O Operations |
| ., <u></u> [J | Internal Test II begins(18.08.2014) |
| 40- L42 47- L43 | Allotting portion for Internal Test-II |
| 46- L42 | Unformatted I/O Operations |
| 45- L41 | C++ Stream Classes |
| 44- L40 | C++ streams |
| 43- L39 | Managing Console I/O Operations |
| 42-P3 | Department Seminar |
| 41- L38 | Virtual functions – Pure virtual functions |
| 40- L37 | this Pointer – Pointers to Derived Classes – |
| 39- L36 | Pointers – Pointers to Objects |
| 38-L35 | Pointers, Virtual Functions and Polymorphism |
| 37- L34 | Nesting of classes. |
| 36- L33 | Constructors in Derived classes |
| 35- L32 | Abstract Classes |
| 34- L31 | Virtual base classes – |
| 33-L30 | Multiple Inheritance – Hierarchical Inheritance |
| 32-L29 | single inheritance – Multilevel Inheritance |
| 31-L28 | Defining derived classes |
| 30- P2 | College level meeting/Cell function |
| 29- L27 | Type Conversions. Inheritance |

| 72-MT | Model Test |
|--------|---------------------------------------------------------------------------|
| 73-MT | Model Test |
| | |
| 74-L64 | Model test paper distribution and previous year university question paper |
| | discussion |
| 75-L65 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 31.10.2014 |

| Learning Outcomes | OBJECT ORIENTED PROGRAMMING C++ |
|----------------------------|------------------------------------------|
| | |
| CO1 | Working with Files |
| CO2 | opening and closing a File |
| CO3 | Updating a file |
| CO4 | Command-line arguments |
| CO5 | Templates |
| CO6 | Class templates |
| CO7 | Class templates with Multiple Parameters |
| CO8 | Function Templates |
| CO9 | templates with Multiple Parameters |
| Experimental | |
| Learning | |
| EL1 | Program for classes and objects |
| EL2 | Overloading |
| EL3 | Decision and looping |
| EL4 | Working with files |
| Integrated Activity | |
| IA1 | Developing inheritance program |
| IA2 | Developing Functions program |

Blended Learning : using PPT, video, library resources, ICT techniques,

E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc(NT&IT) |
|------------------------|----------------------|
| Course Name | Software Engineering |
| Course Code | PNTE11 |
| Class | I Msc (2014-2015) |
| Semester | odd |
| Staff Name | MR.B.EDWARD DANIEL |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |
| Dept. Meetings-2 Hrs | |
| College Meetings-2 Hrs | |

Course Objectives

• To study the need and nature of mobile applications.

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

- To learn the tools and platforms required for mobile applications.
- To understand the design issues in mobile applications.

Syllabus

UNIT I SOFTWARE AND SOFTWARE ENGINEERING The Nature of Software – The Nature of Software? The Nature of Software – Stack holders in Software engineering – Stack holders in Software engineering – Activities common to Software projects – Difficult and risk in software engineering as a whole. Review of Object Orientation: What is object orientation/ - Classes and objects – Instance variables – Methods, Operations and Polymorphism – Concepts best define object orientation – Difficulties and risks in programming language choice and object – oriented programming. **(12 L)**

UNIT II DEVELOPING REQUIREMENTS Domain analysis – The starting point for software projects – Defining the problem and the scope – What is a requirement? – Types of requirements – Some techniques for gathering and analyzing requirements – Managing changing requirements – Difficulties and risks in domain and requirements analysis. **(12 L)**

UNIT III MODELING WITH CLASSES What is UML? – Essentials of UML class diagrams – Associations and Multiplicity – Generalization – Instance diagrams – More advanced features of class diagrams. Modeling Interactions and Behavior: Interaction diagram – State diagrams – Activity diagrams. (12 L) **UNIT IV ARCHITECTING AND DESIGNING SOFTWARE** The process of design – Principles leading to good design – Techniques for making good design decisions – Software architecture – Architectural patterns – Writing a good designing document. (12 L)

UNIT V TESTING AND INSPECTING TO ENSURE HIGH QUALITY Basic definitions – Effective and efficient testing – Defects in ordinary Algorithms – Defects in numerical algorithms – Defects in timing and co-ordination. Managing the Software Process: What is project management? – Software process models – Cost estimation – building software engineering teams – Project scheduling and tracking.

| Hour | Class Schedule | |
|-----------|-------------------------------------------------------------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 18.06.2014 | |
| 1-L1 | UNIT I SOFTWARE AND SOFTWARE ENGINEERING: The Nature of Software | |
| 2-L2 | Stack holders in Software engineering | |
| 3- L3 | Activities common to Software projects | |
| 4-L4 | Difficult and risk in software engineering as a whole. Review of Object Orientation | |
| 5-L5 | What is object orientation? | |
| 6-L6 | Classes and objects | |
| 7-L7 | Instance variables. | |
| 8- P1 | Methods, Operations and | |
| 9- L8 | Concepts best define object orientation. | |
| 10- L9 | Difficulties and risks in programming language choice and object | |
| 11-L10 | Polymorphism. | |
| 12-L11 | oriented programming. | |
| 13-L12 | UNIT II DEVELOPING REQUIREMENTS Domain analysis | |
| 14-L13 | The starting point for software projects ,Defining the problem and the scope | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(30.07.2014) | |
| 16-L15 | What is a requirement | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Some techniques for gathering | |
| 19-L17 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Types of requirements | |
| 21- L19 | and analyzing requirements | |
| 22- P2 | College level meeting/ | |
| 23-L20 | Managing changing requirements | |
| 24-L21 | Difficulties and risks in domain | |
| 25-L22 | Cell function | |
| 26-L23 | analysis and requirements | |
| 27-L24 | UNIT III MODELING WITH CLASSES What is UML | |
| 28-L25 | Essentials of UML class diagrams. | |
| 29-L26 | Associations and Multiplicity | |
| 30-L27 | Generalization | |
| 31-L28 | Instance diagrams | |
| 32-L29 | More advanced features of class diagrams. | |
| 33-L30 | Modeling Interactions and Behavior | |
| 34- P3 | Interaction diagram | |
| 35-L31 | State diagrams ,Activity diagrams. | |
| 36-L32 | Allotting portion for Internal Test-II | |
| 27 122 | Internal Test II begins(18.08.2014) | |
| 37- L33 | UNIT IV ARCHITECTING AND DESIGNING SOFTWARE The process of design: | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | Principles leading to good design | |
| 40-L35 | Test Paper distribution and result analysis | |
| 41.126 | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Techniques for making good design decisions | |

| 42- L37 Software architecture 43- L38 Architectural patterns. 44- P4 Writing a good designing document 45-L39 UNIT V TESTING AND INSPECTING TO ENSURE HIGH QUALITY Basic definitions. 46-L40 Effective and efficient testing 47-L41 Defects in ordinary Algorithms 48-L42 Defects in numerical algorithms | | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|--------------------------------------------------------------------------------------|
| 44- P4 Writing a good designing document 45-L39 UNIT V TESTING AND INSPECTING TO ENSURE HIGH QUALITY Basic definitions. 46-L40 Effective and efficient testing 47-L41 Defects in ordinary Algorithms 48-L42 Defects in numerical algorithms | 42- L37 | Software architecture |
| 45-L39 UNIT V TESTING AND INSPECTING TO ENSURE HIGH QUALITY Basic definitions. 46-L40 Effective and efficient testing 47-L41 Defects in ordinary Algorithms 48-L42 Defects in numerical algorithms | 43- L38 | Architectural patterns. |
| 46-L40 Effective and efficient testing 47-L41 Defects in ordinary Algorithms 48-L42 Defects in numerical algorithms | 44- P4 | Writing a good designing document |
| 47-L41 Defects in ordinary Algorithms 48-L42 Defects in numerical algorithms | 45-L39 | UNIT V TESTING AND INSPECTING TO ENSURE HIGH QUALITY Basic definitions. |
| 48-L42 Defects in numerical algorithms | 46-L40 | Effective and efficient testing |
| | 47-L41 | Defects in ordinary Algorithms |
| AO I AO | 48-L42 | Defects in numerical algorithms |
| 49-L43 Managing the Software Process | 49-L43 | Managing the Software Process |
| 50-L44 Allotting portion for Internal Test-III | 50-L44 | Allotting portion for Internal Test-III |
| Internal Test III begins(15.09.2014) | | Internal Test III begins(15.09.2014) |
| 51 L45 Software process models | 51 L45 | Software process models |
| 52- L46 Cost estimation ,building software engineering teams | 52- L46 | Cost estimation ,building software engineering teams |
| 53-IT-III Internal Test-III | 53-IT-III | Internal Test-III |
| 54-L47 Project scheduling and tracking. | 54-L47 | Project scheduling and tracking. |
| 55-L48 Test Paper distribution and result analysis | 55-L48 | Test Paper distribution and result analysis |
| Entering Internal Test-III Marks into University portal | | Entering Internal Test-III Marks into University portal |
| 56- MT Model Test begins(24.10.2014) | 56- MT | Model Test begins(24.10.2014) |
| 57-MT Model Test | 57-MT | Model Test |
| 58-MT Model Test | 58-MT | Model Test |
| 59- L49 Model test paper distribution and previous year university question paper discussion | 59- L49 | Model test paper distribution and previous year university question paper discussion |
| 60-L50 Feedback of the Course, analysis and report preparation | 60-L50 | Feedback of the Course, analysis and report preparation |
| Last Working day on 31.10.2014 | | Last Working day on 31.10.2014 |

| Learning Outcomes | Software Engineering |
|-----------------------|---------------------------------------------|
| | |
| CO1 | Defects in ordinary Algorithms |
| CO2 | Software process models |
| CO3 | Techniques for making good design decisions |
| CO4 | Concepts best define object orientation |
| Experimental Learning | |
| EL1 | Instance diagrams |
| EL2 | Classes and objects |
| Integrated Activity | |
| IA1 | Software process models |
| IA2 | Techniques for making good design decisions |

Blended Learning : using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner: use library books, E- books, motivate student to prepare for higher study.

For slow learner : special care taken, motivate the advanced learner to support the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|--------------------|--------------------------------------|
| Course Name | Principles of Information Technology |
| Course Code | HNTM23 |
| Class | I year (2014-2015) |
| Semester | EVEN |
| Staff Name | Mrs.A.BATHSHEBA PARIMALA |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To understand Database Management System.
- > To understand Analog and Digital signals.
- > To understand Communication processors.

Syllabus

PRINCIPLES OF INFORMATION TECHNOLOGY

Unit-I INTRODUCTION TO COMPUTERS – Generations of modern computers – Classification of digital computer systems – Anatomy of a digital computer – computer software – Hardware/software interaction – Classification of software – Operating systems (functions & classification of Os) – Introduction to Database Management system (DBMS – benefits – functions – DB users). **(12L)**

Unit-II Telecommunications - Introduction to Telecommunications: Analog and Digital Signals - Modulations - Types of modulations - Pulse modulation techniques - digital modulation - modems **Computer Networks:** Overview of networks - Communication processors - Communication media - Telecommunication Software - Types of network - network topology. **Communication System** : Radio- TV - Microwave systems -

Communication satellites – Radar – Fiber optics – ISDN – ADSL – T1 & T3 line connection. **(12L)**

Unit-III Introduction to Multimedia – Multimedia Applications: Multimedia in education and training – Multimedia in entertainment – multimedia in marketing – **Introduction to Virtual reality**: History of VR – present uses of VR – Future of VR. **(10L)**

Unit-IV New Technologies in Information Technologies- Introduction to Hypermedia – Artificial Intelligence & Business Intelligence – Knowledge Discovery in Databases (KDD) – Data mining and On_Line Analytical Processing (OLAP)- Geographical Information System(GIS) (13L)

Unit-V Application of Information Technology -Computers in business and Industry – Computers at Home – Computers in education and training- Computers in Entertainment Science, Media & Engineering- Mobile computing. **(13L)**

REFERENCE BOOKS 1. Fundamental of Information Technology (second edition), Alexis Leon and Mathew Leon- Leon Vikas publication. 2. Information Technology – Dennis P.Curtin, Kim Foley, Kunalson, TATA McGRAW – Hill edition.

| Hour | Class Schedule |
|-----------|---------------------------------------------------------------------------|
| allotment | |
| | EVEN Semester Begin on 03.12.2014 |
| 1-L1 | Unit-I INTRODUCTION TO COMPUTERS – Generations of modern |
| | computers |
| 2-L2 | Classification of digital computer systems |
| 3- L3 | Anatomy of a digital computer |
| 4-L4 | computer software – Hardware/software interaction |
| 5-L5 | Classification of software |
| 6-L6 | Operating systems (functions & classification of Os) |
| 7-L7 | Introduction to Database Management system (DBMS – benefits – functions – |
| | DB users). |
| 8- P1 | BCA &M.Sc(IT)Association |
| 9- L8 | Unit-II Telecommunications - Introduction to Telecommunications: Analog |
| | and Digital Signals |
| 10- L9 | Modulations |
| 11-L10 | Types of modulations |
| 12-L11 | Pulse modulation techniques |
| 13-L12 | digital modulation |
| 14-L13 | Computer Networks: Overview of networks |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins(19.01.2015) |

| 16-L15 | Communication processors | |
|-------------------------------------|-----------------------------------------------------------------------------------|--|
| 10-L13 | Internal Test-I | |
| 18-L16 | Communication media | |
| | | |
| 19-L17 | Test Paper distribution and result analysis | |
| 20 1 10 | Entering Internal Test-I Marks into University portal Telecommunication Software | |
| 20-L18 | | |
| 21- L19 | Types of network, network topology | |
| 22- P2 | College level meeting/Cell function | |
| 23-L20 | Communication System : Radio- TV | |
| 24-L21 | Microwave systems | |
| 25-L22 | Communication satellites – Radar | |
| 26-L23 | Fiber optics – ISDN – ADSL | |
| 27-L24 | T1 & T3 line connection | |
| 28-L25 | Unit-III Introduction to Multimedia | |
| 29-L26 | Multimedia Applications:- Multimedia in education and training | |
| 30-L27 | Multimedia in entertainment | |
| 31-L28 | multimedia in marketing | |
| 32-L29 | Introduction to Virtual reality: History of VR | |
| 33-L30 | present uses of VR | |
| 34- P3 | Department Seminar | |
| 35-L31 | Future of VR. | |
| 36-L32 | Allotting portion for Internal Test-II | |
| Internal Test II begins(16.02.2015) | | |
| 37- L33 | Unit-IV New Technologies in Information Technologies- Introduction to | |
| 20 777 77 | Hypermedia | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | Artificial Intelligence | |
| 40-L35 | Test Paper distribution and result analysis | |
| 41.706 | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Knowledge Discovery in Databases (KDD) | |
| 42- L37 | Data mining and On_Line Analytical Processing (OLAP) | |
| 43- L38 | Geographical Information System(GIS) | |
| 44- P4 | College level meeting/ function | |
| 45-L39 | Business Intelligence | |
| 46-L40 | Unit-V Application of Information Technology | |
| 47-L41 | IndustryComputers in business and | |
| 48-L42 | Computers at Home | |
| 49-L43 | Computers in education and training | |
| 50-L44 | Allotting portion for Internal Test-III | |
| C1 T 45 | Internal Test III begins(16.03.2015) | |
| 51 L45 | Computers in Entertainment Science, | |
| 52- L46 | Media & Engineering- | |
| 53-IT-III | Internal Test-III | |
| 54-L47 | Mobile Computing | |
| 55-L48 | Test Paper distribution and result analysis | |
| F () FT | Entering Internal Test-III Marks into University portal | |
| 56- MT | Model Test begins(16.04.2015) | |
| 57-MT | Model Test | |

| 58-MT | Model Test |
|---------|---------------------------------------------------------------------------|
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23.04.2015 |

| Learning Outcomes Principles of Information Technology | | |
|--------------------------------------------------------|--------------------------------------|--|
| CO1 | Artificial Intelligence | |
| CO2 Knowledge Discovery in Databases (KDD) | | |
| CO3 | Business Intelligence | |
| CO4 | IndustryComputers in business and | |
| CO5 | Computers at Home | |
| CO6 | Computers in education and training | |
| CO7 | Computers in Entertainment Science, | |
| CO8 | Media & Engineering- | |
| CO9 | CO9 Mobile Computing | |
| Experimental | | |
| Learning | | |
| EL1 | Multimedia in education and training | |
| EL2 | Multimedia in entertainment | |
| EL3 | Multimedia in marketing | |
| EL4 | 4 present uses of VR | |
| Integrated Activity | | |
| IA1 | Computers in business and Industry | |
| IA2 | Computers in education and training | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| M.Sc. NT&IT |
|--------------------------|
| RDBMS |
| HNTM22 |
| I year (2014-2015) |
| EVEN |
| MRS.A.BATHSHEBA PARIMALA |
| 5 |
| 5 / WK |
| |
| |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 65Hrs (5 units; 5×13=65; 13Hrs /unit)

Course Objectives

- > To understand about Relational Algebra
- > To understand about Combining logic
- > To understand about Third and Fourth normal forms

Syllabus

RDBMS CONCEPTS AND ORACLE

Unit-I Introduction – Purpose of data base systems – Data Models – Data Languages-Transaction management- storage Management-DBA –Database Users – System Structures – E-R Models- Entity and Entity Relationships – Mapping constraints and E-R Diagrams. **(10L)**

Unit-II Structure of Relational databases—Relational Algebra — Tuple Relational calculus — Domain Relational Calculus—Relational commercial languages (SQL, QBE, QUEL)—Integrity constraints—Normalization—Boyce—Codd—Third and Fourth normal forms—domain—Key normal form. (13L)

Unit-III Basic SQL Operations – creating a table – Insert- Rollback-Commit – AutoCommit-Delete-Update- Select, From, where and Order by -Single value tests – Like – simple tests against a list of values – Combining logic – Combining tables -Dropping tables - Dropping a column- creating a table from a table – Date functions – Conversion functions- Translate-Decode-Creating a view – Advanced sub queries-Outer joins-Natural & Inner joins-Union, Intersect & Minus – synonyms- indexes- Tablespaces -Clusters- Sequences. **(12L)**

Unit-IV Basics of Object – Relational databases: Objects – Abstract Data types – Nested tables - Varying arrays – Large objects –References - Object Views – Naming conventions for objects- Structure of an Object. Users, Roles and Privilege: Creating a user – password management - Three Standard roles – Format for Grant command – Revoking privileges – what users can Grant: Moving to another user- Create synonym – Create a role – Granting privileges to a role – Granting a role to another role – Adding password to a role – Removing a password from a role – Enabling & Disabling roles – Revoking privileges from a role – dropping roles. **(13L)**

Unit-V An Introduction to PL/SQL: Pl/SQL overview- Declarations section - Executable commands section - Exception handling section - Triggers: Syntax - Types of Triggers: Row Level - statement - level - before & after - instead of - Schema - Database - Level triggers - Enabling & Disabling triggers - Replacing & Dropping triggers - Procedures, functions & Packages: syntax - Compile - Replace - Drop procedure, Functions & Packages - Cursor Management. **(12L)**

| Hour | Class Schedule |
|-----------|------------------------------------------------------------------------|
| allotment | EXTENS C |
| 4.7.4 | EVEN Semester Begin on 03.12.2014 |
| 1-L1 | Unit-I Introduction – Purpose of data base systems |
| 2-L2 | Data Models , Data Languages |
| 3- L3 | Transaction management, storage Management-DBA |
| 4-L4 | Database Users |
| 5-L5 | System Structures , E-R Models |
| 6-L6 | Entity and Entity Relationships |
| 7-L7 | Mapping constraints and E-R Diagrams |
| 8- P1 | BCA&MSC IT Association |
| 9- L8 | Unit-II Structure of Relational databases |
| 10- L9 | Relational Algebra ,Tuple Relational calculus |
| 11-L10 | Domain Relational Calculus- Relational commercial languages (SQL, QBE, |
| | QUEL) |
| 12-L11 | Integrity constraints |
| 13-L12 | Normalization ,Boyce ,Codd |
| 14-L13 | Third and Fourth normal forms |
| 15-L14 | domain,Key normal form. |
| 16-L15 | Unit-III Basic SQL Operations |
| 17- L16 | creating a table |
| 18- L17 | Insert- Rollback-Commit |
| 19- L18 | AutoCommit-Delete-Update- |
| 20- L19 | Select, From, where and Order by - |
| 21- L20 | Allotting portion for Internal Test-I |
| | Internal Test I begins(19.01.2015) |
| 22- L21 | Single value tests |
| 23- IT-1 | Internal Test-I |
| 24- L22 | Like ,simple tests against a list of values |

| 25- L23 | Combining logic | |
|----------------------------|-------------------------------------------------------------------------------------------|--|
| 26- L24 | Test Paper distribution and result analysis | |
| 20 L2+ | Entering Internal Test-I Marks into University portal | |
| 27- L25 | Combining tables | |
| 28- L26 | Dropping tables | |
| 29- L27 | Dropping a column- creating a table from a table | |
| 30- P2 | College level meeting/Cell function | |
| 31-L28 | Date functions | |
| 32-L29 | Conversion functions | |
| 33-L30 | Translate, Decode, Creating a view | |
| 34- L31 | Advanced sub queries | |
| 35- L32 | Outer joins, Natural & Inner joins- | |
| 36- L33 | Union, Intersect & Minus | |
| 37- L34 | Synonyms, indexes | |
| 38- L35 | Tablespaces, Clusters - Sequences. | |
| 39- L36 | Unit-IV Basics of Object, Relational databases: Objects | |
| 40- L37 | Abstract Data types, Nested tables - Varying arrays | |
| 41- L38 | Large objects ,References | |
| 42-P3 | Department Seminar | |
| 43- L39 | Object Views | |
| 44- L40 | Naming conventions for objects | |
| 45- L41 | Structure of an Object. Users, Roles and Privilege: Creating a user | |
| 46- L42 | password management ,Three Standard roles | |
| 47- L43 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(16.02.2015) | |
| 48- L44 | Format for Grant command, Revoking privileges | |
| 49-IT-II | Internal Test-II | |
| 50-L45 | what users can Grant: Moving to another user | |
| 51- L46 | Test Paper distribution and result analysis | |
| 50 1 47 | Entering Internal Test-II Marks into University portal | |
| 52- L47 | Create synonym ,Create a role | |
| 53- L48 | Granting privileges to a role | |
| 54- L49 | Granting a role to another role | |
| 55- L50 | Adding password to a role, Removing a password from a role, Enabling & | |
| 56 T 51 | Disabling roles | |
| 56- L51 | Revoking privileges from a role ,dropping roles | |
| 57- L52 | Unit-V An Introduction to PL/SQL: Pl/SQL overview, Declarations section | |
| 58- L53 59-P4 | Executable commands section, Exception handling section | |
| 59-P4 60- L54 | College level meeting/ function Triggers: Syntax ,Types of Triggers: Row Level, statement | |
| 61- L55 | level ,before & after ,instead of | |
| 62- L56 | Schema, Database ,Level triggers | |
| 63- L57 | Enabling & Disabling triggers | |
| 64- L58 | Allotting portion for Internal Test-III | |
| 0 + L J0 | Internal Test III begins(16.03.2015) | |
| 65- L59 | Replacing & Dropping triggers | |
| 66- L60 | Procedures, functions & Packages: syntax | |
| 67-IT-III | Internal Test-III | |
| U 11 111 | AND THE POST III | |

| 68- L61 | Compile ,Replace |
|---------|---------------------------------------------------------------------------|
| 69- L62 | Drop procedure, Functions & Packages, Cursor Management. |
| 70- L63 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 71-MT | Model Test begins(16.04.2015) |
| 72-MT | Model Test |
| 73-MT | Model Test |
| 74-L64 | Model test paper distribution and previous year university question paper |
| | discussion |
| 75-L65 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23.04.2015 |

| Learning Outcomes RDBMS | | |
|-------------------------|-----------------------------------------------------------|--|
| | | |
| CO1 | Object Views | |
| CO2 | Granting privileges to a role | |
| CO3 | Granting a role to another role | |
| CO4 | Triggers: Syntax ,Types of Triggers: Row Level, statement | |
| CO5 | Replacing & Dropping triggers | |
| CO6 | Procedures, functions & Packages: syntax | |
| CO7 | Abstract Data types, Nested tables | |
| CO8 | Large objects ,References | |
| CO9 | Varying arrays | |
| Experimental | | |
| Learning | | |
| EL1 | | |
| | Triggers | |
| EL2 | ADT | |
| EL3 | Packages | |
| EL4 | Joins | |
| Integrated Activity | | |
| IA1 | Integrity constraints | |
| IA2 | Entity and Entity Relationships | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|--------------------|---------------------|
| Course Name | Mobile Computing |
| Course Code | HNTE31 |
| Class | II year (2014-2015) |
| Semester | Odd |
| Staff Name | Mr.K.APPASAMY |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | <u> </u> |

Total 60Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To understand about Wireless transmission
- > To understand about Frequencies for radio transmission
- > To understand about Signal Propagation
- > To understand about Multiplexing

Syllabus

Unit-I

Introduction:

Wireless transmission, Frequencies for radio transmission, Signals, Antennas, Signal Propagation, Multiplexing, Modulations, Spread spectrum, MAC, SDMA, FDMA, TDMA, CDMA, Cellular Wireless Network. (12L)

Unit-II

Telecommunication systems:

GSM, GPRS, DECT, UMTS, IMT-2000, Satellite Networks, Basics, Parameters and Configurations, Capacity Allocation, FAMA and DAMA, Broadcast Systems, DAB, DVB. (12L)

Unit-III

Wireless LAN:

IEEE 802.11, Architecture, Services, MAC, Physical layer, IEEE802.11a-802.11b standards, HIPERLAN, BlueTooth. (12L)

Unit-IV

Mobile Communication Protocols:

Mobile IP, Dynamic Host Configuration Protocol, Routing, DSDV, DSR, Alternative Metrics (12L)

Unit-V

WAP and WML:

Traditional TCP, Classical TCP improvements, WAP, WAP 2.0, WML Basics, WML Cards. (12L)

| Hour | Class Schedule | |
|-----------|-------------------------------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 18.06.2014 | |
| 1-L1 | Wireless transmission | |
| 2-L2 | Frequencies for radio transmission, | |
| 3- L3 | Signals | |
| 4-L4 | Antennas, | |
| 5-L5 | Signal Propagation | |
| 6-L6 | Multiplexing | |
| 7-L7 | Modulations, | |
| 8- P1 | BCA& M.Sc(IT) Association | |
| 9- L8 | Spread spectrum | |
| 10- L9 | MAC, | |
| 11-L10 | SDMA | |
| 12-L11 | Cellular Wireless Network | |
| 13-L12 | GSM, GPRS, DECT | |
| 14-L13 | UMTS, ΓMT-2000 | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(30.07.14) | |
| 16-L15 | Satellite Networks, Basics | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Parameters and Configurations | |
| 19-L17 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Capacity Allocation | |
| 21- L19 | FAMA | |
| 22- P2 | College level meeting/Cell function | |

| 23-L20 | Broadcast Systems |
|-----------|---------------------------------------------------------------------------|
| 24-L21 | DAB, |
| 25-L22 | IEEE 802.11, Architecture |
| 26-L23 | Services, MAC |
| 27-L24 | Physical layer |
| 28-L25 | IEEE802.11a-802.11b standards |
| 29-L26 | HIPERLAN |
| 30-L27 | BlueTooth |
| 31-L28 | , DVB. |
| 32-L29 | DAMA |
| 33-L30 | FDMA |
| 34- P3 | Department Seminar |
| 35-L31 | TDMA |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(18.08.14) |
| 37- L33 | CDMA |
| 38- IT-II | Internal Test-II |
| 39-L34 | Mobile IP |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Routing, |
| 42- L37 | Dynamic Host, |
| 43- L38 | Configuration Protocol |
| 44- P4 | College level meeting/ function |
| 45-L39 | DSDV, DSR, |
| 46-L40 | Alternative Metrics |
| 47-L41 | Traditional TCP |
| 48-L42 | Classical TCP improvements |
| 49-L43 | WAP |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(15.09.14) |
| 51 L45 | WAP 2.0 |
| 52- L46 | WML Basics |
| 53-IT-III | Internal Test-III |
| 54-L47 | WML Cards. |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 31.10.2014 |
| | |

| Learning Outcomes | |
|----------------------------|-------------------------------------|
| | |
| CO1 | Wireless transmission |
| CO2 | Frequencies for radio transmission, |
| CO3 | Signals |
| CO4 | Antennas, |
| CO5 | Signal Propagation |
| CO6 | Multiplexing |
| CO7 | Modulations, |
| CO8 | MAC |
| CO9 | SDMA |
| Experimental | |
| Learning | |
| EL1 | Frequencies for radio transmission, |
| EL2 | Signals |
| EL3 | Antennas, |
| EL4 | Signal Propagation |
| Integrated Activity | |
| IA1 | Routing, |
| IA2 | Dynamic Host, |

Blended Learning : using PPT, video, library resources, ICT techniques,

E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|--------------------|-----------------------------------------|
| Course Name | DataCommunication and computer Networks |
| Course Code | HNTM21 |
| Class | I year (2014-2015) |
| Semester | Odd |
| Staff Name | A.BATHSHEBA PARIMALA |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |
| Total 75 Hrs/Sem | |

Total /5 Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 65Hrs (5 units; 5×13=65; 13Hrs /unit)

Course Objectives

- ➤ Data Communications Networks
- ➤ Data Link Layer : Error Detection and Correction
- ➤ Layers Virtual-Circuit Networks
- ➤ Network Layer : Internet Protocol Internetworking
- > Frame Relay and ATM
- > Process-to-Process Delivery: UDP, TCP

Syllabus

Unit-I

Introduction: Data Communications – Networks – The Internet – Protocols and Standards. Network Models: The OSI Model – Layers in the OSI Model. Physical Layer and Media: Analog and Digital – Periodic Analog Signals – Digital Signals. Digital Transmission: Digital to Digital Conversion – Analog to Digital Conversion. Transmission Media: Guided Media – Unguided Media. Using Telephone and Cable Networks for Data Transmission: Telephone Network – Digital Subscriber Line.

Unit-II

Data Link Layer: Error Detection and Correction: Introduction – Block Coding – Cyclic Codes – Noisy Channels – HDLC. Multiple Access: Random Access. Wired LANs: Ethernet – Standard Ethernet – Fast Ethernet – Gigabit Ethernet.

Unit-III

SONET/SDH: Architecture – Sonet Layers Virtual-Circuit Networks: Frame Relay and ATM- Network Layer: IPv4 Address – IPv6 Address.

Unit-IV

Network Layer: Internet Protocol – Internetworking – IPv4 – IPv6. Network Layer: AddressMapping, Error Reporting and Multicasting – ICMP – IGMP. Network Layer:Delivery, Forwarding, and Routing – Unicast Routing Protocols – Multicast Routing Protocols.

Unit-V

Process-to-Process Delivery: UDP, TCP – Process-to-Process Delivery – User Datagram Protocol (UDP) – TCP. Congestion Control and Quality of Service – Data Traffic – Congestion – Congestion Control – Quality of Service – Techniques to Improve. Application Layer: Name space – Domain Name System – Distribution of Name Space.

| Hour | Class Schedule |
|-----------|---------------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 18.06.2014 |
| 1-L1 | Introduction : Data Communications |
| 2-L2 | Networks |
| 3- L3 | The Internet |
| 4-L4 | C Network Models |
| 5-L5 | The OSI Model |
| 6-L6 | Layers in the OSI Model |
| 7-L7 | Physical Layer and Media |
| 8- P1 | Welcoming of First year and Inauguration of BCA& MSC Association |
| 9- L8 | Analog and Digital |
| 10- L9 | Periodic Analog Signals |
| 11-L10 | Digital Signals. |
| 12-L11 | Digital Transmission : Digital to Digital Conversion |
| 13-L12 | Transmission Media : Guided Media – Unguided Media |
| 14-L13 | Using Telephone and Cable Networks for Data Transmission: Telephone |
| | Network – Digital Subscriber Line. |
| 15-L14 | Data Link Layer |
| 16-L15 | Error Detection and Correction |

| 17- L16 | Introduction – Block Coding |
|----------|--------------------------------------------------------|
| 18- L17 | Cyclic Codes |
| 19- L18 | Noisy Channels |
| 20- L19 | HDLC. |
| 21- L20 | Allotting portion for Internal Test-I |
| 21- L20 | Internal Test I begins(30.07.2014) |
| 22- L21 | Multiple Access: Random Access. |
| 23- IT-1 | Internal Test-I |
| 24- L22 | Wired LANs |
| 25- L23 | Ethernet |
| 26- L24 | Test Paper distribution and result analysis |
| 20- L24 | Entering Internal Test-I Marks into University portal |
| 27- L25 | Standard Ethernet |
| 28- L26 | Fast Ethernet |
| 29- L27 | Gigabit Ethernet |
| 30- P2 | College level meeting/Cell function |
| 31-L28 | SONET/SDH |
| 32-L29 | Architecture |
| 33-L30 | Sonet Layers Virtual |
| 34- L31 | Circuit Networks |
| 35- L32 | Frame Relay |
| 36- L33 | ATM |
| 37- L34 | Network Layer |
| 38-L35 | IPv4 Address |
| 39- L36 | IPv6 Address |
| 40- L37 | Process-to-Process Delivery: |
| 41- L38 | UDP, TCP |
| 42-P3 | Department Seminar |
| 43- L39 | User Datagram Protocol(UDP) |
| 44- L40 | Congestion Control and Quality of Service |
| 45- L41 | Techniques to Improve. |
| 46- L42 | Application Layer |
| 47- L43 | Allotting portion for Internal Test-II |
| | Internal Test II begins(18.08.2014) |
| 48- L44 | Name space |
| 49-IT-II | Internal Test-II |
| 50-L45 | Domain Name System |
| 51- L46 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 52- L47 | Distribution of Name Space. |
| 53- L48 | Network Layer |
| 54- L49 | Internet Protocol |
| 55- L50 | Internetworking |
| 56- L51 | IPv4 – IPv6 |
| 57- L52 | Network Layer |
| 58- L53 | Address Mapping |
| 59-P4 | College level meeting/ function |
| 60- L54 | Error Reporting and Multicasting |

| 61- L55 | ICMP | |
|-----------|---------------------------------------------------------------------------|--|
| 62- L56 | IGMP | |
| 63- L57 | Forwarding, and Routing | |
| 64- L58 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(15.09.2014) | |
| 65- L59 | Techniques to Improve. | |
| 66- L60 | Application Layer | |
| 67-IT-III | Internal Test-III | |
| 68- L61 | TCP. Congestion Control and Quality of Service | |
| 69- L62 | Data Traffic | |
| 70- L63 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 71-MT | Model Test begins(24.10.2014) | |
| 72-MT | Model Test | |
| 73-MT | Model Test | |
| 74-L64 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 75-L65 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 31.10.2014 | |

| Learning Outcomes | DataCommunication and computer Networks |
|--------------------------|-----------------------------------------------------------------|
| | |
| CO1 | The OSI Model |
| CO2 | Data Link Layer: Error Detection and Correction: Introduction – |
| | Block Coding |
| CO3 | Network Layer: IPv4 Address – IPv6 Address. |
| CO4 | IGMP. Network Layer |
| CO5 | Multicast Routing Protocols. |
| CO6 | TCP – Process-to-Process Delivery |
| CO7 | Techniques to Improve. |
| CO8 | Data Traffic |
| CO9 | Congestion |
| Experimental | |
| Learning | |
| EL1 | Mapping, Error Reporting and Multicasting – ICMP – IGMP |
| EL2 | Telephone Network – Digital Subscriber Line. |
| EL3 | Congestion – Congestion Control – Quality of Service |
| EL4 | Multicast Routing Protocols. |
| Integrated Activity | |
| IA1 | Application Layer : Name space – Domain Name System |
| IA2 | Distribution of Name Space. |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT | |
|---------------------------------------------------|-----------------------------|--|
| Course Name | OBJECT ORIENTED PROGRAMMING | |
| | C++ | |
| Course Code | HNTM12 | |
| Class | I YEAR (2014-2015) | |
| Semester | ODD | |
| Staff Name | Mr.B.EDWARD DANIEL | |
| Credits | 5 | |
| L. Hours /P. Hours | 5 / WK | |
| Total 75 Hrs/Sem | | |
| Internal Test-3 Hrs | | |
| Model Test-3 Hrs | | |
| Dept. Meetings-2 Hrs | | |
| College Meetings-2 Hrs | | |
| Remaining 65 Hrs (5 units; 5×13=65; 13Hrs /unit) | | |

Course Objectives

- To understand how C++ improves C with object-oriented features.
- > To learn how to write inline functions for efficiency and performance.
- ➤ To learn how to design C++ classes for code reuse.

Syllabus

Unit-I Principles of Object Oriented Programming: Basic Concepts of Object Oriented Programming-Benefits of OOP —Applications of OOP — Tokens, Expressions and Control Structures: Tokens-Keywords- Identifiers and constants-Basic data types- User Defined Data Types — Derived Data types — Symbolic Constants —Type Compatibility — Declaration of Variables—Operators in C++ - Expressions and their types — Control Structures. **(12L)**

Unit- II Classes and Objects Specifying a class –Defining Member functions – Memory allocation for objects – Static Member functions –Arrays of Objects –Objects as Function Arguments – Friendly functions –Returning Objects – Pointers to Members . Constructors and Destructors – Parameterized Constructors –Multiple Constructors – Constructors with Default Arguments – Copy Constructor – Destructors. **(12L)**

Unit-III

Operator Overloading and Type conversions: Defining Operator Overloading – Overloading Unary Operators –Overloading binary Operators – Overloading binary operators using friends –

Manipulation of Strings using operators – Rules for overloading operators – Type Conversions. Inheritance : Defining derived classes – single inheritance – Multilevel Inheritance – Multiple Inheritance – Hierarchical Inheritance – Virtual base classes – Abstract Classes – Constructors in Derived classes – Nesting of classes. (10L)

Unit- IV Pointers, Virtual Functions and Polymorphism - Pointers - Pointers to Objects - this Pointer - Pointers to Derived Classes - Virtual functions - Pure virtual functions Managing Console I/O Operations : C++ streams - C++ Stream Classes - Unformatted I/O Operations - Formatted Console I/O Operations - Managing Output with Manipulators . **(13L)**

Unit-V Working with Files – Opening and closing a File – Updating a file – Command-line arguments – Templates – Class templates – Class templates with Multiple Parameters – Function Templates - Function Templates with multiple parameters- Overloading of Template functions – Member function Template-Exception handling Mechanisms.

| Hour | Class Schedule |
|-----------|------------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 18.06.2014 |
| 1-L1 | Principles of Object Oriented Programming: |
| 2-L2 | Basic Concepts of Object Oriented Programming-Benefits of OOP |
| 3- L3 | Applications of OOP – Tokens, Expressions and Control Structures |
| 4-L4 | Tokens-Keywords- Identifiers and constants |
| 5-L5 | Basic data types- User Defined Data Types |
| 6-L6 | Derived Data types – Symbolic Constants –Type Compatibility – |
| 7-L7 | Declaration of Variables –Operators in C++ |
| 8- P1 | BCA &M.Sc(IT)Association |
| 9- L8 | Expressions and their types |
| 10- L9 | Control Structures. |
| 11-L10 | Classes and Objects Specifying a class |
| 12-L11 | Defining Member functions |
| 13-L12 | Memory allocation for objects – Static Member functions |
| 14-L13 | Arrays of Objects –Objects as Function Arguments |
| 15-L14 | Friendly functions –Returning Objects |
| 16-L15 | Pointers to Members . Constructors and Destructors – |
| 17- L16 | Parameterized Constructors –Multiple Constructors |
| 18- L17 | Constructors with Default Arguments – |

| 10 110 | |
|--------------------|---------------------------------------------------------------|
| 19- L18 | Copy Constructor – Destructors. |
| 20- L19 | Operator Overloading and Type conversions |
| 21- L20 | Allotting portion for Internal Test-I |
| 22 7 21 | Internal Test I begins(30.07.2014) |
| 22- L21 | Defining Operator Overloading – Overloading Unary Operators – |
| 23- IT-1 | Internal Test-I |
| 24- L22 | Overloading binary Operators |
| 25- L23 | Overloading binary operators using friends |
| 26- L24 | Test Paper distribution and result analysis |
| 27 125 | Entering Internal Test-I Marks into University portal |
| 27- L25 | Manipulation of Strings using operators |
| 28- L26 | Rules for overloading operators |
| 29- L27 | Type Conversions. Inheritance |
| 30- P2 | College level meeting/Cell function |
| 31-L28 | Defining derived classes |
| 32-L29 | single inheritance – Multilevel Inheritance |
| 33-L30 | Multiple Inheritance – Hierarchical Inheritance |
| 34- L31 | Virtual base classes – |
| 35- L32 | Abstract Classes |
| 36- L33 | Constructors in Derived classes |
| 37- L34 | Nesting of classes. |
| 38-L35 | Pointers, Virtual Functions and Polymorphism |
| 39- L36 | Pointers – Pointers to Objects |
| 40- L37 | this Pointer – Pointers to Derived Classes – |
| 41- L38 | Virtual functions – Pure virtual functions |
| 42-P3 43- L39 | Department Seminar |
| 43- L39 44- L40 | Managing Console I/O Operations : C++ streams – |
| 45- L41 | C++ Stream Classes |
| 45- L41 46- L42 | Unformatted I/O Operations |
| 47- L43 | Allotting portion for Internal Test-II |
| 47- L43 | Internal Test II begins(18.08.2014) |
| 48- L44 | Formatted Console I/O Operations |
| 49-IT-II | Internal Test-II |
| 50-L45 | Managing Output with Manipulators |
| 51- L46 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 52- L47 | Working with Files |
| 53- L48 | opening and closing a File |
| 54- L49 | Updating a file |
| 55- L50 | Command-line arguments |
| 56- L51 | Templates |
| 57- L52 | Class templates |
| 58- L53 | Class templates with Multiple Parameters |
| 59-P4 | College level meeting/ function |
| 60- L54 | Function Templates |
| 61- L55 | templates with Multiple Parameters |
| 62- L56 | Function Templates with |
| | |

| 63- L57 | multiple parameters- | |
|-----------|---------------------------------------------------------------------------|--|
| 64- L58 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(15.09.2014) | |
| 65- L59 | Overloading | |
| 66- L60 | Overloading of Template functions | |
| 67-IT-III | Internal Test-III | |
| 68- L61 | Member function Template- | |
| 69- L62 | Exception handling Mechanisms | |
| 70- L63 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 71-MT | Model Test begins(24.10.2014) | |
| 72-MT | Model Test | |
| 73-MT | Model Test | |
| 74-L64 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 75-L65 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 31.10.2014 | |

| Learning Outcomes | OBJECT ORIENTED PROGRAMMING C++ |
|----------------------------|------------------------------------------|
| | |
| CO1 | Working with Files |
| CO2 | opening and closing a File |
| CO3 | Updating a file |
| CO4 | Command-line arguments |
| CO5 | Templates |
| CO6 | Class templates |
| CO7 | Class templates with Multiple Parameters |
| CO8 | Function Templates |
| CO9 | templates with Multiple Parameters |
| Experimental | |
| Learning | |
| EL1 | Program for classes and objects |
| EL2 | Overloading |
| EL3 | Decision and looping |
| EL4 | Working with files |
| Integrated Activity | |
| IA1 | Developing inheritance program |
| IA2 | Developing Functions program |

Blended Learning : using PPT, video, library resources, ICT techniques,

E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Application

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | MSc(NT&IT) |
|---------------------|---------------------------------|
| Course Name | Visual Basic |
| Course Code | HNTM31 |
| Class | I year (2014-2015) |
| Semester | ODD |
| Staff Name | Mr. B.Edward Daniel Christopher |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60 Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- ➤ To understand the benefits of using Visual Basic for windows as an application tool.
- ➤ To understand the Visual Basic event-driven programming concepts, terminology and available tools
- ➤ Learn the fundamentals of designing, implementing and distributing a vb application.
- ➤ Learn to use the Visual Basic toolbox
- > To study connectivity between VB and databases.

VISUAL BASIC

UNIT I GETTING STARTED WITH VISUAL BASIC 6.0 Introduction to Visual Basic, Visual Basic 6.0 Programming Environment, Working with Forms, Developing an Application, Variables, Data types and Modules, Procedure and Control Structures, Array in Visual Basic, Additional examples. Working with Controls: Introduction, Creating and Using Controls, Working with Control Arrays, Additional examples.

UNIT II MENUS & GRAPHICS Menus, Mouse Events and Dialog Boxes: Introduction, Mouse Events, Dialog Boxes, Additional examples. Graphics, MDI and Flex Grid: Introduction, Graphics

for Applications, Multiple Document Interface (MDI), Using the flex Grid Control, Additional examples.

UNIT III OPEN DATABASE CONNECTIVITY ODBC and Data Access Objects: Evolution of Computer Architecture, Data Options, Additional examples. ODBC Using Data Access Objects and Remote Data objects: Open Database Connectivity (ODBC), Remote Data objects, Additional examples.

UNIT IV REPORT CREATION Data Environment and Data Report: Introduction, Data Environment Designer, Data Report, Additional examples. Object Linking and Embedding: Introduction, OLE Fundamentals, Using OLE Container Controls, Using OLE Automation Objects, OLE Drag and Drop, Additional examples.

UNIT V ACTIVE X CONTROLS Built – in Active X Controls: Working with Built – In ActiveX Controls, Additional examples. Working with Active X Data objects; An Overview of ADO and OLE DB, ADO Object Model, Additional examples. Files, and File System Controls: Introduction, File System Controls, Accessing Files, Interface with Windows, Additional examples.

| Hour | Class Schedule |
|-----------|-------------------------------------------------------------------------------|
| allotment | |
| | odd Semester Begin on 18.06.2014 |
| 1-L1 | UNIT I GETTING STARTED WITH VISUAL BASIC 6.0 Introduction to Visual Basic, |
| | Visual Basic 6.0 Programming Environment. |
| 2-L2 | Working with Forms, Developing an Application, Variables, Data types |
| 3- L3 | Modules, Procedure and Control Structures |
| 4-L4 | Array in Visual Basic,1-D array, 2-D array- Additional examples. |
| 5-L5 | Working with Controls: Introduction-tool box – available controls |
| 6-L6 | Creating and Using Controls-command button, textbox control, dropdown listbox |
| 7-L7 | Picture box, option button, check box – scroll bars |
| 8-L8 | Common dialog control with examples |
| 9-L9 | Working with Control Arrays, Additional examples. |
| 10-L10 | Explanation for calculator programme |
| | |
| 11-L11 | UNIT II MENUS & GRAPHICS Menus, popup menu-introduction- sample |
| | programme |
| 13-L12 | Mouse Events |
| 14-L13 | Dialog Boxes: Introduction – Input box- Additional examples. |
| 15-L14 | Graphics – Image box- picturebox-pixel manipulation |
| | Allotting portion for Internal Test-I |
| 16-L15 | MDI-Multiple document interface- creating MDI form and child form- sample |
| | programme and output |
| 17-IT-1 | Internal Test-I begins(30.07.2014) |
| 18-L16 | Flex Grid - Using the flex Grid Control |
| 19-L17 | Test Paper distribution and result analysis- sample programme for flex grid |
| | control design a form with flex grid – setting properties. |

| | Entering Internal Test-I Marks into University portal |
|-----------|------------------------------------------------------------------------------------------------------|
| 20-L18 | Programme for matrix addition using flex grid. |
| 21-P2 | College level meeting |
| 22-L19 | Dir listbox, drive listbox – sample programme to explain Dir and drive list boxes |
| 23-L20 | Exlaining the calculator programme. – Designing form – using contol arrays. |
| 24-L21 | UNIT III OPEN DATABASE CONNECTIVITY ODBC - introduction |
| 25-L22 | Data Access Objects: Evolution of Computer Architecture, |
| 26-L23 | Data Options, Additional examples. ODBC Using Data Access Objects |
| 27-L24 | Remote Data objects |
| 28-L25 | Creating DSN using Open Database Connectivity (ODBC) |
| 29-L26 | Remote Data objects using ODBC - Additional examples. |
| 30-L27 | Insert – Delete – Update- coding using DAO |
| 31-L28 | Creating a student database in MS Access – connecting the database – Manipulating the data using RDO |
| 32-L29 | Linking database with data grid – Bound data with grid. |
| 33-L30 | Seminar By Students – Topic: Open database connectivity and RDO |
| | Allotting portion for Internal Test-II |
| | Internal test II begins(18.08.2014) |
| 34- P3 | Unit IV: Report Creation Data Environment and Data Report: Introduction |
| 35-L31 | Data Environment Designer, Data Report, Additional Examples |
| 36-L32 | Object Linking and Embedding: Introduction |
| 37-IT-II | OLE Fundamentals |
| 38-L33 | Using OLE Container Controls |
| 39-L34 | Using OLE Automation Objects |
| 40-L35 | OLE Drag and Drop |
| 41-L36 | Additional examples. |
| 42-P4 | UNIT - V ACTIVE X CONTROLS Built – in Active X Controls: |
| 43-L37 | Working with Built in controls |
| 44-L38 | ActiveX Controls- using and creating controls |
| 45-L39 | Additional examples. |
| 46-L40 | Working with Active X Data objects |
| 47-L41 | An Overview of ADO and OLE DB |
| 48-L42 | ADO Object Model. |
| 49-L43 | Additional examples INTERNAL TEST III begins(15.09.2014) |
| 50-L44 | Files, and File System Controls: Introduction |
| 51-IT-III | File System Controls |
| 52-L45 | Accessing Files |
| 53-L46 | Interface with Windows |
| 54-L47 | Additional Examples |
| 55-L48 | Entering Internal Test-III Marks into University portal |
| 56-L49 | Model Test begins(24.10.2014) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59-MT | Model test paper distribution and previous year university question paper discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |

| Learning Outcomes | Visual Basic |
|--------------------------|--------------------------------------------------------|
| | |
| CO1 | Gain knowledge about GUI |
| CO2 | Skilled in form design and event driven programming |
| CO3 | Usage of various tools in visual basic |
| CO4 | Able to connect and access database |
| CO5 | Able to connect external data base using ODBC |
| CO6 | How to prepare data report |
| Experimental | |
| Learning | |
| EL1 | To do working models to explain Database connectiviy |
| EL2 | Getting resources about Visual basic through Internet |
| EL3 | GD on merit and demerit GUI |
| EL4 | Discussion about Facebook and its database maintenance |
| Integrated Activity | |
| IA1 | Designing a billing software for grocery shop |
| IA2 | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

Forslow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Application & Networking

1. Questionnaires for Course Feedback from Students

| Name of the student | |
|---------------------|--|
| Programme Name | |
| Course Name | |
| Course code | |
| Year of Joining | |
| Semester | |
| Date | |

Put a tick in the best represents your response to each statement.

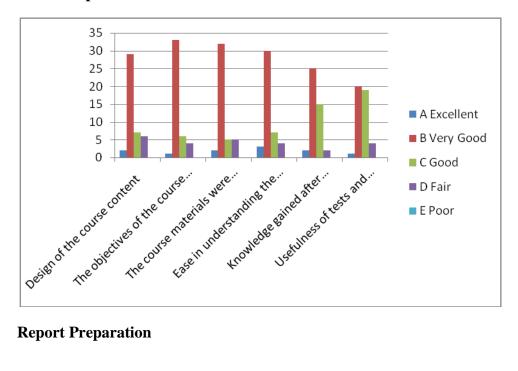
| No. | Parameters | A | В | С | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | The objectives of the course | A | В | С | D | Е |
| | were clearly stated. | | | | | |
| 3 | The course materials were | A | В | C | D | Е |
| | clearly explained. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | Е |
| | course content. | | | | | |
| 5 | Knowledge gained after | A | В | C | D | Е |
| | completion of the course. | | | | | |
| 6 | Usefulness of tests and | A | В | C | D | Е |
| | assignments | | | | | |
| 7 | Extent of efforts required by | A | В | C | D | E |
| | students. | | | | | |

Course Feedback Analysis and Report Preparation

Number of responses: 44

| No. | Parameters | A | В | С | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 2 | 29 | 7 | 6 | 0 |
| 2 | The objectives of the course | 1 | 33 | 6 | 4 | 0 |
| | were clearly stated. | 1 | 33 | U | 4 | U |
| 3 | The course materials were | 2 | 32 | 5 | 5 | 0 |
| | clearly explained. | 2 | 32 | 3 | 3 | U |
| 4 | Ease in understanding the | 3 | 30 | 7 | 4 | 0 |
| | course content. | 3 | 30 | , | 7 | U |
| 5 | Knowledge gained after | 2 | 25 | 15 | 2 | 0 |
| | completion of the course. | 2 | 23 | 13 | 2 | U |
| 6 | Usefulness of tests and | 1 | 20 | 19 | 4 | 0 |
| | assignments | 1 | 20 | 19 | 4 | U |
| 7 | Extent of efforts required by | 2 | 25 | 10 | 7 | 0 |
| | students. | 2 | 23 | 10 | / | U |

Chart Preparation



Department of Computer Application & Networking

2. Questionnaires for Course Feedback from Teachers

| Name of the Teacher | |
|---------------------|--|
| Programme Name | |
| Course Name | |
| Course code | |
| Semester/Year | |
| Date | |

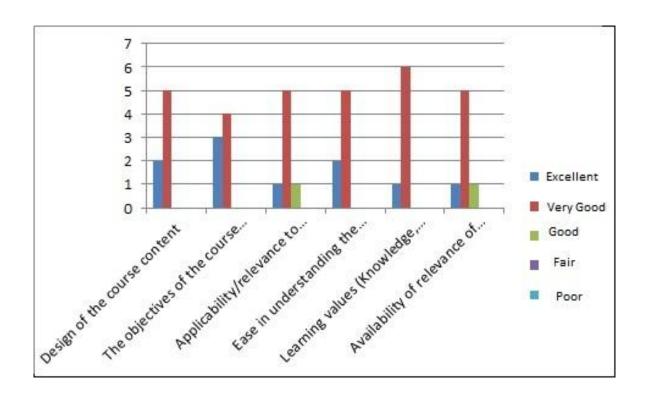
Put a tick in the best represents your response to each statement.

| No. | Parameters | A | В | C | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | The objectives of the course | A | В | C | D | Е |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | A | В | C | D | Е |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | Е |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | A | В | C | D | Е |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | A | В | C | D | Е |
| | additional source materials | | | | | |

Number of Responses: 7

| No. | Parameters | A | В | С | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 2 | 5 | 0 | 0 | 0 |
| 2 | The objectives of the course | 3 | 4 | 0 | 0 | 0 |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | 1 | 5 | 1 | 0 | 0 |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | 2 | 5 | 0 | 0 | 0 |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | 1 | 6 | 0 | 0 | 0 |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | 1 | 5 | 1 | 0 | 0 |
| | additional source materials | | | | | |

Chart preparation



Department of Application & Networking

3. Questionnaires for Course Feedback from Alumni

| Name of the Alumni | |
|--------------------|--|
| Programme Name | |
| Course Name | |
| Contact No/Mail id | |
| Semester and year | |
| Date | |

Put a tick in the best represents your response to each statement.

| No. | Parameters | A | В | C | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | The objectives of the course | A | В | C | D | Е |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | A | В | C | D | Е |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | Е |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | A | В | C | D | Е |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | A | В | C | D | Е |
| | additional source materials | | | | | |

Number of Responses: 10

| No. | Parameters | A | В | С | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 5 | 1 | 5 | 3 | 0 |
| 2 | The objectives of the course | 2 | 7 | 4 | 4 | 0 |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | 2 | 5 | 2 | 1 | 0 |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | 1 | 4 | 1 | 8 | 0 |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | 5 | 2 | 1 | 5 | 0 |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | 4 | 2 | 8 | 5 | 0 |
| | additional source materials | | | | | |

4. Questionnaires for Course Feedback from Parents

| Name of the Parent | |
|--------------------------|--|
| Name of the Student | |
| Programme Name | |
| Course Name | |
| Contact Number/Mail id | |
| Year of Joining/Semester | |
| Date | |

Put a tick in the best represents your response to each statement. 15

| No. | Parameters | A | В | С | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | Course materials available in | A | В | C | D | Е |
| | Library. | | | | | |
| 3 | The course materials were | A | В | C | D | Е |
| | clearly explained. | | | | | |
| 4 | Improvement in soft skills, | A | В | C | D | Е |
| | knowledge, observed by you in | | | | | |
| | your ward. | | | | | |
| 5 | Usefulness of the course for | A | В | C | D | E |
| | getting job. | | | | | |
| 6 | Extent of efforts required by | A | В | C | D | E |
| | students. | | | | | |

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| D M | AAC (AVE 0 VE) |
|--------------------|--------------------------|
| Programme Name | MSc (NT&IT) |
| Course Name | Operating system |
| Course Code | HNTM32 |
| Class | III year (2014-2015) |
| Semester | ODD |
| Staff Name | Mrs.A.BATHSHEBA PARIMALA |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| TD + 1 COLL /C | |

Total 60Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- ➤ To understand design issues related to process management and various related algorithms.
- > To understand design issues related to memory management and various related algorithms.
- > To understand design issues related to File management and various related algorithms

Syllabus

CORE SUBJECT - I

OPERATING SYSTEMS

UNIT I INTRODUCTION What is an Operating System: Mainframe Systems – Desktop Systems – Multiprocessor Systems - Distributed Systems – Clustered Systems – Real – time Systems– Handheld Systems. (10 L)

UNIT II PROCESS CONCEPT Process Concept – Process Scheduling – Operations on Process – Co-operating processes – Inter Processes - Inter Process communication. CPU

Scheduling: Basic Concepts –Scheduling Criteria - Scheduling algorithms – Multi processor Scheduling - Real time Scheduling – Algorithms evaluation. (12 L)

UNIT III PROCESS SYNCHRONIZATION & DEADLOCKS Process Synchronization: Background – the critical section problem – Synchronization hardware – Semaphores – Classical problems of Synchronization – critical regions – Monitors – Atomic transaction. Deadlocks: System model – Deadlock Characterization – methods for handling Deadlocks – Deadlock prevention – Deadlock Avoidance – Deadlock detection – recovery from Deadlock.(14 L)

UNIT IV MEMORY MANAGEMENT Memory management: Background – Swapping – Contiguous memory allocation – paging – segmentation – segmentation with paging. Virtual Memory: Background – Demand paging – Page replacement – Allocation of frames. (12 L)

UNIT V File System Interface: File concept – Access methods– File system structure – File system implementation – File system structure – Filesystem implementation – Directories structure - Directory implementation – Allocation methods – Free space management – Efficiency and performance – Recovery. Mass Storage Structure: Disk Structure – Disk Scheduling – Disk management – Swap space management – RAID structure – Disk attachment – Stable Storage. (12 L)

| Hour | Class Schedule |
|-----------|----------------------------------------------------------|
| allotment | |
| | ODD Semester Begin on 18.06.2014 |
| 1-L1 | INTRODUCTION- What is an Operating System |
| 2-L2 | Mainframe Systems |
| 3- L3 | Batchsystem - multiprogrammed system-time sharing system |
| 4-L4 | Desktop Systems |
| 5-L5 | Multiprocessor Systems |
| 6-L6 | Distributed Systems |
| 7-L7 | Client-server system, peer-to-peer system |
| 8- P1 | BCA Association |
| 9- L8 | Real |
| 10- L9 | Time Systems |
| 11-L10 | Handheld Systems. |
| 12-L11 | PROCESS CONCEPT Process Concept |
| 13-L12 | Process Scheduling |
| 14-L13 | Operations on Process |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins(30.07.2014) |

| Test Paper distribution and result analysis Entering Internal Test-II Marks into University portal | |
|----------------------------------------------------------------------------------------------------|--|
| | |
| | |
| methods for handling Deadlocks | |
| Internal Test-II | |
| Deadlock Characterization | |
| Internal Test II begins(18.08.2014) | |
| | |
| Allotting portion for Internal Test-II | |
| Atomic transaction. Deadlocks: System model | |
| Department Seminar | |
| Monitors | |
| critical regions | |
| Classical problems of Synchronization | |
| * | |
| Semaphores | |
| Synchronization hardware | |
| the critical section problem | |
| Background | |
| PROCESS SYNCHRONIZATION & DEADLOCKS Process Synchronization: | |
| Algorithms evaluation | |
| Real time Scheduling | |
| Multi processor Scheduling | |
| Scheduling algorithms Multi annual School alice | |
| College level meeting/Cell function | |
| Scheduling Criteria College level meeting/Coll function | |
| 1 | |
| Basic Concepts | |
| Entering Internal Test-I Marks into University portal | |
| Test Paper distribution and result analysis | |
| Inter Process communication. CPU Scheduling | |
| Internal Test-I | |
| | |

| 57-MT | Model Test |
|---------|---------------------------------------------------------------------------|
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 31.10.2014 |

Course Outcomes

| Learning Outcomes | Operating system |
|----------------------------|---------------------------------------------------------------|
| | |
| CO1 | Process Synchronization |
| CO2 | Scheduling Algorithm |
| CO3 | DeadLock |
| CO4 | Dinning Philosopher Algorithm |
| CO5 | Page Allocation Algorithm |
| Experimental | |
| Learning | |
| EL1 | File System Interface: File concept ,Access methods |
| EL2 | Directories structure ,Directory implementation |
| EL3 | Efficiency and performance ,Recovery. Mass Storage Structure: |
| | Disk Structure |
| Integrated Activity | |
| IA1 | Deadlock Characterization |
| IA2 | Atomic transaction. Deadlocks: System model |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

Remaining 65Hrs (5 units; 5×13=65; 13Hrs /unit)

| Programme Name | M.Sc. NT&IT |
|----------------------|-----------------------------|
| Course Name | Research Methodology |
| Course Code | HNTM34 |
| Class | I year (2014-2015) |
| Semester | Odd |
| Staff Name | 1.Mr. B.JEFFERSON |
| | 2. Mrs.A.BATHSHEBA PARIMALA |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |
| Total 75 Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |
| Dept. Meetings-2 Hrs | |

Course Objectives

College Meetings-2 Hrs

- > ToUnderstand about Meaning of Research
- > ToUnderstand about Objectives of Research
- > To Understand about Types of Research
- > To Understand about Motivation in Research
- > To Understand about Research Approaches
- ➤ To Understand about Research Methods Verses Methodology

Syllabus

Research Methodology

Unit-I Research Methodology: An Introduction - Meaning of Research - Objectives of Research - Types of Research, Motivation in Research - Research Approaches, Significance of Research - Research Methods Verses Methodology - Research and Scientific Method - Research Process - Criteria of Good Research - Problems Encountered by Researchers in India. Defining the Research Problem: What is a Research Problem? - Selecting the Problem - Technique Involved in Defining a Problem - Research Design: Meaning - Need for research Design - Features of a Good

Design - Important Concept relating to Research Design - Different Research Designs - Basic Principles of Experimental Designs.

Unit-II Sampling Design: Census and sample survey - Implications of a sample design - Steps in sample design - Criteria of selecting a sampling procedure - Characteristics of a good sample design - Different types of sample designs - How to select a random sample? - Random sample from an infinite Universe - Complex random sampling designs - Measurement and scaling Techniques: measurement in research - Measurement scales - Sources of error in measurement - Tests of sound measurements - Technique of developing measurement tools - Scaling, meaning of scaling - Scale classification bases - Important scaling techniques - Scale construction techniques.

Unit-III Methods of Data Collection - Collection of Primary Data - Observation Method - Interview method - Collection of Data through Questionnaires - Collection of Data through Schedules - Some Other Methods of Data Collection - Collection of Secondary Data - Selection of Appropriate Method for Data Collection - Interpretation and Report writing - Meaning of Interpretation, Why Interpretation? - Technique of Interpretation, Precaution in Interpretation - Significance of Report Writing - Different Steps in Writing Report - Layout of the Research Report - Types of Reports - Mechanics of Writing a Research Report - Precautions for Writing Research Reports.

Unit-IV Chi-Square Test for large samples – Definition of Chi-Square – Limitations of Chi-Square test - Chi-Square test as a test of goodness of fit and as a test of independence – Yate"s correction and its applications – Analysis of variance(ANOVA): Concept – One way ANOVA – ANOVA in test in Latin Square Design

Unit - V Algorithmic Research – Introduction - Algorithmic Research Problems - Types of Solution procedure/Algorithm - Steps of Development of Algorithm - Steps of algorithmic Research - Design of Experiments and Comparison of Algorithms - Meta Heuristics for Combinatorial Problems - The Computer: Its Role in research - The computer and Computer Technology - The Computer System - Important Characteristics - Computer Applications - Computers and Researchers.

REFERENCE BOOKS:

- 1. C.R.Kothari, "Research Methodology Methods and Techniques", (Second Revised Edition), New Age International Publishers, New Delhi, 2010.
- 2. R.Panneerselvam, "Research Methodology", PHI Learning Private Limited, New Delhi, 2009.

| Hour allotment | Class Schedule | |
|----------------|--------------------------------------------------------------------|--|
| | Odd Semester Begin on 18.06.2014 | |
| 1-L1 | Unit-I Research Methodology: An Introduction - Meaning of Research | |
| 2-L2 | Objectives of Research - Types of Research, Motivation in Research | |
| 3-L3 | Algorithmic Research Problems | |
| 4-L4 | Types of Solution procedure/Algorithm | |
| 5-L5 | Steps of Development of Algorithm | |

| 6-L6 | The Computer: Its Role in research |
|----------|-------------------------------------------------------------------------------|
| 7-L7 | Research Approaches, Significance of Research |
| 8- P1 | BCA &M.Sc(IT)ASSOCIATION |
| 9- L8 | Features of a Good Design - Important Concept relating to Research Design |
| 10- L9 | Different Research Designs - Basic Principles of Experimental Designs. |
| 11-L10 | Unit-II Sampling Design: Census and sample survey - Implications of a |
| 11-L10 | sample design - Steps in sample design |
| 12-L11 | Criteria of selecting a sampling procedure - Characteristics of a good sample |
| 12-111 | design |
| 13-L12 | Different types of sample designs - How to select a random sample? |
| 14-L13 | Random sample from an infinite Universe |
| 15-L14 | Complex random sampling designs |
| 16-L15 | Measurement and scaling Techniques: measurement in research - |
| 10 213 | Measurement scales |
| 17- L16 | Sources of error in measurement - Tests of sound measurements - |
| 18- L17 | Technique of developing measurement tools - Scaling, meaning of scaling |
| 19- L18 | Scale classification bases - Important scaling techniques |
| 20- L19 | Scale construction techniques. |
| 21- L20 | Allotting portion for Internal Test-I |
| | Internal Test I begins (30.07.2014) |
| 22- L21 | Unit-III Methods of Data Collection - Collection of Primary Data |
| 23- IT-1 | Internal Test-I |
| 24- L22 | Observation Method - Interview method - |
| 25- L23 | Collection of Data through Questionnaires |
| 26- L24 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 27- L25 | Collection of Data through Schedules |
| 28- L26 | Schedules |
| 29- L27 | Collection of Secondary Data |
| 30- P2 | College level meeting/Cell function |
| 31-L28 | Selection of Appropriate Method for Data Collection |
| 32-L29 | Interpretation and Report writing |
| 33-L30 | Meaning of Interpretation, Why Interpretation? |
| 34- L31 | Technique of Interpretation, |
| 35- L32 | Precaution in Interpretation |
| 36- L33 | Significance of Report Writing - |
| 37- L34 | Different Steps in Writing Report |
| 38- L35 | Layout of the Research Report |
| 39- L36 | Types of Reports |
| 40- L37 | Mechanics of Writing a Research Report |
| 41- L38 | Precautions for Writing Research Reports. |
| 42-P3 | Department Seminar |
| 43- L39 | Unit-IV Chi-Square Test for large samples |
| 44- L40 | Definition of Chi-Square |
| 45- L41 | Limitations of Chi-Square test - |
| 46- L42 | Chi-Square test as a test of goodness of fit and as a test of independence |
| | · |
| 47- L43 | Allotting portion for Internal Test-II Internal Test II begins(18.08.2014) |

| 48- L44 | Yate"s correction and its applications | |
|-----------|---------------------------------------------------------------------|--|
| 49-IT-II | Internal Test-II | |
| 50-L45 | Analysis of variance(ANOVA) : Concept | |
| 51- L46 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 52- L47 | One way ANOVA | |
| 53- L48 | ANOVA in test in Latin Square Design | |
| 54- L49 | Unit - V Algorithmic Research – Introduction | |
| 55- L50 | Algorithmic Research Problems | |
| 56- L51 | Types of Solution procedure/Algorithm | |
| 57- L52 | Steps of Development of Algorithm | |
| 58- L53 | Steps of algorithmic Research - | |
| 59-P4 | College level meeting/ function | |
| 60- L54 | Design of Experiments and Comparison of Algorithms - | |
| 61- L55 | Meta Heuristics for Combinatorial Problems | |
| 62- L56 | The Computer: Its Role in research | |
| 63- L57 | The computer and Computer Technology | |
| 64- L58 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(15.09.2014) | |
| 65- L59 | The Computer System | |
| 66- L60 | Important Characteristics | |
| 67-IT-III | Internal Test-III | |
| 68- L61 | Computer Applications | |
| 69- L62 | Computers and Researchers. | |
| 70- L63 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 71-MT | Model Test begins(24.10.2014) | |
| 72-MT | Model Test | |
| 73-MT | Model Test | |
| 74-L64 | Model test paper distribution and previous year university question | |
| | paper discussion | |
| 75-L65 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 31.10.2014 | |

Course Outcomes

| Learning Outcomes | Research Methodology | |
|--------------------------|-------------------------------------------------------------|--|
| | | |
| CO1 | An Introduction - Meaning of Research | |
| CO2 | 2 Objectives of Research - Types of Research, Motivation in | |
| | Research | |
| CO3 | Algorithmic Research Problems | |
| CO4 | Types of Solution procedure/Algorithm | |
| CO5 | Steps of Development of Algorithm | |
| CO6 | Different types of sample designs - How to select a random | |
| | sample? | |
| CO7 | Random sample from an infinite Universe | |

| CO8 | Complex random sampling designs |
|---------------------------------|----------------------------------------------------|
| CO9 Technique of Interpretation | |
| Experimental | |
| Learning | |
| EL1 | Algorithmic Research Problems |
| EL2 | Analysis of variance(ANOVA) : Concept |
| EL3 | Design of Experiments and Comparison of Algorithms |
| EL4 | Steps of algorithmic Research |
| Integrated Activity | |
| IA1 | Types of Solution procedure/Algorithm |
| IA2 | The Computer: Its Role in research |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|--------------------|-----------------------|
| Course Name | Network Administrator |
| Course Code | HNTM21 |
| Class | I year (2014-2015) |
| Semester | EVEN |
| Staff Name | MR.B.EDWARD DANIEL |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- **▶** Basic Configuration
- > Recompiling the Kernel
- > The Extended Internet Daemon
- ➤ Linux kernel configuration

Syllabus

UNIT I

Network services - Names and Addresses - The Host Table- DNS - Mail services - File and Print servers- The Extended Internet Daemon

- summary - Getting started - connected and Non-connected Networks - Basic information - planning Routing - Planning Naming Service - Other services - Informing the Users- summary - Basic Configuration- Kernel - configuration - Using Dynamically Loadable Modules - Recompiling the Kernel - Linux kernel configuration - Startup Files - The Internet Daemon - The Extended Internet Daemon

UNIT II

Configuring the Interface-The ifconfig command - TCP/IP over a Serial Lino Installing PPP - Configuring Routing common routing configuration - The minimal routing table - Building a static routing table-configuring DNS-BIND:Unix name service - configuring the Resolver - configuring named -using ns lookup

UNIT III

Local Network Services - the Network File System - Sharing Unix printers - using samba to share resources with window- Network Information - service - DHCP - Managing Distributed servers-Post office server's-send mail - sendmail's function - running sendmail as a Daemon - Sendmail Aliases - Modifying a sendmail of File - Testing Sendmail.

UNIT IV

Configuring Apache - Installing Apache software - configuring the Apache server - understanding a Lipid. Conf File -Web server security - Managing your web server- Network Security - Security planning - user Authentication - Application security - Security Monitoring - Access control - Encryption - Firewalls.

UNIT V

Trouble shooting TCP/IP Applications a problem - Diagnostic Tools - Testing Basic connectivity - Troubleshooting Network Access - Checking Routing-Checking Name Service - Analyzing Protocol problems - Protocol case study - Applications: Internet Management - Introduction - The level of Management Protocols - Architectural Model- Protocol Framework - Examples of MIB variables - The structure of Management Information - Formal Definitions using ASN 1- Structure and Representation of MIB object names - Simple Network Management Protocol- SNMP message format - Example encoded SNMP message - New features in SNMPv3 - Summary.

| Hour | Class Schedule | |
|-----------|---------------------------------------------------------------------|--|
| allotment | | |
| | Even Semester Begin on 03.12.2014 | |
| 1-L1 | UNIT I :Network services - Names and Addresses | |
| 2-L2 | The Host Table- DNS | |
| 3- L3 | Mail services - File and Print servers | |
| 4-L4 | configuration servers – summary | |
| 5-L5 | Getting started - connected and Non-connected Networks | |
| 6-L6 | Basic information - planning Routing | |
| 7-L7 | Planning Naming Service - Other services | |
| 8- P1 | Welcoming of First year and Inauguration of Mathematics Association | |

| 9- L8 | Informing the Heave summers |
|-------------------|--------------------------------------------------------------------------------------------------------------------|
| 9- L8 10- L9 | Informing the Users- summary Basic Configuration – Kernel |
| 10- L9 11-L10 | |
| 11-L10 12-L11 | configuration - Using Dynamically Loadable Modules |
| | Recompiling the Kernel - Linux kernel configuration |
| 13-L12 | Startup Files - The Internet Daemon |
| 14-L13 | The Extended Internet Daemon-The Extended Internet Daemon |
| 15-L14 | - Allotting portion for Internal Test-I |
| 16-L15 | Internal Test I begins (19.01.2015) |
| 10-L13 17-IT-1 | UNIT II :Configuring the Interface-The ifconfig command Internal Test-I |
| 17-11-1 18-L16 | |
| 18-L10 | TCP/IP over a Serial Lino Installing PPP - Configuring Routing common |
| 10 I 17 | routing configuration Test Person distribution and regult analysis |
| 19-L17 | - Test Paper distribution and result analysis |
| 20-L18 | Entering Internal Test-I Marks into University portal The minimal routing table. Puilding a static routing table. |
| 20-L18 21- L19 | The minimal routing table - Building a static routing table |
| 21- L19 22- P2 | configuring DNS-BIND:Unix name service - configuring the Resolver |
| | College level meeting/Cell function |
| 23-L20 | configuring named - using ns lookup |
| 24-L21 | UNIT III: Local Network Services - the Network File System |
| 25-L22 | Sharing Unix printers - using samba to share resources with window |
| 26-L23 | Network Information - service – DHCP |
| 27-L24 | Managing Distributed servers - Post office server's |
| 28-L25 | send mail – sendmail's function |
| 29-L26 | running sendmail as a Daemon - Sendmail Aliases |
| 30-L27 | Modifying a sendmail of File - Testing Sendmail |
| 31-L28 | UNIT IV: Configuring Apache - Installing Apache software |
| 32-L29 | configuring the Apache server - understanding a Lipid. Conf File |
| 33-L30 | Web server security - Managing your web server |
| 34- P3 | Department Seminar |
| 35-L31 | Network Security - Security planning - user Authentication |
| 36-L32 | - Allotting portion for Internal Test-II |
| 27 1 22 | Internal Test II begins(16.02.2015) |
| 37- L33 | Application security - Security Monitoring |
| 38- IT-II | Internal Test-II |
| 39-L34 | Access control - Encryption - Firewalls |
| 40-L35 | - Test Paper distribution and result analysis |
| 44.7.26 | Entering Internal Test-II Marks into University portal |
| 41-L36 | UNIT V:Trouble shooting TCP/IP Applications a problem - Diagnostic Tools |
| 42- L37 | Testing Basic connectivity - Troubleshooting Network Access |
| 43- L38 | Checking Routing-Checking Name Service |
| 44- P4 | College level meeting/ function |
| 45-L39 | Analyzing Protocol problems - Protocol case study |
| 46-L40 | Applications: Internet Management – Introduction |
| 47-L41 | The level of Management Protocols - Architectural Model- The structure of |
| 10.7.12 | Management Information |
| 48-L42 | Protocol Framework - Examples of MIB variables |
| 49-L43 | Formal Definitions using ASN 1- Structure and Representation of MIB object |
| | names |

| 50-L44 | Allotting portion for Internal Test-III |
|-----------|---------------------------------------------------------------------------|
| | Internal Test III begins(16.03.2015) |
| 51 L45 | Simple Network Management Protocol- SNMP message format |
| 52- L46 | Example encoded SNMP message - New features in SNMPv3 - Summary |
| 53-IT-III | Internal Test-III |
| 54-L47 | |
| 55-L48 | - Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(16.04.2015) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23.04.2015 |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT | |
|------------------------|---------------------------|--|
| Course Name | ADVANCED JAVA PROGRAMMING | |
| Course Code | KNTM21 | |
| Class | I year (2014-2015) | |
| Semester | EVEN | |
| Staff Name | Mr.I.THOMAS JEBASINGH | |
| Credits | 5 | |
| L. Hours /P. Hours | 5 / WK | |
| Total 75 Hrs/Sem | | |
| Internal Test-3 Hrs | | |
| Model Test-3 Hrs | | |
| Dept. Meetings-2 Hrs | | |
| College Meetings-2 Hrs | | |

Course Objectives

> To understand about introducing java

Remaining 65 Hrs (5 units; 5×13=65; 13Hrs /unit)

- > To understand about the evolution of java
- ➤ To understand about The logical evolution of C to C++
- > To understand aboutFundamentals of Java language
- > To understand aboutUsing data types
- > To understand aboutExpressions

Syllabus

Unit-I

Introducing Java-The Evolution of Java-The logical evolution of C to C++ and Java-Object oriented programming concepts and java programming with java. Getting started with Java Developer's kit(JDK)- The Java developer's environment. The Java browser and the world wide web –Navigating the world wide web –using URL"s- web surfing with Java enchanced browsers –Web-Hot spots for Java developers-Java tools-Java language. (12L)

Unit-II

Fundamentals of Java language-Token-Using data types-Expressions-Declarations-control flowBuilding objects-An introduction to classes- working with objects-packages-InheritanceInterfaces-threads-exceptions-streams. (10L)

Unit-III

Java API packages, The structure of API Packages. Using the Java API, API web reference Structure. The Java Applet class, Java language- packages and its classes. The AWT class library-Introduction to the AWT-Using the frame class to implement application windows-Implementing dialog boxes with dialog class –organizing the components using the panel and layout classes-using common GUI controls-using Fonts - image related classes-using scroll bars. The java I/O and utility class libraries. The Net and debug class libraries (13L)

Unit-IV

Defining the applet structure- building the applet- The Java extensions to HTML – Adding animation to web documents. The reducing animation flickers- Publishing a Java-presentation on the web. Applets reuse-adding functionality to existing applets –when to reuse –when to rewrite-extending an applet-Testing the extended applet.

JDBC: Java Database Connectivity, Types of JDBC drivers, Writing JDBC applications, Types of Statement objects, Types of resultset, Inserting an updating records, using transactions. (13L)

Unit-V:

Java Servlets: Java Servlets and CGI Programming –A Simple Java Servlet –Anatomy of a Java Servlet Reading Data from a Client –Sending Data to a Client – Working with Cookies Java Server Pages: JSP-JSP tags-Tomcat-Request String –User sessions-Cookies-Session Object. (12L)

| Hour allotment | Class Schedule |
|-------------------|----------------------------------------------------------------------------------------|
| | Odd Semester Begin on 03.12.2014 |
| 1-L1 | The Evolution of Java |
| 2-L2 | The logical evolution of C to C++ and Java |
| 3- L3 | Object oriented programming concepts and java programming with java |
| 4-L4 | Getting started with Java Developer's kit(JDK) |
| 5-L5 | The Java developer's environment |
| 6-L6 | The Java browser and the world wide web |
| 7-L7 | Navigating the world wide web |
| 8- P1 | Welcoming of First year and Inauguration of M.Sc(NT & IT) Association |
| 9- L8 | Using URL"s- web surfing with Java enchanced browsers |
| 10- L9 | Web |
| 11-L10 | Hot spots for Java developers |
| 12-L11 | Java tools |
| 13-L12 | Java language |
| 14-L13 | Fundamentals of Java language |
| 15-L14 | Token-Using data types |
| 16-L15 | Expressions |
| 17- L16 | Declarations |
| 18- L17 | Control flow Building objects |
| 19- L18 | An introduction to classes |
| 20- L19 | working with objects |
| 21- L20 | Allotting portion for Internal Test-I Internal Test I begins(19.01.2015) |
| 22- L21 | Packages |
| 23- IT-1 | Internal Test-I |
| 24- L22 | Inheritance Interfaces |
| 25- L23 | Threads |
| 26- L24 | Test Paper distribution and result analysis |
| 20 221 | Entering Internal Test-I Marks into University portal |
| 27- L25 | Exceptions |
| 28- L26 | Streams |
| 29- L27 | Java API packages |
| 30- P2 | College level meeting/Cell function |
| 31-L28 | The structure of API Packages |
| 32-L29 | Using the Java API, API web reference Structure |
| 33-L30 | The Java Applet class |
| 34- L31 | Java language |
| 35- L32 | packages and its classes |
| 36- L33 | The AWT class library |
| 37- L34 | Introduction to the AWT |
| 38-L35 | Using the frame class to implement application windows |
| 39- L36 | Implementing dialog boxes with dialog class |
| 40- L37 | Organizing the components using the panel and layout classes-using common GUI controls |
| 41- L38 | image related classes |

| 42-P3 | Department Seminar | |
|-----------|---------------------------------------------------------------------------|--|
| 43- L39 | using scroll bars | |
| 44- L40 | The java I/O and utility class libraries | |
| 45- L41 | The Net and debug class libraries | |
| 46- L42 | using Fonts | |
| 47- L43 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(16.02.2015) | |
| 48- L44 | Java Database Connectivity, , , , , | |
| 49-IT-II | Internal Test-II | |
| 50-L45 | Types of JDBC drivers | |
| 51- L46 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 52- L47 | Writing JDBC applications | |
| 53- L48 | Types of Statement objects | |
| 54- L49 | Types of result set | |
| 55- L50 | Inserting an updating records | |
| 56- L51 | using transactions | |
| 57- L52 | Java Servlets and CGI Programming | |
| 58- L53 | A Simple Java Servlet | |
| 59-P4 | College level meeting/ function | |
| 60- L54 | Anatomy of a Java Servlet Reading Data from a Client | |
| 61- L55 | Sending Data to a Client | |
| 62- L56 | Working with Cookies Java Server Pages | |
| 63- L57 | JSP- JSP tags | |
| 64- L58 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(16.03.2015) | |
| 65- L59 | JSP tags | |
| 66- L60 | Tomcat- Request String | |
| 67-IT-III | Internal Test-III | |
| 68- L61 | Cookies-Session Object | |
| 69- L62 | User sessions | |
| 70- L63 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 71-MT | Model Test begins(16.04.2015) | |
| 72-MT | Model Test | |
| 73-MT | Model Test | |
| 74-L64 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 75-L65 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 23.04.2015 | |

Course Outcomes

| Learning Outcomes | ADVANCED JAVA PROGRAMMING |
|----------------------------|-----------------------------------|
| | |
| CO1 | Writing JDBC applications |
| CO2 | Types of Statement objects |
| CO3 | Types of result set |
| CO4 | Inserting an updating records |
| CO5 | using transactions |
| CO6 | Java Servlets and CGI Programming |
| CO7 | A Simple Java Servlet |
| CO8 | Java Servlets and CGI Programming |
| CO9 | A Simple Java Servlet |
| Experimental | |
| Learning | |
| EL1 | package |
| EL2 | interface |
| EL3 | jdbc |
| EL4 | |
| Integrated Activity | |
| IA1 | session |
| IA2 | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

St. John's College, Palayamkottai Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|--------------------|-----------------------|
| Course Name | Mobile Communication |
| Course Code | KLTN31 |
| Class | II year (2015-2016) |
| Semester | Odd |
| Staff Name | Mr. L . Abraham David |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |

Total 60Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To understand about Wireless transmission
- > To understand about Frequencies for radio transmission
- > To understand about Signal Propagation
- > To understand about Multiplexing

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Unit-I

Introduction:

Wireless transmission, Frequencies for radio transmission, Signals, Antennas, Signal Propagation, Multiplexing, Modulations, Spread spectrum, MAC, SDMA, FDMA, TDMA, CDMA, Cellular Wireless Network. (12L)

Unit-II

Telecommunication systems:

GSM, GPRS, DECT, UMTS, IMT-2000, Satellite Networks, Basics, Parameters and Configurations, Capacity Allocation, FAMA and DAMA, Broadcast Systems, DAB, DVB. (12L)

Unit-III

Wireless LAN:

IEEE 802.11, Architecture, Services, MAC, Physical layer, IEEE802.11a-802.11b standards, HIPERLAN, BlueTooth. (12L)

Unit-IV

Mobile Communication Protocols:

Mobile IP, Dynamic Host Configuration Protocol, Routing, DSDV, DSR, Alternative Metrics (12L)

Unit-V

WAP and WML:

Traditional TCP, Classical TCP improvements, WAP, WAP 2.0, WML Basics, WML Cards. (12L)

| Hour allotment | Class Schedule | |
|-------------------|-------------------------------------|--|
| | Odd Semester Begin on 18.06.2015 | |
| 1-L1 | Wireless transmission | |
| 2-L2 | Frequencies for radio transmission, | |
| 3- L3 | Signals | |
| 4-L4 | Antennas, | |
| 5-L5 | Signal Propagation | |

| 6-L6 | Multiplexing |
|---------|-------------------------------------------------------|
| 7-L7 | Modulations, |
| 8- P1 | BCA &M.Sc(IT)Association |
| 9- L8 | Spread spectrum |
| 10- L9 | MAC, |
| 11-L10 | SDMA |
| 12-L11 | Cellular Wireless Network |
| 13-L12 | GSM, GPRS, DECT |
| 14-L13 | UMTS, ΓMT-2000 |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins(20.07.15) |
| 16-L15 | Satellite Networks, Basics |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Parameters and Configurations |
| 19-L17 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | Capacity Allocation |
| 21- L19 | FAMA |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | Broadcast Systems |
| 24-L21 | DAB |
| 25-L22 | IEEE 802.11, Architecture |
| 26-L23 | Services, MAC |
| 27-L24 | Physical layer |
| 28-L25 | IEEE802.11a-802.11b standards |
| 29-L26 | HIPERLAN |
| 30-L27 | BlueTooth |
| 31-L28 | DVB. |

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|-----------|--------------------------------------------------------|
| 32-L29 | DAMA |
| 33-L30 | FDMA |
| 34- P3 | Department Seminar |
| 35-L31 | TDMA |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(31.08.15) |
| 37- L33 | CDMA |
| 38- IT-II | Internal Test-II |
| 39-L34 | Mobile IP |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Routing, |
| 42- L37 | Dynamic Host, |
| 43- L38 | Configuration Protocol |
| 44- P4 | College level meeting/ function |
| 45-L39 | DSDV, DSR, |
| 46-L40 | Alternative Metrics |
| 47-L41 | Traditional TCP |
| 48-L42 | Classical TCP improvements |
| 49-L43 | WAP |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(05.10.15) |
| 51 L45 | WAP 2.0 |
| 52- L46 | WML Basics |
| 53-IT-III | Internal Test-III |
| 54-L47 | WML Cards. |
| 55-L48 | Test Paper distribution and result analysis |

| | Entering Internal Test-III Marks into University portal |
|---------|--------------------------------------------------------------------------------------|
| 56- MT | Model Test begins(16.10.2015) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 29.10.2015 |

Course Outcomes

| Learning Outcomes | Mobile Communication |
|--------------------------|-------------------------------------|
| | |
| CO1 | Wireless transmission |
| CO2 | Frequencies for radio transmission, |
| CO3 | Signals |
| CO4 | Antennas, |
| CO5 | Signal Propagation |
| CO6 | Multiplexing |
| CO7 | Modulations, |
| CO8 | MAC |
| CO9 | SDMA |
| Experimental Learning | |
| EL1 | Cellular Wireless Network |
| EL2 | GPRS |
| EL3 | BlueTooth. |

| EL4 | WAP |
|---------------------|------------|
| Integrated Activity | |
| IA1 | BlueTooth. |
| IA2 | GPRS |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|--------------------|-----------------------|
| Course Name | Network Administrator |
| Course Code | HNTM21 |
| Class | I year (2015-2016) |
| Semester | EVEN |
| Staff Name | MR.B.EDWARD DANIEL |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- ➤ Basic Configuration
- ➤ Recompiling the Kernel
- ➤ The Extended Internet Daemon
- ➤ Linux kernel configuration

Syllabus

UNIT I

Network services - Names and Addresses - The Host Table- DNS - Mail services - File and Print servers- The Extended Internet Daemon

- summary - Getting started - connected and Non-connected Networks - Basic information - planning Routing - Planning Naming Service - Other services - Informing the Users- summary - Basic Configuration- Kernel - configuration - Using Dynamically Loadable Modules - Recompiling the Kernel - Linux kernel configuration - Startup Files - The Internet Daemon - The Extended Internet Daemon

UNIT II

Configuring the Interface-The ifconfig command - TCP/IP over a Serial Lino Installing PPP - Configuring Routing common routing configuration - The minimal routing table - Building a static routing table-configuring DNS-BIND:Unix name service - configuring the Resolver - configuring named -using ns lookup

UNIT III

Local Network Services - the Network File System - Sharing Unix printers - using samba to share resources with window- Network Information - service - DHCP - Managing Distributed servers-Post office server's-send mail - sendmail's function - running sendmail as a Daemon - Sendmail Aliases - Modifying a sendmail of File - Testing Sendmail.

UNIT IV

Configuring Apache - Installing Apache software - configuring the Apache server - understanding a Lipid. Conf File -Web server security - Managing your web server- Network Security - Security planning - user Authentication - Application security - Security Monitoring - Access control - Encryption - Firewalls.

UNIT V

Trouble shooting TCP/IP Applications a problem - Diagnostic Tools - Testing Basic connectivity - Troubleshooting Network Access - Checking Routing-Checking Name Service - Analyzing Protocol problems - Protocol case study - Applications: Internet Management - Introduction - The level of Management Protocols - Architectural Model- Protocol Framework - Examples of MIB variables - The structure of Management Information - Formal Definitions using ASN 1- Structure and Representation of MIB object names - Simple Network Management Protocol- SNMP message format - Example encoded SNMP message - New features in SNMPv3 - Summary.

| Hour | Class Schedule | |
|-----------|--------------------------------------------------------|--|
| allotment | | |
| | Even Semester Begin on 02.12.2015 | |
| 1-L1 | UNIT I :Network services - Names and Addresses | |
| 2-L2 | The Host Table- DNS | |
| 3- L3 | Mail services - File and Print servers | |
| 4-L4 | configuration servers – summary | |
| 5-L5 | Getting started - connected and Non-connected Networks | |
| 6-L6 | Basic information - planning Routing | |

| 7-L7 | Planning Naming Service - Other services |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8- P1 | Welcoming of First year and Inauguration of Mathematics Association |
| 9- L8 | Informing the Users- summary |
| 10- L9 | Basic Configuration – Kernel |
| 10- L9 11-L10 | configuration - Weiner Configuration - Using Dynamically Loadable Modules |
| 12-L11 | Recompiling the Kernel - Linux kernel configuration |
| 13-L12 | Startup Files - The Internet Daemon |
| 13-L12 14-L13 | The Extended Internet Daemon-The Extended Internet Daemon |
| 15-L14 | - Allotting portion for Internal Test-I |
| 13-L14 | Internal Test I begin(25.01.16) |
| 16-L15 | UNIT II :Configuring the Interface-The ifconfig command |
| 17-IT-1 | Internal Test-I |
| 18-L16 | TCP/IP over a Serial Lino Installing PPP - Configuring Routing common |
| 16-L10 | routing configuration |
| 19-L17 | - Test Paper distribution and result analysis |
| 1) 111 | Entering Internal Test-I Marks into University portal |
| 20-L18 | The minimal routing table - Building a static routing table |
| 21- L19 | configuring DNS-BIND:Unix name service - configuring the Resolver |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | configuring named - using ns lookup |
| 24-L21 | UNIT III: Local Network Services - the Network File System |
| 25-L22 | Sharing Unix printers - using samba to share resources with window |
| 26-L23 | Network Information - service – DHCP |
| 27-L24 | Managing Distributed servers - Post office server's |
| 28-L25 | send mail – sendmail's function |
| 29-L26 | running sendmail as a Daemon - Sendmail Aliases |
| 30-L27 | Modifying a sendmail of File - Testing Sendmail |
| 31-L28 | UNIT IV: Configuring Apache - Installing Apache software |
| 32-L29 | configuring the Apache server - understanding a Lipid. Conf File |
| 33-L30 | Web server security - Managing your web server |
| 34- P3 | Department Seminar |
| 35-L31 | Network Security - Security planning - user Authentication |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(22.02.16) |
| 37- L33 | Application security - Security Monitoring |
| 38- IT-II | Internal Test-II |
| 39-L34 | Access control - Encryption – Firewalls |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | UNIT V:Trouble shooting TCP/IP Applications a problem - Diagnostic Tools |
| 42- L37 | Testing Basic connectivity - Troubleshooting Network Access |
| 43- L38 | Checking Routing-Checking Name Service |
| 44- P4 | College level meeting/ function |
| 45-L39 | Analyzing Protocol problems - Protocol case study |
| 46-L40 | Applications: Internet Management – Introduction |
| 47-L41 | The level of Management Protocols - Architectural Model- The structure of Management Information |
| 48-L42 | Protocol Framework - Examples of MIB variables |
| 10 11 12 | 1 Total Control Contro |

| 49-L43 | Formal Definitions using ASN 1- Structure and Representation of MIB object | |
|-----------|----------------------------------------------------------------------------|--|
| | names | |
| 50-L44 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(28.03.16) | |
| 51 L45 | Simple Network Management Protocol- SNMP message format | |
| 52- L46 | Example encoded SNMP message - New features in SNMPv3 - Summary | |
| 53-IT-III | Internal Test-III | |
| 54-L47 | | |
| 55-L48 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 56- MT | Model Test begins(11.04.2016) | |
| 57-MT | Model Test | |
| 58-MT | Model Test | |
| 59- L49 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 60-L50 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 22.04.2016 | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT | |
|--------------------------------------------------|-----------------------------|--|
| Course Name | RDBMS | |
| Course Code | HNTM22 | |
| Class | I year (2015-2016) | |
| Semester | EVEN | |
| Staff Name | 1.MR.B.JEFFERSON | |
| | 2. MRS.A.BATHSHEBA PARIMALA | |
| Credits | 5 | |
| L. Hours /P. Hours | 5 / WK | |
| Total 75 Hrs/Sem | | |
| Internal Test-3 Hrs | | |
| Model Test-3 Hrs | | |
| Dept. Meetings-2 Hrs | | |
| College Meetings-2 Hrs | | |
| Remaining 65Hrs (5 units; 5×13=65; 13Hrs /unit) | | |

Course Objectives

- > To understand about Relational Algebra
- > To understand about Combining logic
- > To understand about Third and Fourth normal forms

Syllabus

RDBMS CONCEPTS AND ORACLE

Unit-I Introduction – Purpose of data base systems – Data Models – Data Languages-Transaction management- storage Management-DBA –Database Users – System Structures – E-R Models- Entity and Entity Relationships – Mapping constraints and E-R Diagrams. **(10L)**

Unit-II Structure of Relational databases—Relational Algebra — Tuple Relational calculus — Domain Relational Calculus—Relational commercial languages (SQL, QBE, QUEL)—Integrity constraints—Normalization—Boyce—Codd—Third and Fourth normal forms—domain—Key normal form. (13L)

Unit-III Basic SQL Operations – creating a table – Insert- Rollback-Commit – AutoCommit-Delete-Update- Select, From, where and Order by -Single value tests – Like – simple tests against a list of values – Combining logic – Combining tables -Dropping tables - Dropping a column- creating a table from a table – Date functions – Conversion functions- Translate-Decode-Creating a view – Advanced sub queries-Outer joins-Natural & Inner joins-Union, Intersect & Minus – synonyms- indexes- Tablespaces -Clusters- Sequences. **(12L)**

Unit-IV Basics of Object – Relational databases: Objects – Abstract Data types – Nested tables - Varying arrays – Large objects –References - Object Views – Naming conventions for objects- Structure of an Object. Users, Roles and Privilege: Creating a user – password management - Three Standard roles – Format for Grant command – Revoking privileges – what users can Grant: Moving to another user- Create synonym – Create a role – Granting privileges to a role – Granting a role to another role – Adding password to a role – Removing a password from a role – Enabling & Disabling roles – Revoking privileges from a role – dropping roles. **(13L)**

Unit-V An Introduction to PL/SQL: Pl/SQL overview- Declarations section - Executable commands section - Exception handling section - Triggers: Syntax - Types of Triggers: Row Level - statement - level - before & after - instead of - Schema - Database - Level triggers - Enabling & Disabling triggers - Replacing & Dropping triggers - Procedures, functions & Packages: syntax - Compile - Replace - Drop procedure, Functions & Packages - Cursor Management. **(12L)**

| Hour | Class Schedule | |
|-----------|------------------------------------------------------------------------|--|
| allotment | | |
| | EVEN Semester Begin on 02.12.2015 | |
| 1-L1 | Unit-I Introduction – Purpose of data base systems | |
| 2-L2 | Data Models , Data Languages | |
| 3- L3 | Transaction management, storage Management-DBA | |
| 4-L4 | Database Users | |
| 5-L5 | System Structures, E-R Models | |
| 6-L6 | Entity and Entity Relationships | |
| 7-L7 | - Mapping constraints and E-R Diagrams | |
| 8- P1 | BCA&MSC IT Association | |
| 9- L8 | Unit-II Structure of Relational databases | |
| 10- L9 | Relational Algebra ,Tuple Relational calculus | |
| 11-L10 | Domain Relational Calculus- Relational commercial languages (SQL, QBE, | |
| | QUEL) | |

| 12-L11 | Integrity constraints | |
|--------------------|---------------------------------------------------------------------------------------------------------------|--|
| 12-L11 13-L12 | Normalization ,Boyce ,Codd | |
| 13-L12 14-L13 | Third and Fourth normal forms | |
| 15-L14 | domain,Key normal form. | |
| 15-L14 16-L15 | · | |
| | Unit-III Basic SQL Operations | |
| 17- L16 | creating a table | |
| 18- L17 | Insert- Rollback-Commit | |
| 19- L18 | AutoCommit-Delete-Update- | |
| 20- L19 | Select, From, where and Order by - | |
| 21- L20 | - Allotting portion for Internal Test-I | |
| 22 1 21 | Internal Test I begins(25.01.16) | |
| 22- L21 | Single value tests | |
| 23- IT-1 | Internal Test-I | |
| 24- L22 | Like ,simple tests against a list of values | |
| 25- L23 | Combining logic | |
| 26- L24 | - Test Paper distribution and result analysis | |
| 27 125 | Entering Internal Test-I Marks into University portal | |
| 27- L25 | Combining tables | |
| 28- L26 29- L27 | Dropping tables Dropping a column greating a table from a table | |
| | Dropping a column- creating a table from a table | |
| 30- P2 | College level meeting/Cell function | |
| 31-L28 | Date functions Conversion functions | |
| 32-L29 | Conversion functions | |
| 33-L30 | Translate, Decode, Creating a view | |
| 34- L31 35- L32 | Advanced sub queries | |
| | Outer joins, Natural & Inner joins- | |
| 36- L33 | Union, Intersect & Minus Synonyms, indexes | |
| 37- L34 | | |
| 38- L35 39- L36 | Tablespaces, Clusters- Sequences. | |
| | Unit-IV Basics of Object, Relational databases: Objects Abstract Data types, Nexted tables, Verying arrays | |
| 40- L37 41- L38 | Abstract Data types, Nested tables - Varying arrays | |
| | Large objects ,References | |
| 42-P3 | Department Seminar | |
| 43- L39 | Object Views Naming conventions for chicats | |
| 44- L40 | Naming conventions for objects Structure of an Object Hears, Poles and Privilege: Creating a user | |
| 45- L41 46- L42 | Structure of an Object. Users, Roles and Privilege: Creating a user password management ,Three Standard roles | |
| | | |
| 47- L43 | - Allotting portion for Internal Test-II Internal Test II begins(22.02.16) | |
| 48- L44 | Format for Grant command, Revoking privileges | |
| 49-IT-II | Internal Test-II | |
| 50-L45 | what users can Grant: Moving to another user | |
| 51- L46 | - Test Paper distribution and result analysis | |
| 31- LAU | Entering Internal Test-II Marks into University portal | |
| 52- L47 | Create synonym ,Create a role | |
| 53- L48 | Granting privileges to a role | |
| 54- L49 | | |
| | Granting a role to another role | |
| 55- L50 | Adding password to a role, Removing a password from a role, Enabling & | |

| | Disabling roles | |
|-----------|---------------------------------------------------------------------------|--|
| 56- L51 | Revoking privileges from a role, dropping roles | |
| 57- L52 | Unit-V An Introduction to PL/SQL: Pl/SQL overview, Declarations section | |
| 58- L53 | Executable commands section, Exception handling section | |
| 59-P4 | College level meeting/ function | |
| 60- L54 | Triggers: Syntax, Types of Triggers: Row Level, statement | |
| 61- L55 | level ,before & after ,instead of | |
| 62- L56 | Schema, Database ,Level triggers | |
| 63- L57 | Enabling & Disabling triggers | |
| 64- L58 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(28.03.16) | |
| 65- L59 | Replacing & Dropping triggers | |
| 66- L60 | Procedures, functions & Packages: syntax | |
| 67-IT-III | Internal Test-III | |
| 68- L61 | Compile ,Replace | |
| 69- L62 | Drop procedure, Functions & Packages, Cursor Management. | |
| 70- L63 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 71-MT | Model Test begins(11.04.2016) | |
| 72-MT | Model Test | |
| 73-MT | Model Test | |
| 74-L64 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 75-L65 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 22.04.2016 | |

| Learning Outcomes | RDBMS |
|----------------------------|-----------------------------------------------------------|
| | |
| CO1 | Object Views |
| CO2 | Granting privileges to a role |
| CO3 | Granting a role to another role |
| CO4 | Triggers: Syntax ,Types of Triggers: Row Level, statement |
| CO5 | Replacing & Dropping triggers |
| CO6 | Procedures, functions & Packages: syntax |
| CO7 | Abstract Data types, Nested tables |
| CO8 | Large objects ,References |
| CO9 | Varying arrays |
| Experimental | |
| Learning | |
| EL1 | |
| | Triggers |
| EL2 | ADT |
| EL3 | Packages |
| EL4 | Joins |
| Integrated Activity | |

| IA1 | Integrity constraints |
|-----|---------------------------------|
| IA2 | Entity and Entity Relationships |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|---------------------|--------------------------------------|
| Course Name | Principles of Information Technology |
| Course Code | HNTM23 |
| Class | I year (2015-2016) |
| Semester | EVEN |
| Staff Name | Mrs.A.BATHSHEBA PARIMALA |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To understand Database Management System.
- > To understand Analog and Digital signals.
- ➤ To understand Communication processors.

Syllabus

PRINCIPLES OF INFORMATION TECHNOLOGY

Unit-I INTRODUCTION TO COMPUTERS – Generations of modern computers – Classification of digital computer systems - Anatomy of a digital computer - computer software -Hardware/software interaction - Classification of software - Operating systems (functions & classification of Os) - Introduction to Database Management system (DBMS - benefits functions - DB users). (12L)

Unit-II Telecommunications - Introduction to Telecommunications: Analog and Digital Signals - Modulations - Types of modulations - Pulse modulation techniques - digital modulation - modems Computer Networks: Overview of networks - Communication processors - Communication media - Telecommunication Software - Types of network - network topology. **Communication System**: Radio- TV - Microwave systems - Communication satellites - Radar - Fiber optics - ISDN - ADSL - T1 & T3 line connection. **(12L)**

Unit-III Introduction to Multimedia – Multimedia Applications:- Multimedia in education and training – Multimedia in entertainment – multimedia in marketing – **Introduction to Virtual reality**: History of VR – present uses of VR – Future of VR. **(10L)**

Unit-IV New Technologies in Information Technologies- Introduction to Hypermedia – Artificial Intelligence & Business Intelligence – Knowledge Discovery in Databases (KDD) – Data mining and On_Line Analytical Processing (OLAP)- Geographical Information System(GIS) (13L)

Unit-V Application of Information Technology -Computers in business and Industry – Computers at Home – Computers in education and training- Computers in Entertainment Science, Media & Engineering- Mobile computing. **(13L)**

REFERENCE BOOKS 1. Fundamental of Information Technology (second edition), Alexis Leon and Mathew Leon- Leon Vikas publication. 2. Information Technology – Dennis P.Curtin, Kim Foley, Kunalson, TATA McGRAW – Hill edition.

| Hour | Class Schedule | |
|-----------|---------------------------------------------------------------------------|--|
| allotment | | |
| | EVEN Semester Begin on 02.12.2015 | |
| 1-L1 | Unit-I INTRODUCTION TO COMPUTERS – Generations of modern | |
| | computers | |
| 2-L2 | Classification of digital computer systems | |
| 3- L3 | Anatomy of a digital computer | |
| 4-L4 | computer software – Hardware/software interaction | |
| 5-L5 | Classification of software | |
| 6-L6 | Operating systems (functions & classification of Os) | |
| 7-L7 | Introduction to Database Management system (DBMS – benefits – functions – | |
| | DB users). | |
| 8- P1 | BCA &M.Sc(IT)Association | |
| 9- L8 | Unit-II Telecommunications - Introduction to Telecommunications: Analog | |
| | and Digital Signals | |
| 10- L9 | Modulations | |
| 11-L10 | Types of modulations | |
| 12-L11 | Pulse modulation techniques | |
| 13-L12 | digital modulation | |
| 14-L13 | Computer Networks: Overview of networks | |
| 15-L14 | Allotting portion for Internal Test-I | |

| | Internal Test I having (25.01.16) | |
|-----------|----------------------------------------------------------------------------------------------------|--|
| 16 1 15 | Internal Test I begins(25.01.16) | |
| 16-L15 | Communication processors | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Communication media | |
| 19-L17 | Test Paper distribution and result analysis Entering Internal Test I Marks into University portal | |
| 20 1 10 | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Telecommunication Software | |
| 21- L19 | Types of network, network topology | |
| 22- P2 | College level meeting/Cell function | |
| 23-L20 | Communication System : Radio- TV | |
| 24-L21 | Microwave systems | |
| 25-L22 | Communication satellites – Radar | |
| 26-L23 | Fiber optics – ISDN – ADSL | |
| 27-L24 | T1 & T3 line connection | |
| 28-L25 | Unit-III Introduction to Multimedia | |
| 29-L26 | Multimedia Applications:- Multimedia in education and training | |
| 30-L27 | Multimedia in entertainment | |
| 31-L28 | multimedia in marketing | |
| 32-L29 | Introduction to Virtual reality: History of VR | |
| 33-L30 | present uses of VR | |
| 34- P3 | Department Seminar | |
| 35-L31 | Future of VR. | |
| 36-L32 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(22.02.16) | |
| 37- L33 | Unit-IV New Technologies in Information Technologies- Introduction to | |
| | Hypermedia | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | Artificial Intelligence | |
| 40-L35 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Knowledge Discovery in Databases (KDD) | |
| 42- L37 | Data mining and On_Line Analytical Processing (OLAP) | |
| 43- L38 | Geographical Information System(GIS) | |
| 44- P4 | College level meeting/ function | |
| 45-L39 | Business Intelligence | |
| 46-L40 | Unit-V Application of Information Technology | |
| 47-L41 | IndustryComputers in business and | |
| 48-L42 | Computers at Home | |
| 49-L43 | Computers in education and training | |
| 50-L44 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(28.03.16) | |
| 51 L45 | Computers in Entertainment Science, | |
| 52- L46 | Media & Engineering- | |
| 53-IT-III | Internal Test-III | |
| 54-L47 | Mobile Computing | |
| 55-L48 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 56- MT | Model Test begins(11.04.2016) | |

| 57-MT | Model Test |
|---------|---------------------------------------------------------------------------|
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 29.10.2015 |

| Learning Outcomes | Principles of Information Technology |
|----------------------------|----------------------------------------|
| | |
| CO1 | Artificial Intelligence |
| CO2 | Knowledge Discovery in Databases (KDD) |
| CO3 | Business Intelligence |
| CO4 | IndustryComputers in business and |
| CO5 | Computers at Home |
| CO6 | Computers in education and training |
| CO7 | Computers in Entertainment Science, |
| CO8 | Media & Engineering- |
| CO9 | Mobile Computing |
| Experimental | |
| Learning | |
| EL1 | Types of network |
| EL2 | Types of modulations |
| EL3 | Telecommunication Software |
| EL4 | Introduction to Hypermedia |
| Integrated Activity | |
| IA1 | Communication media |
| IA2 | Computers in Entertainment |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|--------------------|--------------------------------|
| Course Name | Network Security& Cryptography |
| Course Code | HNTE12 |
| Class | I year (2015-2016) |
| Semester | Odd |
| Staff Name | Mr.K.Appasamy |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| 1. 1. 1. 1. 2.11 | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- To learn about Attacks, services and Mechanisms
- > To learn about Internet standards and RFCS.
- ➤ To learn about Substitution Techniques
- ➤ To learn about Steganography.

Syllabus

Unit-I

Introduction:

Attacks, services and Mechanisms - security attacks - security services - A model for internetwork security - Internet standards and RFCS. Classical Encryption Techniques: symmetric cipher Model - Substitution Techniques -Transportation Techniques Rotor Mechanism – Steganography. (12L)

Unit-II

Block ciphers and the data encryption standard simplified DES

Block Cipher Principles -The Data encryption standard -The strength of DES - Differentials and Linear Cryptanalysis -Block Cipher design principles -Block Cipher modes of operations.

Public Key Cryptography and RSA: Principles of Public - Key Cryptosystems The RSA Algorithm. (13L)

Unit-III

Key Management:

Other Public-Key Cryptosystems: Key Managements- Diffie Hellman Key Exchange-Elliptic curve Arithmetic - Elliptic curve Cryptography Message Authentication & Hash functions: Authentication Requirements-Authentication functions-message Authentication Codes- Hash functions- Security of Hash functions & MACS. Digital Signatures -Authentication Protocols - Digital Signature Standard. (13L)

Unit-IV

Authentication applications:

Kerberos X 509 Authentication service. Electronic Mail security: Pretty good Privacy - S/MIME 445 IP Security: IP Security overview - IP Security Architecture -Authentication Header - Encapsulation security Payload. (10L) Page 8 of 18

Unit-V

Web Security:

Web Security Considerations - Secure Sockets Layer and Transport Layer Security - Secure Electronic Transactions System Security: Intruders - Intrusion detection -Password Management. Firewalls: Firewalls Design Principles - Trusted Systems (12L)

| Hour | Class Schedule | |
|-----------|-------------------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 18.06.2015 | |
| 1-L1 | Attacks | |
| 2-L2 | Services | |
| 3- L3 | Mechanisms | |
| 4-L4 | security attacks | |
| 5-L5 | security services | |
| 6-L6 | A model for internetwork security | |
| 7-L7 | Internet standards and RFCS | |
| 8- P1 | BCA&MSC ITAssociation | |
| 9- L8 | Classical Encryption Techniques | |
| 10- L9 | symmetric cipher Model | |
| 11-L10 | Substitution Techniques | |
| 12-L11 | Transportation Techniques Rotor Mechanism | |
| 13-L12 | Steganography. | |
| 14-L13 | Block Cipher Principles | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(20.07.15) | |
| 16-L15 | The Data encryption standard | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | The strength of DES | |

| 19-L17 | Test Paper distribution and result analysis |
|-----------|--------------------------------------------------------------------------------------|
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | Differentials and Linear Cryptanalysis - |
| 21- L19 | Block Cipher design principles |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | Block Cipher modes of operations |
| 24-L21 | Public Key Cryptography and RSA: |
| 25-L22 | Principles of Public |
| 26-L23 | Key Cryptosystems |
| 27-L24 | The RSA Algorithm. |
| 28-L25 | Other Public-Key Cryptosystems |
| 29-L26 | Key Managements |
| 30-L27 | Hellman Key Exchange |
| 31-L28 | Elliptic curve Arithmetic - |
| 32-L29 | Elliptic curve Cryptography Message Authentication & Hash functions |
| 33-L30 | Authentication Requirements |
| 34- P3 | Department Seminar |
| 35-L31 | Authentication functions-message Authentication Codes |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(31.08.15) |
| 37- L33 | Hash functions- Security of Hash functions & MACS |
| 38- IT-II | Internal Test-II |
| 39-L34 | Digital Signatures -Authentication Protocols - Digital Signature Standard. |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Kerberos X 509 Authentication service. Electronic Mail security |
| 42- L37 | Pretty good Privacy |
| 43- L38 | S/MIME 445 IP Security: IP Security overview - |
| 44- P4 | College level meeting/ function |
| 45-L39 | IP Security overview - IP Security Architecture |
| 46-L40 | Authentication Header - Encapsulation security Payload. |
| 47-L41 | Web Security Considerations - Secure Sockets Layer and Transport Layer Security |
| 48-L42 | Secure Electronic Transactions System Security |
| 49-L43 | Intruders - Intrusion detection |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(05.10.15) |
| 51 L45 | Password Management. |
| 52- L46 | Firewalls: Firewalls Design Principles |
| 53-IT-III | Internal Test-III |
| 54-L47 | Trusted Systems |
| 55-L48 | Test Paper distribution and result analysis |
| # | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Testbegins(16.10.2015) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |

| Learning Outcomes | Network Security& Cryptography |
|--------------------------|-------------------------------------------|
| CO1 | IP Security overview |
| CO2 | IP Security Architecture |
| CO3 | Web Security Considerations |
| CO4 | Password Management |
| CO5 | System Security |
| CO6 | Transport Layer Security |
| CO7 | Secure Electronic Transactions |
| CO8 | System Security |
| CO9 | Firewalls Design Principles |
| Experimental | |
| Learning | |
| EL1 | Substitution Techniques |
| EL2 | Transportation Techniques Rotor Mechanism |
| EL3 | Steganography. |
| EL4 | The RSA Algorithm. |
| Integrated Activity | |
| IA1 | Block Cipher modes of operations |
| IA2 | Public Key Cryptography and RSA: |

Blended Learning : using PPT, video, library resources, ICT techniques,

E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|--------------------|---------------------|
| Course Name | Mobile Computing |
| Course Code | HNTE31 |
| Class | II year (2015-2016) |
| Semester | Odd |
| Staff Name | Mr.K.APPASAMY |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| TD - 1 COLL /C | |

Total 60Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To understand about Wireless transmission
- > To understand about Frequencies for radio transmission
- > To understand about Signal Propagation
- > To understand about Multiplexing

Syllabus

Unit-I

Introduction:

Wireless transmission, Frequencies for radio transmission, Signals, Antennas, Signal Propagation, Multiplexing, Modulations, Spread spectrum, MAC, SDMA, FDMA, TDMA, CDMA, Cellular Wireless Network. (12L)

Unit-II

Telecommunication systems:

GSM, GPRS, DECT, UMTS, IMT-2000, Satellite Networks, Basics, Parameters and Configurations, Capacity Allocation, FAMA and DAMA, Broadcast Systems, DAB, DVB. (12L)

Unit-III

Wireless LAN:

IEEE 802.11, Architecture, Services, MAC, Physical layer, IEEE802.11a-802.11b standards, HIPERLAN, BlueTooth. (12L)

Unit-IV

Mobile Communication Protocols:

Mobile IP, Dynamic Host Configuration Protocol, Routing, DSDV, DSR, Alternative Metrics (12L)

Unit-V

WAP and WML:

Traditional TCP, Classical TCP improvements, WAP, WAP 2.0, WML Basics, WML Cards. (12L)

| Hour | Class Schedule | |
|-----------|-------------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 18.06.2015 | |
| 1-L1 | Wireless transmission | |
| 2-L2 | Frequencies for radio transmission, | |
| 3- L3 | Signals | |

| 5-L5 Signal Propagation 6-L6 Multiplexing 7-L7 Modulations, 8- P1 BCA&M.Sc(IT)Association 9- L8 Spread spectrum 10- L9 MAC, 11-L10 SDMA 12-L11 Cellular Wireless Network | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|--|
| 7-L7 Modulations, 8- P1 BCA&M.Sc(IT)Association 9- L8 Spread spectrum 10- L9 MAC, 11-L10 SDMA | | |
| 8- P1 BCA&M.Sc(IT)Association 9- L8 Spread spectrum 10- L9 MAC, 11-L10 SDMA | | |
| 9- L8 Spread spectrum 10- L9 MAC, 11-L10 SDMA | | |
| 10- L9 MAC, 11-L10 SDMA | | |
| 11-L10 SDMA | | |
| | | |
| 12-L11 Cellular Wireless Network | | |
| | | |
| 13-L12 GSM, GPRS, DECT | | |
| 14-L13 UMTS, ΓMT-2000 | | |
| 15-L14 Allotting portion for Internal Test-I | | |
| Internal Test I begins(20.07.15) | | |
| 16-L15 Satellite Networks, Basics | | |
| 17-IT-1 Internal Test-I | | |
| 18-L16 Parameters and Configurations | | |
| 19-L17 Test Paper distribution and result analysis | Test Paper distribution and result analysis | |
| Entering Internal Test-I Marks into University portal | | |
| 20-L18 Capacity Allocation | | |
| 21- L19 FAMA | | |
| 22- P2 College level meeting/Cell function | | |
| 23-L20 Broadcast Systems | | |
| 24-L21 DAB, | | |
| 25-L22 IEEE 802.11, Architecture | | |
| 26-L23 Services, MAC | | |
| 27-L24 Physical layer | | |

| IEEE802.11a-802.11b standards |
|--------------------------------------------------------|
| HIPERLAN |
| BlueTooth |
| , DVB. |
| DAMA |
| FDMA |
| Department Seminar |
| TDMA |
| Allotting portion for Internal Test-II |
| Internal Test II begins(31.08.15) |
| CDMA |
| Internal Test-II |
| Mobile IP |
| Test Paper distribution and result analysis |
| Entering Internal Test-II Marks into University portal |
| Routing, |
| Dynamic Host, |
| Configuration Protocol |
| College level meeting/ function |
| DSDV, DSR, |
| Alternative Metrics |
| Traditional TCP |
| Classical TCP improvements |
| WAP |
| Allotting portion for Internal Test-III |
| Internal Test III begins(05.10.15) |
| |

| 51 L45 | WAP 2.0 |
|-----------------|--------------------------------------------------------------------------------------|
| 52- L46 | WML Basics |
| 53-IT-III | Internal Test-III |
| 54-L <i>A</i> 7 | WML Cards. |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(16.10.2015) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 29.10.2015 |

| Learning Outcomes | Mobile Computing |
|-------------------|-------------------------------------|
| CO1 | Wireless transmission |
| CO2 | Frequencies for radio transmission, |
| CO3 | Signals |
| CO4 | Antennas, |
| CO5 | Signal Propagation |
| CO6 | Multiplexing |
| CO7 | Modulations, |
| CO8 | MAC |

| CO9 | SDMA |
|--------------------------|-------------------------------------|
| Experimental Learning | |
| EL1 | Frequencies for radio transmission, |
| EL2 | Signals |
| EL3 | Antennas, |
| EL4 | Signal Propagation |
| Integrated Activity | |
| IA1 | Routing, |
| IA2 | Dynamic Host, |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT | |
|----------------------|-----------------------------------------|--|
| Course Name | DataCommunication and computer Networks | |
| Course Code | HNTM11 | |
| Class | I year (2015-2016) | |
| Semester | Odd | |
| Staff Name | A.BATHSHEBA PARIMALA | |
| Credits | 5 | |
| L. Hours /P. Hours | 5 / WK | |
| Total 75 Hrs/Sem | | |
| Internal Test-3 Hrs | | |
| Model Test-3 Hrs | | |
| Dept. Meetings-2 Hrs | | |

Course Objectives

College Meetings-2 Hrs

➤ Data Communications – Networks

Remaining 65 Hrs (5 units; 5×13=65; 13Hrs /unit)

- ➤ Data Link Layer : Error Detection and Correction
- ➤ Layers Virtual-Circuit Networks
- ➤ Network Layer : Internet Protocol Internetworking
- > Frame Relay and ATM
- ➤ Process-to-Process Delivery: UDP, TCP

Syllabus

Unit-I

Introduction: Data Communications – Networks – The Internet – Protocols and Standards. Network Models: The OSI Model – Layers in the OSI Model. Physical Layer and Media: Analog and Digital – Periodic Analog Signals – Digital Signals. Digital Transmission: Digital to Digital Conversion – Analog to Digital Conversion. Transmission Media: Guided Media – Unguided Media. Using Telephone and Cable Networks for Data Transmission: Telephone Network – Digital Subscriber Line.

Unit-II

Data Link Layer: Error Detection and Correction: Introduction – Block Coding – Cyclic Codes – Noisy Channels – HDLC. Multiple Access: Random Access. Wired LANs: Ethernet – Standard Ethernet – Fast Ethernet – Gigabit Ethernet.

Unit-III

SONET/SDH: Architecture – Sonet Layers Virtual-Circuit Networks: Frame Relay and ATM – . Network Layer: IPv4 Address – IPv6 Address.

Unit-IV

Network Layer: Internet Protocol – Internetworking – IPv4 – IPv6. Network Layer: Address Mapping, Error Reporting and Multicasting – ICMP – IGMP. Network Layer: Delivery, Forwarding, and Routing – Unicast Routing Protocols – Multicast Routing Protocols.

Unit-V

Process-to-Process Delivery: UDP, TCP – Process-to-Process Delivery – User Datagram Protocol(UDP) – TCP. Congestion Control and Quality of Service – Data Traffic – Congestion – Congestion Control – Quality of Service – Techniques to Improve. Application Layer: Name space – Domain Name System – Distribution of Name Space.

| Hour | Class Schedule |
|-----------|---------------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 18.06.2015 |
| 1-L1 | Introduction : Data Communications |
| 2-L2 | Networks |
| 3- L3 | The Internet |
| 4-L4 | C Network Models |
| 5-L5 | The OSI Model |
| 6-L6 | Layers in the OSI Model |
| 7-L7 | Physical Layer and Media |
| 8- P1 | Welcoming of First year and Inauguration of BCA& MSC Association |
| 9- L8 | Analog and Digital |
| 10- L9 | Periodic Analog Signals |
| 11-L10 | Digital Signals. |
| 12-L11 | Digital Transmission : Digital to Digital Conversion |
| 13-L12 | Transmission Media : Guided Media – Unguided Media |
| 14-L13 | Using Telephone and Cable Networks for Data Transmission: Telephone |
| | Network – Digital Subscriber Line. |

| 15-L14 | Data Link Layer |
|--------------------|------------------------------------------------------------------------|
| 16-L15 | Error Detection and Correction |
| 17- L16 | Introduction – Block Coding |
| 18- L17 | Cyclic Codes |
| 19- L17 | Noisy Channels |
| 20- L19 | HDLC. |
| 20- L19 21- L20 | |
| 21- L20 | Allotting portion for Internal Test-I Internal Test I begins(20.07.15) |
| 22- L21 | Multiple Access: Random Access. |
| 23- IT-1 | Internal Test-I |
| 24- L22 | Wired LANs |
| 25- L23 | Ethernet |
| 26- L24 | Test Paper distribution and result analysis |
| 20- L24 | Entering Internal Test-I Marks into University portal |
| 27- L25 | Standard Ethernet |
| 28- L26 | Fast Ethernet |
| 28- L26 29- L27 | Gigabit Ethernet |
| 30- P2 | College level meeting/Cell function |
| 31-L28 | SONET/SDH |
| 31-L28 32-L29 | Architecture |
| 32-L29 33-L30 | |
| 34- L31 | Sonet Layers Virtual Circuit Networks |
| | |
| 35- L32 | Frame Relay ATM |
| 36- L33 37- L34 | |
| | Network Layer IPv4 Address |
| 38-L35 | |
| 39- L36 | IPv6 Address |
| 40- L37 | Process-to-Process Delivery: |
| 41- L38 | UDP, TCP |
| 42-P3 | Department Seminar |
| 43- L39 | User Datagram Protocol(UDP) |
| 44- L40 | Congestion Control and Quality of Service |
| 45- L41 | Techniques to Improve. |
| 46- L42 | Application Layer |
| 47- L43 | Allotting portion for Internal Test-II |
| 40 T 44 | Internal Test II begins(31.08.15) |
| 48- L44 | Name space |
| 49-IT-II | Internal Test-II |
| 50-L45 | Domain Name System Test Power distribution and result analysis |
| 51- L46 | Test Paper distribution and result analysis |
| 50 1 47 | Entering Internal Test-II Marks into University portal |
| 52- L47 | Distribution of Name Space. |
| 53- L48 | Network Layer |
| 54- L49 | Internet Protocol |
| 55- L50 | Internetworking |
| 56- L51 | IPv4 – IPv6 |
| 57- L52 | Network Layer |
| 58- L53 | Address Mapping |

| 59-P4 | College level meeting/ function |
|-----------|---------------------------------------------------------------------------|
| 60- L54 | Error Reporting and Multicasting |
| 61- L55 | ICMP |
| 62- L56 | IGMP |
| 63- L57 | Forwarding, and Routing |
| 64- L58 | Allotting portion for Internal Test-III |
| | Internal Test III begins(05.10.15) |
| 65- L59 | Techniques to Improve. |
| 66- L60 | Application Layer |
| 67-IT-III | Internal Test-III |
| 68- L61 | TCP. Congestion Control and Quality of Service |
| 69- L62 | Data Traffic |
| 70- L63 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 71-MT | Model Test begins(16.10.2015) |
| 72-MT | Model Test |
| 73-MT | Model Test |
| 74-L64 | Model test paper distribution and previous year university question paper |
| | discussion |
| 75-L65 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 29.10.2015 |

| Learning Outcomes | DataCommunication and computer Networks |
|----------------------------|---------------------------------------------------------|
| CO1 | The OSI Model |
| CO2 | |
| | Block Coding |
| CO3 | Network Layer: IPv4 Address – IPv6 Address. |
| CO4 | IGMP. Network Layer |
| CO5 | Multicast Routing Protocols. |
| CO6 | TCP – Process-to-Process Delivery |
| CO7 | Techniques to Improve. |
| CO8 | Data Traffic |
| CO9 | Congestion |
| Experimental | |
| Learning | |
| EL1 | Mapping, Error Reporting and Multicasting – ICMP – IGMP |
| EL2 | Telephone Network – Digital Subscriber Line. |
| EL3 | Congestion – Congestion Control – Quality of Service |
| EL4 | Multicast Routing Protocols. |
| Integrated Activity | |
| IA1 | Application Layer: Name space – Domain Name System |
| IA2 | Distribution of Name Space. |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT | | |
|--------------------------------------------------|-----------------------------|--|--|
| Course Name | OBJECT ORIENTED PROGRAMMING | | |
| | C++ | | |
| Course Code | HNTM12 | | |
| Class | I YEAR (2015-2016) | | |
| Semester | ODD | | |
| Staff Name | Mr.K.APPASAMY | | |
| Credits | 5 | | |
| L. Hours /P. Hours | 5 / WK | | |
| Total 75 Hrs/Sem | | | |
| Internal Test-3 Hrs | | | |
| Model Test-3 Hrs | | | |
| Dept. Meetings-2 Hrs | | | |
| College Meetings-2 Hrs | | | |
| Remaining 65 Hrs (5 units; 5×13=65; 13Hrs /unit) | | | |

Course Objectives

- To understand how C++ improves C with object-oriented features.
- > To learn how to write inline functions for efficiency and performance.
- ➤ To learn how to design C++ classes for code reuse.

Syllabus

Unit-I Principles of Object Oriented Programming: Basic Concepts of Object Oriented Programming-Benefits of OOP —Applications of OOP — Tokens, Expressions and Control Structures: Tokens-Keywords- Identifiers and constants-Basic data types- User Defined Data Types — Derived Data types — Symbolic Constants—Type Compatibility — Declaration of Variables—Operators in C++ - Expressions and their types — Control Structures. **(12L)**

Unit- II Classes and Objects Specifying a class –Defining Member functions – Memory allocation for objects – Static Member functions –Arrays of Objects –Objects as Function Arguments – Friendly functions –Returning Objects – Pointers to Members . Constructors and Destructors – Parameterized Constructors –Multiple Constructors – Constructors with Default Arguments – Copy Constructor – Destructors. **(12L)**

Unit-III

Operator Overloading and Type conversions: Defining Operator Overloading – Overloading Unary Operators – Overloading binary Operators – Overloading binary operators using friends – Manipulation of Strings using operators – Rules for overloading operators – Type

Conversions. Inheritance: Defining derived classes — single inheritance — Multilevel Inheritance — Multiple Inheritance — Hierarchical Inheritance — Virtual base classes — Abstract Classes — Constructors in Derived classes — Nesting of classes. (10L)

Unit- IV Pointers, Virtual Functions and Polymorphism - Pointers - Pointers to Objects - this Pointer - Pointers to Derived Classes - Virtual functions - Pure virtual functions Managing Console I/O Operations : C++ streams - C++ Stream Classes - Unformatted I/O Operations - Formatted Console I/O Operations - Managing Output with Manipulators . **(13L)**

Unit-V Working with Files – Opening and closing a File – Updating a file – Command-line arguments – Templates – Class templates – Class templates with Multiple Parameters – Function Templates - Function Templates with multiple parameters- Overloading of Template functions – Member function Template-Exception handling Mechanisms. **(13L)**

| Hour | Class Schedule |
|-----------|------------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 18.06.2015 |
| 1-L1 | Principles of Object Oriented Programming : |
| 2-L2 | Basic Concepts of Object Oriented Programming-Benefits of OOP |
| 3- L3 | Applications of OOP – Tokens, Expressions and Control Structures |
| 4-L4 | Tokens-Keywords- Identifiers and constants |
| 5-L5 | Basic data types- User Defined Data Types |
| 6-L6 | Derived Data types – Symbolic Constants –Type Compatibility – |
| 7-L7 | Declaration of Variables –Operators in C++ |
| 8- P1 | BCA &M.Sc(IT)Association |
| 9- L8 | Expressions and their types |
| 10- L9 | Control Structures. |
| 11-L10 | Classes and Objects Specifying a class |
| 12-L11 | Defining Member functions |
| 13-L12 | Memory allocation for objects – Static Member functions |
| 14-L13 | Arrays of Objects –Objects as Function Arguments |
| 15-L14 | Friendly functions –Returning Objects |
| 16-L15 | Pointers to Members . Constructors and Destructors – |
| 17- L16 | Parameterized Constructors –Multiple Constructors |
| 18- L17 | Constructors with Default Arguments – |
| 19- L18 | Copy Constructor – Destructors. |
| 20- L19 | Operator Overloading and Type conversions |
| 21- L20 | Allotting portion for Internal Test-I |
| | Internal Test I begins(20.07.15) |
| 22- L21 | Defining Operator Overloading – Overloading Unary Operators |
| 23- IT-1 | Internal Test-I |
| 24- L22 | Overloading binary Operators |
| 25- L23 | Overloading binary operators using friends |
| 26- L24 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 27- L25 | Manipulation of Strings using operators |

| 28- L26 | Rules for overloading operators |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 29- L27 | Type Conversions. Inheritance |
| 30- P2 | College level meeting/Cell function |
| 31-L28 | Defining derived classes |
| 32-L29 | single inheritance – Multilevel Inheritance |
| 33-L30 | Multiple Inheritance – Hierarchical Inheritance |
| 34- L31 | Virtual base classes – |
| 35- L32 | Abstract Classes |
| 36- L33 | Constructors in Derived classes |
| 37- L34 | Nesting of classes. |
| 38-L35 | Pointers, Virtual Functions and Polymorphism |
| 39- L36 | Pointers – Pointers to Objects |
| 40- L37 | this Pointer – Pointers to Derived Classes – |
| 41- L38 | Virtual functions – Pure virtual functions |
| 42-P3 | Department Seminar |
| 43- L39 | Managing Console I/O Operations : |
| 44- L40 | C++ streams |
| 45- L41 | C++ Stream Classes |
| 46- L42 | Unformatted I/O Operations |
| 47- L43 | Allotting portion for Internal Test-II |
| | Internal Test II begins(31.08.15) |
| 48- L44 | Formatted Console I/O Operations |
| 49-IT-II | Internal Test-II |
| 50-L45 | Managing Output with Manipulators |
| 51- L46 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 52- L47 | Working with Files |
| 53- L48 | opening and closing a File |
| 54- L49 | Updating a file |
| 55- L50 | Command-line arguments |
| 56- L51 | Templates |
| 57- L52 | Class templates |
| 58- L53 | Class templates with Multiple Parameters |
| 59-P4 | College level meeting/ function |
| 60- L54 | Function Templates |
| 61- L55 | templates with Multiple Parameters |
| 62- L56 | Function Templates withmultiple parameters |
| 63- L57 | Function Templates withmultiple parameters |
| 64- L58 | Allotting portion for Internal Test-III |
| 65 I 50 | Internal Test III begins(05.10.15) |
| 65- L59 | Overloading |
| 66- L60 | Overloading of Template functions |
| 67-IT-III | Internal Test-III |
| 68- L61 | Member function Template- |
| 69- L62 | Exception handling Mechanisms |
| 1 7/1 1 6/2 | Test Paper distribution and result analysis |
| 70- L63 | TO 4 T A DISTRICT TO THE TOTAL OF THE TOTAL |
| 70- L03 | Entering Internal Test-III Marks into University portal Model Test begins(16.10.2015) |

| 72-MT | Model Test |
|--------|---------------------------------------------------------------------------|
| 73-MT | Model Test |
| | |
| 74-L64 | Model test paper distribution and previous year university question paper |
| | discussion |
| 75-L65 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 29.10.2015 |

| Learning Outcomes | OBJECT ORIENTED PROGRAMMING C++ |
|----------------------------|------------------------------------------|
| | |
| CO1 | Working with Files |
| CO2 | opening and closing a File |
| CO3 | Updating a file |
| CO4 | Command-line arguments |
| CO5 | Templates |
| CO6 | Class templates |
| CO7 | Class templates with Multiple Parameters |
| CO8 | Function Templates |
| CO9 | templates with Multiple Parameters |
| Experimental | |
| Learning | |
| EL1 | Program for classes and objects |
| EL2 | Overloading |
| EL3 | Decision and looping |
| EL4 | Working with files |
| Integrated Activity | |
| IA1 | Developing inheritance program |
| IA2 | Developing file program |

Blended Learning : using PPT, video, library resources, ICT techniques,

E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Application

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | MSc(NT&IT) |
|--------------------|-----------------------------------|
| Course Name | Visual Basic |
| Course Code | HNTM31 |
| Class | I year (2015-2016) |
| Semester | ODD |
| Staff Name | 1.Mr. B.Edward Daniel Christopher |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |

Total 60 Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- ➤ To understand the benefits of using Visual Basic for windows as an application tool.
- ➤ To understand the Visual Basic event-driven programming concepts, terminology and available tools
- ➤ Learn the fundamentals of designing, implementing and distributing a vb application.
- ➤ Learn to use the Visual Basic toolbox
- > To study connectivity between VB and databases.

VISUAL BASIC

UNIT I GETTING STARTED WITH VISUAL BASIC 6.0 Introduction to Visual Basic, Visual Basic 6.0 Programming Environment, Working with Forms, Developing an Application, Variables, Data types and Modules, Procedure and Control Structures, Array in Visual Basic, Additional examples. Working with Controls: Introduction, Creating and Using Controls, Working with Control Arrays, Additional examples.

UNIT II MENUS & GRAPHICS Menus, Mouse Events and Dialog Boxes: Introduction, Mouse Events, Dialog Boxes, Additional examples. Graphics, MDI and Flex Grid: Introduction, Graphics for Applications, Multiple Document Interface (MDI), Using the flex Grid Control, Additional examples.

UNIT III OPEN DATABASE CONNECTIVITY ODBC and Data Access Objects: Evolution of Computer Architecture, Data Options, Additional examples. ODBC Using Data Access Objects and Remote Data objects: Open Database Connectivity (ODBC), Remote Data objects, Additional examples.

UNIT IV REPORT CREATION Data Environment and Data Report: Introduction, Data Environment Designer, Data Report, Additional examples. Object Linking and Embedding: Introduction, OLE Fundamentals, Using OLE Container Controls, Using OLE Automation Objects, OLE Drag and Drop, Additional examples.

UNIT V ACTIVE X CONTROLS Built – in Active X Controls: Working with Built – In ActiveXControls, Additional examples. Working with Active X Data objects; An Overview of ADO and OLE DB, ADO Object Model, Additional examples. Files, and File System Controls: Introduction, File System Controls, Accessing Files, Interface with Windows, Additional examples.

| Hour | Class Schedule |
|-----------|----------------------------------------------------------------------------------------------------------------------|
| allotment | |
| | odd Semester Begin on 18.06.2015 |
| 1-L1 | UNIT I GETTING STARTED WITH VISUAL BASIC 6.0 Introduction to Visual Basic, Visual Basic 6.0 Programming Environment. |
| 2-L2 | Working with Forms, Developing an Application, Variables, Data types |
| 3- L3 | Modules, Procedure and Control Structures |
| 4-L4 | Array in Visual Basic,1-D array, 2-D array- Additional examples. |
| 5-L5 | Working with Controls: Introduction-tool box – available controls |

| 6-L6 | Creating and Using Controls-command button, textbox control, dropdown listbox |
|---------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 7-L7 | Picture box, option button, check box – scroll bars |
| 8-L8 | Common dialog control with examples |
| 9-L9 | Working with Control Arrays, Additional examples. |
| 10-L10 | Explanation for calculator programme |
| 11-L11 | UNIT II MENUS & GRAPHICS Menus, popup menu-introduction- sample |
| 13-L12 | programme Mouse Events |
| | |
| 14-L13 | Dialog Boxes: Introduction – Input box- Additional examples. |
| 15-L14 | Graphics – Image box- picturebox-pixel manipulation |
| | -Allotting portion for Internal Test-I |
| | Internal test I begins(20.07.15) |
| 16-L15 | MDI-Multiple document interface- creating MDI form and child form- sample |
| | programme and output |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Flex Grid - Using the flex Grid Control |
| 19-L17 | Test Paper distribution and result analysis - sample programme for flex grid control design a form with flex grid – setting properties . |
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | Programme for matrix addition using flex grid. |
| 21-P2 | College level meeting |
| 22-L19 | Dir listbox, drive listbox – sample programme to explain Dir and drive list boxes |
| 23-L20 | Exlaining the calculator programme. – Designing form – using contol arrays. |
| 24-L21 | UNIT III OPEN DATABASE CONNECTIVITYODBC - introduction |
| 25-L22 | Data Access Objects: Evolution of Computer Architecture, |
| 26-L23 | Data Options, Additional examples. ODBC Using Data Access Objects |

| 27-L24 | Remote Data objects |
|----------|------------------------------------------------------------------------------------------------------|
| 28-L25 | Creating DSN using Open Database Connectivity (ODBC) |
| 29-L26 | Remote Data objects using ODBC - Additional examples. |
| 30-L27 | Insert – Delete – Update- coding using DAO |
| 31-L28 | Creating a student database in MS Access – connecting the database – Manipulating the data using RDO |
| 32-L29 | Linking database with data grid – Bound data with grid. |
| 33-L30 | Seminar By Students – Topic: Open database connectivity and RDO |
| | Allotting portion for Internal Test-II |
| | Internal test II begins(31.08.15) |
| 34- P3 | Unit IV:Report CreationData Environment and Data Report: Introduction |
| 35-L31 | Data Environment Designer, Data Report, Additional Examples |
| 36-L32 | Object Linking and Embedding: Introduction |
| 37-IT-II | OLE Fundamentals |
| 38-L33 | Using OLE Container Controls |
| 39-L34 | Using OLE Automation Objects |
| 40-L35 | OLE Drag and Drop |
| 41-L36 | Additional examples. |
| 42-P4 | UNIT - V ACTIVE X CONTROLS Built – in Active X Controls: |
| 43-L37 | Working with Built in controls |
| 44-L38 | ActiveX Controls- using and creating controls |
| 45-L39 | Additional examples. |
| 46-L40 | Working with Active X Data objects |
| 47-L41 | An Overview of ADO and OLE DB |
| 48-L42 | ADO Object Model. |
| 49-L43 | Additional examples |
| | |

| 50-L44 | Files, and File System Controls: Introduction |
|-----------|---------------------------------------------------------------------------|
| 51-IT-III | File System Controls |
| | Internal test III begins(05.10.15) |
| 52-L45 | Accessing Files |
| 53-L46 | Interface with Windows |
| 54-L47 | Additional Examples |
| 55-L48 | Entering Internal Test-III Marks into University portal |
| 56-L49 | Model Testbegins(16.10.2015) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59-MT | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 29.10.2015 |

| Learning Outcomes | Visual Basic |
|--------------------------|-----------------------------------------------------|
| | |
| | |
| CO1 | Gain knowledge about GUI |
| CO2 | Skilled in form design and event driven programming |
| CO3 | Usage of various tools in visual basic |
| CO4 | Able to connect and access database |
| CO5 | Able to connect external data base using ODBC |
| CO6 | How to prepare data report |
| Experimental | |

| Learning | |
|---------------------|--------------------------------------------------------|
| | |
| EL1 | To do working models to explain Database connectiviy |
| EL2 | Getting resources about Visual basic through Internet |
| EL3 | GD on merit and demerit GUI |
| EL4 | Discussion about Facebook and its database maintenance |
| Integrated Activity | |
| IA1 | Designing a billing software for grocery shop |
| IA2 | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

Forslow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

St. John's College, Palayamkottai

Department of Computer Application & Networking

1. Questionnaires for Course Feedback from Students

| Name of the student | |
|---------------------|--|
| Programme Name | |
| Course Name | |
| Course code | |
| Year of Joining | |
| Semester | |
| Date | |

Put a tick in the best represents your response to each statement.

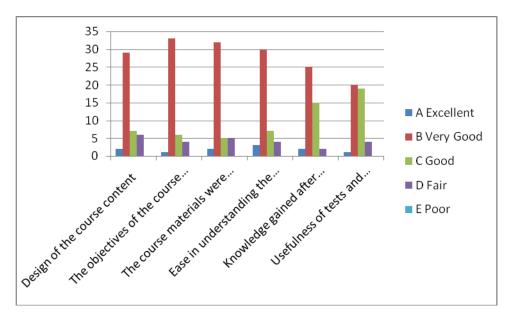
| No. | Parameters | A | В | С | D | Е |
|-----|---------------------------------------------------|-----------|--------------|------|------|------|
| | | Excellent | Very Good | Good | Fair | Poor |
| 1 | Design of the course content | A | В | С | D | Е |
| 2 | The objectives of the course were clearly stated. | A | В | С | D | Е |
| 3 | The course materials were clearly explained. | A | В | С | D | Е |
| 4 | Ease in understanding the course content. | A | В | С | D | Е |
| 5 | Knowledge gained after completion of the course. | A | В | С | D | Е |
| 6 | Usefulness of tests and assignments | A | В | С | D | Е |
| 7 | Extent of efforts required by students. | A | В | С | D | Е |

Course Feedback Analysis and Report Preparation

Number of responses: 44

| No. | Parameters | A | В | С | D | Е |
|-----|---------------------------------------------------|-----------|--------------|------|------|------|
| | | Excellent | Very Good | Good | Fair | Poor |
| 1 | Design of the course content | 2 | 29 | 7 | 6 | 0 |
| 2 | The objectives of the course were clearly stated. | 1 | 33 | 6 | 4 | 0 |
| 3 | The course materials were clearly explained. | 2 | 32 | 5 | 5 | 0 |
| 4 | Ease in understanding the course content. | 3 | 30 | 7 | 4 | 0 |
| 5 | Knowledge gained after completion of the course. | 2 | 25 | 15 | 2 | 0 |
| 6 | Usefulness of tests and assignments | 1 | 20 | 19 | 4 | 0 |
| 7 | Extent of efforts required by students. | 2 | 25 | 10 | 7 | 0 |

Chart Preparation



Report Preparation

St. John's College, Palayamkottai

Department of Computer Application & Networking

2. Questionnaires for Course Feedback from Teachers

| Name of the Teacher | |
|---------------------|--|
| Programme Name | |
| Course Name | |
| Course code | |
| Semester/Year | |
| Date | |

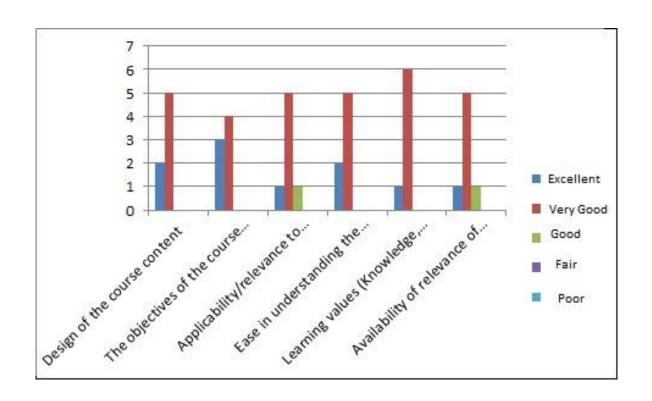
Put a tick in the best represents your response to each statement.

| No. | Parameters | A | В | С | D | Е |
|-----|--------------------------------------------------------------------------------------------------------|-----------|--------------|------|------|------|
| | | Excellent | Very Good | Good | Fair | Poor |
| 1 | Design of the course content | A | В | С | D | Е |
| 2 | The objectives of the course were clearly stated. | A | В | С | D | Е |
| 3 | Applicability/relevance to real life or job related. | A | В | С | D | Е |
| 4 | Ease in understanding the course content. | A | В | С | D | Е |
| 5 | Learning values (Knowledge, concepts, analytical abilities, practical knowledge and broadening skills) | A | В | С | D | Е |
| 6 | Availability of relevance of additional source materials | A | В | С | D | Е |

Number of Responses: 7

| No. | Parameters | A | В | С | D | Е |
|-----|--------------------------------------------------------------------------------------------------------|-----------|--------------|------|------|------|
| | | Excellent | Very Good | Good | Fair | Poor |
| 1 | Design of the course content | 2 | 5 | 0 | 0 | 0 |
| 2 | The objectives of the course were clearly stated. | 3 | 4 | 0 | 0 | 0 |
| 3 | Applicability/relevance to real life or job related. | 1 | 5 | 1 | 0 | 0 |
| 4 | Ease in understanding the course content. | 2 | 5 | 0 | 0 | 0 |
| 5 | Learning values (Knowledge, concepts, analytical abilities, practical knowledge and broadening skills) | 1 | 6 | 0 | 0 | 0 |
| 6 | Availability of relevance of additional source materials | 1 | 5 | 1 | 0 | 0 |

Chart preparation



St. John's College, Palayamkottai Department of Application & Networking

3. Questionnaires for Course Feedback from Alumni

| Name of the Alumni | |
|--------------------|--|
| Programme Name | |
| Course Name | |
| Contact No/Mail id | |
| Semester and year | |
| Date | |

Put a tick in the best represents your response to each statement.

| No | Parameters | A | В | С | D | Е |
|----|------------|---|------|---|---|---|
| | | | Very | | | |

| | | Excellent | Good | Good | Fair | Poor |
|---|--------------------------------------------------------------------------------------------------------|-----------|------|------|------|------|
| 1 | Design of the course content | A | В | С | D | Е |
| 2 | The objectives of the course were clearly stated. | A | В | С | D | Е |
| 3 | Applicability/relevance to real life or job related. | A | В | С | D | Е |
| 4 | Ease in understanding the course content. | A | В | С | D | Е |
| 5 | Learning values (Knowledge, concepts, analytical abilities, practical knowledge and broadening skills) | A | В | С | D | Е |
| 6 | Availability of relevance of additional source materials | A | В | С | D | Е |

Number of Responses: 10

| No. | Parameters | A | В | С | D | Е |
|-----|--------------------------------------------------------------------------------------------------------|-----------|--------------|------|------|------|
| | | Excellent | Very Good | Good | Fair | Poor |
| 1 | Design of the course content | 5 | 1 | 5 | 3 | 0 |
| 2 | The objectives of the course were clearly stated. | 2 | 7 | 4 | 4 | 0 |
| 3 | Applicability/relevance to real life or job related. | 2 | 5 | 2 | 1 | 0 |
| 4 | Ease in understanding the course content. | 1 | 4 | 1 | 8 | 0 |
| 5 | Learning values (Knowledge, concepts, analytical abilities, practical knowledge and broadening skills) | 5 | 2 | 1 | 5 | 0 |
| 6 | Availability of relevance of additional source materials | 4 | 2 | 8 | 5 | 0 |

4. Questionnaires for Course Feedback from Parents

| Name of the Parent | |
|--------------------------|--|
| Name of the Student | |
| Programme Name | |
| Course Name | |
| Contact Number/Mail id | |
| Year of Joining/Semester | |
| Date | |

Put a tick in the best represents your response to each statement. 15

| No. | Parameters | A | В | С | D | Е |
|-----|----------------------------------------------------------------------|-----------|--------------|------|------|------|
| | | Excellent | Very Good | Good | Fair | Poor |
| 1 | Design of the course content | A | В | С | D | Е |
| 2 | Course materials available in Library. | A | В | С | D | Е |
| 3 | The course materials were clearly explained. | A | В | С | D | Е |
| 4 | Improvement in soft skills, knowledge, observed by you in your ward. | A | В | С | D | Е |
| 5 | Usefulness of the course for getting job. | A | В | С | D | Е |
| 6 | Extent of efforts required by students. | A | В | С | D | Е |

St. John's College, Palayamkottai

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|--------------------|----------------------|
| Course Name | Research Methodology |
| Course Code | HNTM31 |
| Class | II year (2015-2016) |
| Semester | Odd |
| Staff Name | Mr.B.JEFFERSON |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |
| Total 75 Hrs/Sem | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 65 Hrs (5 units; 5×13=65; 13Hrs /unit)

Course Objectives

- ➤ To highlight the features of ASP.NET and apply it to develop various applications.
- ➤ To understand the concepts of .Net framework as a whole and the technologies that constitutes the frame work
- > To make the students to get experience and be ready for the large scale projects in IT industry.

Syllabus

ASP. NET

Unit I

The .NET Platform and the Web: The Web Client/Server Model – Components of ASP.NET and the .NET Framework – Overview of Internet Information Server – Overview of ASP.NET – The .NET Common Language Runtime and Class Library – Managed Components in .NET – Web Services – Language Independence in the .NET Framework – COM+ Component Services and .NET – Direction and plans for .NET. The VB.NET: What is VB.NET? – First VB application – Variables, Constants and Operators – Modularizing Code – Functions and Subroutines – Controlling Program Flow – Handling Errors and Exceptions – Object Oriented Programming – Multithread Programming. (12L)

Unit II

Working with ASP.NET: The features of ASP.NET – The Anatomy of ASP.NET Pages – Introducing Web Forms – VS.NET Web Applications and other IDE Basics – Separating Content and Code – the CodeBehind Feature – Application Configuration – Using HTML Forms – Using Web Controls – Web Controls for displaying and formatting data –Web Controls for creating buttons – Web control for inputting text – Web controls for selecting choices – Web controls for creating lists – Miscellaneous Basic Controls – Creating a simple ASP.NET Application – ASP.NET Page Directives – ASP.NET Rich Controls – Validation Controls – Data List Controls – User Controls - Saving state with the StateBag Object – ASP.NET Intrinsic Objects. (12L)

Unit III

Using the .NET Framework Class Library: Common Features of the .NET Framework Class Library – Using Data Collections – Handling File Input/output and Directories – Watching the File System for Changes – Using the Windows Event Log – Working with Active Directory Services – Using Message Queues – Communicating with Servers on the Internet – Manipulating XML Data – Sending Internet Email. (12L) Page 33 of 57

Unit IV

Building .NET Managed Components for COM+: The concept of Managed Code Execution – The Common Language Runtime – COM+ Component Services – Using VB.NET to develop Managed Components – Serviced Components – Building VB.NET Serviced Components. Building Web Services: The need for Web Services – Overview of Web Services – Web Service Description Language - Web Service Wire Formats – Web Services Discovery – Creating a simple Web Service – Calling Web Services with Proxy Classes – Creating a Client for a Web Service – Managing State in Web Services – Using Transactions in Web Services. (12L)

Unit V

Accessing Data with ADO.NET: Overview of Data Access on the Web – ADO.NET: The next generation of Data-Access Technology – ADO.NET Programming Objects and Architecture – Displaying Database Data – Programming with the DataList and DataGrid Controls – Working with the DataSet and DataTable Objects – Maintaining Data Integrity with the DataRelation Class – Using Manual Database Transactions – Working with Typed DataSet Objects. Securing .NET Applications: Windows Security – IIS Authentication and Authorization Security – A crash course in Cryptography – Implementing Data Encryption – ASD.NET Authentication Security. (12L)

| Hour allotment | Class Schedule |
|----------------|------------------------------------------------------------|
| | Odd Semester Begin on 18.06.2015 |
| 1-L1 | The .NET Platform and the Web: The Web Client/Server Model |
| 2-L2 | Components of ASP.NET and the .NET Framework |

| 3-L3 | Overview of ASP.NET |
|----------|---------------------------------------------------------------------------------------------------------------------|
| 4-LA | The .NET Common Language Runtime and Class Library |
| 5-L5 | Managed Components in .NET |
| 6-L6 | Web Services |
| 7-L7 | Language Independence in the .NET Framework |
| 8- P1 | |
| 9- L8 | BCA &M.Sc(IT)ASSOCIATION |
| | COM+ Component Services and .NET |
| 10- L9 | The VB.NET: What is VB.NET? |
| 11-L10 | Modularizing Code – Functions and Subroutines |
| 12-L11 | Direction and plans for .NET. The VB.NET |
| 13-L12 | Handling Errors and Exceptions , Object Oriented Programming – Multithread Programming. |
| 14-L13 | Unit II Working with ASP.NET: The features of ASP.NET – The Anatomy of ASP.NET Pages – |
| | Introducing Web Forms |
| 15-L14 | VS.NET Web Applications and other IDE Basics – Separating Content and Code – the CodeBehind Feature |
| 16-L15 | - Application Configuration – Using HTML Forms – Using Web Controls – |
| 17- L16 | Web Controls for displaying and formatting data –Web Controls for creating buttons – |
| 18- L17 | Web control for inputting text – Web controls for selecting choices – Web controls for creating lists – |
| 19- L18 | Miscellaneous Basic Controls – Creating a simple ASP.NET Application – ASP.NET Page Directives |
| 20- L19 | ASP.NET Rich Controls – Validation Controls – Data List Controls. |
| 21- L20 | Allotting portion for Internal Test-I |
| | Internal Test I begins(20.07.15) |
| 22- L21 | Unit III Using the .NET Framework Class Library: Common Features of the .NET Framework Class Library |
| 23- IT-1 | Internal Test-I |
| 24- L22 | Using Data Collections – Handling File Input/output and Directories – Watching the File System for Changes |
| 25- L23 | Using the Windows Event Log – Working with Active Directory Services – Using Message Queues |
| 26- L24 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 27- L25 | - Communicating with Servers on the Internet - Manipulating XML Data - Sending Internet Email. |
| 28- L26 | Unit IV Building .NET Managed Components for COM+: The concept of Managed Code Execution |
| 29- L27 | The Common Language Runtime – COM+ Component Services |
| 30- P2 | College level meeting/Cell function |
| 31-L28 | Using VB.NET to develop Managed Components – Serviced Components |
| 32-L29 | - – Serviced Components |
| 33-L30 | Building VB.NET Serviced Components. |
| 34- L31 | Building Web Services: The need for Web Services |
| 35- L32 | Web Service Description Language |
| 33 1132 | THE SELVICE DESCRIPTION LUNGUAGE |

| 36- L33 | Web Service Wire Formats – Web Services Discovery |
|-----------|----------------------------------------------------------------------------------------|
| 37- L34 | Creating a simple Web Service – Calling Web Services with Proxy Classes |
| 38- L35 | - Creating a Client for a Web Service |
| 39- L36 | Managing State in Web Services |
| 40- L37 | Using Transactions in Web Services. |
| 41- L38 | Unit V |
| | Accessing Data with ADO.NET: Overview of Data Access on the Web |
| 42-P3 | Department Seminar |
| 43- L39 | ADO.NET: The next generation of Data-Access Technology |
| 44- L40 | ADO.NET Programming Objects and Architecture |
| 45- L41 | Displaying Database Data |
| 46- L42 | Programming with the DataList and DataGrid Controls |
| 47- L43 | Allotting portion for Internal Test-II |
| | Internal Test II begins(31.08.15) |
| 48- L44 | Working with the DataSet and DataTable Objects |
| 49-IT-II | Internal Test-II |
| 50-L45 | Maintaining Data Integrity with the DataRelation Class |
| 51- L46 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 52- L47 | Using Manual Database Transactions |
| 53- L48 | Working with Typed DataSet Objects |
| 54- L49 | Unit - V ADO.NET Programming Objects and Architecture |
| 55- L50 | Displaying Database Data |
| 56- L51 | Programming with the DataList and DataGrid Controls |
| 57- L52 | Maintaining Data Integrity with the DataRelation Class |
| 58- L53 | Working with Typed DataSet Objects |
| 59-P4 | College level meeting/ function |
| 60- L54 | Design of Experiments and Comparison of Algorithms - |
| 61- L55 | Meta Heuristics for Combinatorial Problems |
| 62- L56 | The Computer: Its Role in research |
| 63- L57 | The computer and Computer Technology |
| 64- L58 | Allotting portion for Internal Test-III |
| | Internal Test III begins(05.10.15) |
| 65- L59 | IIS Authentication and Authorization Security |
| 66- L60 | Important Characteristics |
| 67-IT-III | Internal Test-III |
| 68- L61 | Implementing Data Encryption |
| 69- L62 | ASD.NET Authentication Security |
| 70- L63 | - Test Paper distribution and result analysis |
| 71 \ | Entering Internal Test-III Marks into University portal |
| 71-MT | Model Test begins(16.10.2015) |
| 72-MT | Model Test |
| 73-MT | Model test name distribution and provious year university question |
| 74-L64 | Model test paper distribution and previous year university question |
| 75-L65 | paper discussion Foodback of the Course analysis and report preparation |
| 73-L03 | Feedback of the Course, analysis and report preparation Last Working day on 29.10.2015 |
| | Last working day on 29.10.2015 |

Course Outcomes

| Learning Outcomes | Research Methodology |
|----------------------------|------------------------------------------------------|
| | |
| CO1 | Building .NET Managed Components for COM+: |
| CO2 | Working with the DataSet and DataTable Objects |
| CO3 | Communicating with Servers on the |
| CO4 | Internet Manipulating XML Data |
| CO5 | Sending Internet Email. |
| CO6 | Using Manual Database Transactions |
| CO7 | Design of Experiments and Comparison of Algorithms - |
| CO8 | Elements and attributes |
| CO9 | Displaying Database Data |
| Experimental | |
| Learning | |
| EL1 | Internet Manipulating XML Data |
| EL2 | IIS Authentication and Authorization Security |
| EL3 | Building VB.NET Serviced Components. |
| EL4 | Development of Algorithm |
| Integrated Activity | |
| IA1 | Web control for inputting text |
| IA2 | Communicating with Servers on the Internet |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

St. John's College, Palayamkottai

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | MSc (NT&IT) |
|--------------------|--------------------------|
| Course Name | Operating system |
| Course Code | HNTM32 |
| Class | III year (2015-2016) |
| Semester | ODD |
| Staff Name | Mrs.A.BATHSHEBA PARIMALA |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| | |

Total 60Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- ➤ To understand design issues related to process management and various related algorithms.
- > To understand design issues related to memory management and various related algorithms.
- > To understand design issues related to File management and various related algorithms

Syllabus

CORE SUBJECT - I

OPERATING SYSTEMS

UNIT I INTRODUCTION What is an Operating System: Mainframe Systems – Desktop Systems – Multiprocessor Systems - Distributed Systems – Clustered Systems – Real – time Systems– Handheld Systems. (10 L)

UNIT II PROCESS CONCEPT Process Concept – Process Scheduling – Operations on Process – Co-operating processes – Inter Processes - Inter Process communication. CPU Scheduling: Basic Concepts –Scheduling Criteria - Scheduling algorithms – Multi processor Scheduling - Real time Scheduling – Algorithms evaluation. (12 L)

UNIT III PROCESS SYNCHRONIZATION & DEADLOCKS Process Synchronization: Background – the critical section problem – Synchronization hardware – Semaphores – Classical problems of Synchronization – critical regions – Monitors – Atomic transaction. Deadlocks: System model – Deadlock Characterization – methods for handling Deadlocks – Deadlock prevention – Deadlock Avoidance – Deadlock detection – recovery from Deadlock.(14 L)

UNIT IV MEMORY MANAGEMENT Memory management: Background – Swapping – Contiguous memory allocation – paging – segmentation – segmentation with paging. Virtual Memory: Background – Demand paging – Page replacement – Allocation of frames. (12 L)

UNIT V File System Interface: File concept – Access methods– File system structure – File system implementation – File system structure – Filesystem implementation – Directories structure – Directory implementation – Allocation methods – Free space management – Efficiency and performance – Recovery. Mass Storage Structure: Disk Structure – Disk Scheduling – Disk management – Swap space management – RAID structure – Disk attachment – Stable Storage. (12 L)

| Hour | Class Schedule |
|-----------|----------------------------------------------------------|
| allotment | |
| | ODD Semester Begin on 18.06.2015 |
| 1-L1 | INTRODUCTION- What is an Operating System |
| 2-L2 | Mainframe Systems |
| 3- L3 | Batchsystem - multiprogrammed system-time sharing system |
| 4-L4 | Desktop Systems |
| 5-L5 | Multiprocessor Systems |
| 6-L6 | Distributed Systems |
| 7-L7 | Client-server system, peer-to-peer system |
| 8- P1 | BCA Association |
| 9- L8 | Real |
| 10- L9 | Time Systems |
| 11-L10 | Handheld Systems. |
| 12-L11 | PROCESS CONCEPT Process Concept |
| 13-L12 | Process Scheduling |
| 14-L13 | Operations on Process |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins(20.07.15) |
| 16-L15 | Inter Processes |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Inter Process communication. CPU Scheduling |

| 19-L17 | Test Paper distribution and result analysis |
|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | Basic Concepts 7 |
| 21- L19 | Scheduling Criteria |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | Scheduling algorithms |
| 24-L21 | Multi processor Scheduling |
| 25-L22 | Real time Scheduling |
| 26-L23 | Algorithms evaluation |
| 27-L24 | PROCESS SYNCHRONIZATION & DEADLOCKS Process Synchronization: |
| | Background |
| 28-L25 | the critical section problem |
| 29-L26 | Synchronization hardware |
| 30-L27 | Semaphores |
| 31-L28 | Classical problems of Synchronization |
| 32-L29 | critical regions |
| 33-L30 | Monitors |
| 34- P3 | Department Seminar |
| 35-L31 | Atomic transaction. Deadlocks: System model |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(31.08.15) |
| 37- L33 | Deadlock Characterization |
| 38- IT-II | Internal Test-II |
| 39-L34 | methods for handling Deadlocks |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Deadlock prevention |
| 42- L37 | Deadlock Avoidance |
| 43- L38 | |
| | Deadlock detection , recovery from Deadlock. |
| 44- P4 | |
| | College level meeting/ function |
| 45-L39 | College level meeting/ function File System Interface: File concept ,Access methods |
| 45-L39 46-L40 | College level meeting/ function File System Interface: File concept ,Access methods File system structure , File system implementation |
| 45-L39 46-L40 47-L41 | College level meeting/ function File System Interface: File concept ,Access methods File system structure , File system implementation Directories structure ,Directory implementation |
| 45-L39 46-L40 47-L41 48-L42 | College level meeting/ function File System Interface: File concept ,Access methods File system structure , File system implementation Directories structure ,Directory implementation Allocation methods , Free space management |
| 45-L39 46-L40 47-L41 48-L42 49-L43 | College level meeting/ function File System Interface: File concept ,Access methods File system structure , File system implementation Directories structure ,Directory implementation Allocation methods , Free space management Efficiency and performance ,Recovery. Mass Storage Structure: Disk Structure |
| 45-L39 46-L40 47-L41 48-L42 | College level meeting/ function File System Interface: File concept ,Access methods File system structure , File system implementation Directories structure ,Directory implementation Allocation methods , Free space management Efficiency and performance ,Recovery. Mass Storage Structure: Disk Structure Allotting portion for Internal Test-III |
| 45-L39 46-L40 47-L41 48-L42 49-L43 | College level meeting/ function File System Interface: File concept ,Access methods File system structure , File system implementation Directories structure ,Directory implementation Allocation methods , Free space management Efficiency and performance ,Recovery. Mass Storage Structure: Disk Structure Allotting portion for Internal Test-III Internal Test III begins(05.10.15) |
| 45-L39 46-L40 47-L41 48-L42 49-L43 50-L44 | College level meeting/ function File System Interface: File concept ,Access methods File system structure , File system implementation Directories structure ,Directory implementation Allocation methods , Free space management Efficiency and performance ,Recovery. Mass Storage Structure: Disk Structure Allotting portion for Internal Test-III Internal Test III begins(05.10.15) Disk Scheduling , Disk management |
| 45-L39 46-L40 47-L41 48-L42 49-L43 50-L44 | College level meeting/ function File System Interface: File concept ,Access methods File system structure , File system implementation Directories structure ,Directory implementation Allocation methods , Free space management Efficiency and performance ,Recovery. Mass Storage Structure: Disk Structure Allotting portion for Internal Test-III Internal Test III begins(05.10.15) |
| 45-L39 46-L40 47-L41 48-L42 49-L43 50-L44 51 L45 52- L46 | College level meeting/ function File System Interface: File concept ,Access methods File system structure , File system implementation Directories structure ,Directory implementation Allocation methods , Free space management Efficiency and performance ,Recovery. Mass Storage Structure: Disk Structure Allotting portion for Internal Test-III Internal Test III begins(05.10.15) Disk Scheduling , Disk management Swap space management , RAID structure Internal Test-III |
| 45-L39 46-L40 47-L41 48-L42 49-L43 50-L44 51 L45 52- L46 53-IT-III | College level meeting/ function File System Interface: File concept ,Access methods File system structure , File system implementation Directories structure ,Directory implementation Allocation methods , Free space management Efficiency and performance ,Recovery. Mass Storage Structure: Disk Structure Allotting portion for Internal Test-III Internal Test III begins(05.10.15) Disk Scheduling , Disk management Swap space management , RAID structure Internal Test-III Disk attachment , Stable Storage |
| 45-L39 46-L40 47-L41 48-L42 49-L43 50-L44 51 L45 52- L46 53-IT-III 54-L47 | College level meeting/ function File System Interface: File concept ,Access methods File system structure , File system implementation Directories structure ,Directory implementation Allocation methods , Free space management Efficiency and performance ,Recovery. Mass Storage Structure: Disk Structure Allotting portion for Internal Test-III Internal Test III begins(05.10.15) Disk Scheduling , Disk management Swap space management , RAID structure Internal Test-III Disk attachment , Stable Storage Test Paper distribution and result analysis |
| 45-L39 46-L40 47-L41 48-L42 49-L43 50-L44 51 L45 52- L46 53-IT-III 54-L47 | College level meeting/ function File System Interface: File concept ,Access methods File system structure , File system implementation Directories structure ,Directory implementation Allocation methods , Free space management Efficiency and performance ,Recovery. Mass Storage Structure: Disk Structure Allotting portion for Internal Test-III Internal Test III begins(05.10.15) Disk Scheduling , Disk management Swap space management , RAID structure Internal Test-III Disk attachment , Stable Storage Test Paper distribution and result analysis Entering Internal Test-III Marks into University portal |
| 45-L39 46-L40 47-L41 48-L42 49-L43 50-L44 51 L45 52- L46 53-IT-III 54-L47 55-L48 | College level meeting/ function File System Interface: File concept ,Access methods File system structure , File system implementation Directories structure ,Directory implementation Allocation methods , Free space management Efficiency and performance ,Recovery. Mass Storage Structure: Disk Structure Allotting portion for Internal Test-III Internal Test III begins(05.10.15) Disk Scheduling , Disk management Swap space management , RAID structure Internal Test-III Disk attachment , Stable Storage Test Paper distribution and result analysis |
| 45-L39 46-L40 47-L41 48-L42 49-L43 50-L44 51 L45 52- L46 53-IT-III 54-L47 55-L48 | College level meeting/ function File System Interface: File concept ,Access methods File system structure , File system implementation Directories structure ,Directory implementation Allocation methods , Free space management Efficiency and performance ,Recovery. Mass Storage Structure: Disk Structure Allotting portion for Internal Test-III Internal Test III begins(05.10.15) Disk Scheduling , Disk management Swap space management , RAID structure Internal Test-III Disk attachment , Stable Storage Test Paper distribution and result analysis Entering Internal Test-III Marks into University portal Model Test begins(16.10.2015) |

| | discussion |
|--------|---------------------------------------------------------|
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 29.10.2015 |

Course Outcomes

| Learning Outcomes | Operating system |
|----------------------------|---------------------------------------------------------------|
| | |
| CO1 | Process Synchronization |
| CO2 | Scheduling Algorithm |
| CO3 | DeadLock |
| CO4 | Dinning Philosopher Algorithm |
| CO5 | Page Allocation Algorithm |
| Experimental | |
| Learning | |
| EL1 | File System Interface: File concept ,Access methods |
| EL2 | Directories structure ,Directory implementation |
| EL3 | Efficiency and performance ,Recovery. Mass Storage Structure: |
| | Disk Structure |
| Integrated Activity | |
| IA1 | Deadlock Characterization |
| IA2 | Atomic transaction. Deadlocks: System model |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

St. John's College, Palayamkottai

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|--------------------|--------------------------|
| Course Name | Research Methodology |
| Course Code | HNTM34 |
| Class | I year (2015-2016) |
| Semester | Odd |
| Staff Name | Mrs.A.BATHSHEBA PARIMALA |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |
| Total 75 Hrs/Sem | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 65Hrs (5 units; 5×13=65; 13Hrs /unit)

Course Objectives

- ➤ ToUnderstand about Meaning of Research
- > ToUnderstand about Objectives of Research
- > To Understand about Types of Research
- > To Understand about Motivation in Research
- > To Understand about Research Approaches
- > To Understand about Research Methods Verses Methodology

Syllabus

Research Methodology

Unit-I Research Methodology: An Introduction - Meaning of Research - Objectives of Research - Types of Research, Motivation in Research - Research Approaches, Significance of Research - Research Methods Verses Methodology - Research and Scientific Method -Research Process - Criteria of Good Research - Problems Encountered by Researchers in India. Defining the Research Problem: What is a Research Problem? - Selecting the Problem - Technique Involved in Defining a Problem - Research Design: Meaning - Need for research Design - Features of a Good Design - Important Concept relating to Research Design - Different Research Designs - Basic Principles of Experimental Designs.

Unit-II Sampling Design: Census and sample survey - Implications of a sample design - Steps in sample design - Criteria of selecting a sampling procedure - Characteristics of a good sample design - Different types of sample designs - How to select a random sample? - Random sample from an infinite Universe - Complex random sampling designs - Measurement and scaling Techniques: measurement in research - Measurement scales - Sources of error in measurement - Tests of sound measurements - Technique of developing measurement tools - Scaling, meaning of scaling - Scale classification bases - Important scaling techniques - Scale construction techniques.

Unit-III Methods of Data Collection - Collection of Primary Data - Observation Method - Interview method - Collection of Data through Questionnaires - Collection of Data through Schedules - Some Other Methods of Data Collection - Collection of Secondary Data - Selection of Appropriate Method for Data Collection - Interpretation and Report writing - Meaning of Interpretation, Why Interpretation? - Technique of Interpretation, Precaution in Interpretation - Significance of Report Writing - Different Steps in Writing Report - Layout of the Research Report - Types of Reports - Mechanics of Writing a Research Report - Precautions for Writing Research Reports.

Unit-IV Chi-Square Test for large samples – Definition of Chi-Square – Limitations of Chi-Square test - Chi-Square test as a test of goodness of fit and as a test of independence – Yate's correction and its applications – Analysis of variance(ANOVA) : Concept – One way ANOVA – ANOVA in test in Latin Square Design

Unit - V Algorithmic Research – Introduction - Algorithmic Research Problems - Types of Solution procedure/Algorithm - Steps of Development of Algorithm - Steps of algorithmic Research - Design of Experiments and Comparison of Algorithms - Meta Heuristics for Combinatorial Problems - The Computer: Its Role in research - The computer and Computer Technology - The Computer System - Important Characteristics - Computer Applications-Computers and Researchers.

| Hour | Class Schedule |
|-----------|---------------------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 18.06.2015 |
| 1-L1 | Unit-I Research Methodology: An Introduction - Meaning of Research |
| 2-L2 | Objectives of Research - Types of Research, Motivation in Research |
| 3-L3 | Algorithmic Research Problems |
| 4-L4 | Types of Solution procedure/Algorithm |
| 5-L5 | Steps of Development of Algorithm |
| 6-L6 | The Computer: Its Role in research |
| 7-L7 | Research Approaches, Significance of Research |
| 8- P1 | BCA &M.Sc(IT)ASSOCIATION |
| 9- L8 | Features of a Good Design - Important Concept relating to Research Design |

| 10- L9 | Different Research Designs - Basic Principles of Experimental Designs. | |
|----------|-------------------------------------------------------------------------------|--|
| 11-L10 | Unit-II Sampling Design: Census and sample survey - Implications of a | |
| | sample design - Steps in sample design | |
| 12-L11 | Criteria of selecting a sampling procedure - Characteristics of a good sample | |
| | design | |
| 13-L12 | Different types of sample designs - How to select a random sample? | |
| 14-L13 | Random sample from an infinite Universe | |
| 15-L14 | Complex random sampling designs | |
| 16-L15 | Measurement and scaling Techniques: measurement in research - | |
| | Measurement scales | |
| 17- L16 | Sources of error in measurement - Tests of sound measurements - | |
| 18- L17 | Technique of developing measurement tools - Scaling, meaning of scaling | |
| 19- L18 | Scale classification bases - Important scaling techniques | |
| 20- L19 | Scale construction techniques. | |
| 21- L20 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(20.07.15) | |
| 22- L21 | Unit-III Methods of Data Collection - Collection of Primary Data | |
| 23- IT-1 | Internal Test-I | |
| 24- L22 | Observation Method - Interview method - | |
| 25- L23 | Collection of Data through Questionnaires | |
| 26- L24 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 27- L25 | Collection of Data through Schedules | |
| 28- L26 | Schedules | |
| 29- L27 | Collection of Secondary Data | |
| 30- P2 | College level meeting/Cell function | |
| 31-L28 | Selection of Appropriate Method for Data Collection | |
| 32-L29 | Interpretation and Report writing | |
| 33-L30 | Meaning of Interpretation, Why Interpretation? | |
| 34- L31 | Technique of Interpretation, | |
| 35- L32 | Precaution in Interpretation | |
| 36- L33 | Significance of Report Writing - | |
| 37- L34 | Different Steps in Writing Report | |
| 38- L35 | Layout of the Research Report | |
| 39- L36 | Types of Reports | |
| 40- L37 | Mechanics of Writing a Research Report | |
| 41- L38 | Precautions for Writing Research Reports. | |
| 42-P3 | Department Seminar | |
| 43- L39 | Unit-IV Chi-Square Test for large samples | |
| 44- L40 | Definition of Chi-Square | |
| 45- L41 | Limitations of Chi-Square test - | |
| 46- L42 | Chi-Square test as a test of goodness of fit and as a test of independence | |
| 47- L43 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(31.08.15) | |
| 48- L44 | Yate"s correction and its applications | |
| 49-IT-II | Internal Test-II | |
| 50-L45 | Analysis of variance(ANOVA) : Concept | |
| 51- L46 | Test Paper distribution and result analysis | |
| | • | |

| | Entering Internal Test-II Marks into University portal | |
|-----------|---------------------------------------------------------------------|--|
| 52- L47 | One way ANOVA | |
| 53- L48 | ANOVA in test in Latin Square Design | |
| 54- L49 | Unit - V Algorithmic Research – Introduction | |
| 55- L50 | Algorithmic Research Problems | |
| 56- L51 | Types of Solution procedure/Algorithm | |
| 57- L52 | Steps of Development of Algorithm | |
| 58- L53 | Steps of algorithmic Research - | |
| 59-P4 | College level meeting/ function | |
| 60- L54 | Design of Experiments and Comparison of Algorithms - | |
| 61- L55 | Meta Heuristics for Combinatorial Problems | |
| 62- L56 | The Computer: Its Role in research | |
| 63- L57 | The computer and Computer Technology | |
| 64- L58 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(05.10.15) | |
| 65- L59 | The Computer System | |
| 66- L60 | Important Characteristics | |
| 67-IT-III | Internal Test-III | |
| 68- L61 | Computer Applications | |
| 69- L62 | Computers and Researchers. | |
| 70- L63 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 71-MT | Model Test begins(16.10.2015) | |
| 72-MT | Model Test | |
| 73-MT | Model Test | |
| 74-L64 | Model test paper distribution and previous year university question | |
| | paper discussion | |
| 75-L65 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 29.10.2015 | |

Course Outcomes

| Learning Outcomes | Research Methodology |
|--------------------------|------------------------------------------------------------|
| | |
| CO1 | An Introduction - Meaning of Research |
| CO2 | Objectives of Research - Types of Research, Motivation in |
| | Research |
| CO3 | Algorithmic Research Problems |
| CO4 | Types of Solution procedure/Algorithm |
| CO5 | Steps of Development of Algorithm |
| CO6 | Different types of sample designs - How to select a random |
| | sample? |
| CO7 | Random sample from an infinite Universe |
| CO8 | Complex random sampling designs |
| CO9 | Technique of Interpretation |
| Experimental | |
| Learning | |
| EL1 | Algorithmic Research Problems |

| EL2 | Layout of the Research Report |
|---------------------|-----------------------------------------|
| EL3 | Collection of Secondary Data |
| EL4 | Development of Algorithm |
| Integrated Activity | |
| IA1 | ANOVA in test in Latin Square Design |
| IA2 | Random sample from an infinite Universe |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc(NT&IT) | |
|------------------------|----------------------|--|
| Course Name | Software Engineering | |
| Course Code | PNTE11 | |
| Class | I Msc (2015-2016) | |
| Semester | odd | |
| Staff Name | MR.B.EDWARD DANIEL | |
| Credits | 4 | |
| L. Hours /P. Hours | 4 / WK | |
| Total 60Hrs/Sem | | |
| Internal Test-3 Hrs | | |
| Model Test-3 Hrs | | |
| Dept. Meetings-2 Hrs | | |
| College Meetings-2 Hrs | | |

Course Objectives

• To study the need and nature of mobile applications.

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

- To learn the tools and platforms required for mobile applications.
- To understand the design issues in mobile applications.

Syllabus

UNIT I SOFTWARE AND SOFTWARE ENGINEERING The Nature of Software – The Nature of Software? The Nature of Software – Stack holders in Software engineering – Stack holders in Software engineering – Activities common to Software projects – Difficult and risk in software engineering as a whole. Review of Object Orientation: What is object orientation/ - Classes and objects – Instance variables – Methods, Operations and Polymorphism – Concepts best define object orientation – Difficulties and risks in programming language choice and object – oriented programming. **(12 L)**

UNIT II DEVELOPING REQUIREMENTS Domain analysis – The starting point for software projects – Defining the problem and the scope – What is a requirement? – Types of requirements – Some techniques for gathering and analyzing requirements – Managing changing requirements – Difficulties and risks in domain and requirements analysis. **(12 L)**

UNIT III MODELING WITH CLASSES What is UML? – Essentials of UML class diagrams – Associations and Multiplicity – Generalization – Instance diagrams – More advanced features of class diagrams. Modeling Interactions and Behavior: Interaction diagram – State diagrams – Activity diagrams. (12 L) **UNIT IV ARCHITECTING AND DESIGNING SOFTWARE** The process of design – Principles leading to good design – Techniques for making good design decisions – Software architecture – Architectural patterns – Writing a good designing document. (12 L)

UNIT V TESTING AND INSPECTING TO ENSURE HIGH QUALITY Basic definitions – Effective and efficient testing – Defects in ordinary Algorithms – Defects in numerical algorithms – Defects in timing and co-ordination. Managing the Software Process: What is project management? – Software process models – Cost estimation – building software engineering teams – Project scheduling and tracking.

| Hour | Class Schedule | |
|-----------|-------------------------------------------------------------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 18.06.2015 | |
| 1-L1 | UNIT I SOFTWARE AND SOFTWARE ENGINEERING : The Nature of Software | |
| 2-L2 | Stack holders in Software engineering | |
| 3- L3 | Activities common to Software projects | |
| 4-L4 | Difficult and risk in software engineering as a whole. Review of Object Orientation | |
| 5-L5 | What is object orientation? | |
| 6-L6 | Classes and objects | |
| 7-L7 | Instance variables. | |
| 8- P1 | Methods, Operations and | |
| 9- L8 | Concepts best define object orientation. | |
| 10- L9 | Difficulties and risks in programming language choice and object | |
| 11-L10 | Polymorphism. | |
| 12-L11 | oriented programming. | |
| 13-L12 | UNIT II DEVELOPING REQUIREMENTS Domain analysis | |
| 14-L13 | The starting point for software projects ,Defining the problem and the scope | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(20.07.15) | |
| 16-L15 | What is a requirement | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Some techniques for gathering | |
| 19-L17 | | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Types of requirements | |
| 21- L19 | and analyzing requirements | |
| 22- P2 | College level meeting/ | |
| 23-L20 | Managing changing requirements | |
| 24-L21 | Difficulties and risks in domain | |
| 25-L22 | Cell function | |
| 26-L23 | analysis and requirements | |
| 27-L24 | UNIT III MODELING WITH CLASSES What is UML | |
| 28-L25 | Essentials of UML class diagrams. | |
| 29-L26 | Associations and Multiplicity | |
| 30-L27 | Generalization | |
| 31-L28 | Instance diagrams | |
| 32-L29 | More advanced features of class diagrams. | |
| 33-L30 | Modeling Interactions and Behavior | |
| 34- P3 | Interaction diagram | |
| 35-L31 | State diagrams ,Activity diagrams. | |
| 36-L32 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(31.08.15) | |
| 37- L33 | UNIT IV ARCHITECTING AND DESIGNING SOFTWARE The process of design: | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | - Principles leading to good design | |
| 40-L35 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Techniques for making good design decisions | |

| 42- L37 | Software architecture |
|-----------|--------------------------------------------------------------------------------------|
| 43- L38 | Architectural patterns. |
| 44- P4 | Writing a good designing document |
| 45-L39 | UNIT V TESTING AND INSPECTING TO ENSURE HIGH QUALITY Basic definitions. |
| 46-L40 | Effective and efficient testing |
| 47-L41 | Defects in ordinary Algorithms |
| 48-L42 | Defects in numerical algorithms |
| 49-L43 | Managing the Software Process |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(05.10.15) |
| 51 L45 | Software process models |
| 52- L46 | Cost estimation ,building software engineering teams |
| 53-IT-III | Internal Test-III |
| 54-L47 | Project scheduling and tracking. |
| 55-L48 | - Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(16.10.2015) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 29.10.2015 |

Course Outcomes

| Learning Outcomes | Software Engineering |
|-----------------------|---------------------------------------------|
| | |
| CO1 | Defects in ordinary Algorithms |
| CO2 | Software process models |
| CO3 | Techniques for making good design decisions |
| CO4 | Concepts best define object orientation |
| Experimental Learning | |
| EL1 | Instance diagrams |
| EL2 | Classes and objects |
| Integrated Activity | |
| IA1 | Software process models |
| IA2 | Techniques for making good design decisions |

Blended Learning : using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner: use library books, E- books, motivate student to prepare for higher study.

For slow learner : special care taken, motivate the advanced learner to support the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

St. John's College, Palayamkottai

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|---------------------|---------------------------|
| Course Name | ADVANCED JAVA PROGRAMMING |
| Course Code | KNTM21 |
| Class | I year (2015-2016) |
| Semester | EVEN |
| Staff Name | Mr.I.THOMAS JEBASINGH |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |
| Total 75 Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |

Dept. Meetings-2 Hrs College Meetings-2 Hrs

Remaining 65 Hrs (5 units; 5×13=65; 13Hrs /unit)

Course Objectives

- > To understand about introducing java
- > To understand about the evolution of java
- ➤ To understand about The logical evolution of C to C++
- > To understand aboutFundamentals of Java language
- > To understand aboutUsing data types
- > To understand aboutExpressions

Syllabus

Unit-I

Introducing Java-The Evolution of Java-The logical evolution of C to C++ and Java-Object oriented programming concepts and java programming with java. Getting started with Java Developer's kit(JDK)- The Java developer's environment. The Java browser and the world wide web –Navigating the world wide web –using URL"s- web surfing with Java enchanced browsers –Web-Hot spots for Java developers-Java tools-Java language. (12L)

Unit-II

Fundamentals of Java language-Token-Using data types-Expressions-Declarations-control flowBuilding objects-An introduction to classes- working with objects-packages-InheritanceInterfaces-threads-exceptions-streams. (10L)

Unit-III

Java API packages, The structure of API Packages. Using the Java API, API web reference Structure. The Java Applet class, Java language- packages and its classes. The AWT class library-Introduction to the AWT-Using the frame class to implement application windows-Implementing dialog boxes with dialog class –organizing the components using the panel and layout classes-using common GUI controls-using Fonts - image related classes-using scroll bars. The java I/O and utility class libraries. The Net and debug class libraries (13L)

Unit-IV

Defining the applet structure- building the applet- The Java extensions to HTML – Adding animation to web documents. The reducing animation flickers- Publishing a Java-presentation on the web. Applets reuse-adding functionality to existing applets –when to reuse –when to rewrite-extending an applet-Testing the extended applet.

JDBC: Java Database Connectivity, Types of JDBC drivers, Writing JDBC applications, Types of Statement objects, Types of resultset, Inserting an updating records, using transactions. (13L)

Unit-V:

Java Servlets: Java Servlets and CGI Programming –A Simple Java Servlet –Anatomy of a Java Servlet Reading Data from a Client –Sending Data to a Client – Working with Cookies Java Server Pages: JSP-JSP tags-Tomcat-Request String –User sessions-Cookies-Session Object. (12L)

| Hour | Class Schedule |
|-----------|----------------------------------------------------------------------------------------|
| allotment | 0.110 |
| 1 7 1 | Odd Semester Begin on 02.12.2015 |
| 1-L1 | The Evolution of Java |
| 2-L2 | The logical evolution of C to C++ and Java |
| 3- L3 | Object oriented programming concepts and java programming with java |
| 4-L4 | Getting started with Java Developer's kit(JDK) |
| 5-L5 | The Java developer's environment |
| 6-L6 | The Java browser and the world wide web |
| 7-L7 | Navigating the world wide web |
| 8- P1 | Welcoming of First year and Inauguration of M.Sc Association |
| 9- L8 | Using URL"s- web surfing with Java enchanced browsers |
| 10- L9 | Web |
| 11-L10 | Hot spots for Java developers |
| 12-L11 | Java tools |
| 13-L12 | Java language |
| 14-L13 | Fundamentals of Java language |
| 15-L14 | Token-Using data types |
| 16-L15 | Expressions |
| 17- L16 | Declarations |
| 18- L17 | Control flow Building objects |
| 19- L18 | An introduction to classes |
| 20- L19 | working with objects |
| 21- L20 | Allotting portion for Internal Test-I |
| | Internal Test I begins(25.01.16) |
| 22- L21 | Packages |
| 23- IT-1 | Internal Test-I |
| 24- L22 | Inheritance Interfaces |
| 25- L23 | Threads |
| 26- L24 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 27- L25 | Exceptions |
| 28- L26 | Streams |
| 29- L27 | Java API packages |
| 30- P2 | College level meeting/Cell function |
| 31-L28 | The structure of API Packages |
| 32-L29 | Using the Java API, API web reference Structure |
| 33-L30 | The Java Applet class |
| 34- L31 | Java language |
| 35- L32 | packages and its classes |
| 36- L33 | The AWT class library |
| 37- L34 | Introduction to the AWT |
| 38-L35 | Using the frame class to implement application windows |
| 39- L36 | Implementing dialog boxes with dialog class |
| 40- L37 | Organizing the components using the panel and layout classes-using common GUI controls |

| 41- L38 | image related classes | |
|-----------|---------------------------------------------------------------------------|--|
| | image related classes | |
| 42-P3 | Department Seminar | |
| 43- L39 | using scroll bars | |
| 44- L40 | The java I/O and utility class libraries | |
| 45- L41 | The Net and debug class libraries | |
| 46- L42 | using Fonts | |
| 47- L43 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(22.02.16) | |
| 48- L44 | Java Database Connectivity, , , , , | |
| 49-IT-II | Internal Test-II | |
| 50-L45 | Types of JDBC drivers | |
| 51- L46 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 52- L47 | Writing JDBC applications | |
| 53- L48 | Types of Statement objects | |
| 54- L49 | Types of result set | |
| 55- L50 | Inserting an updating records | |
| 56- L51 | using transactions | |
| 57- L52 | Java Servlets and CGI Programming | |
| 58- L53 | A Simple Java Servlet | |
| 59-P4 | College level meeting/ function | |
| 60- L54 | Anatomy of a Java Servlet Reading Data from a Client | |
| 61- L55 | Sending Data to a Client | |
| 62- L56 | Working with Cookies Java Server Pages | |
| 63- L57 | JSP- JSP tags | |
| 64- L58 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(28.03.16) | |
| 65- L59 | JSP tags | |
| 66- L60 | Tomcat- Request String | |
| 67-IT-III | Internal Test-III | |
| 68- L61 | Cookies-Session Object | |
| 69- L62 | User sessions | |
| 70- L63 | - Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 71-MT | Model Test begins(11.04.2016) | |
| 72-MT | Model Test | |
| 73-MT | Model Test | |
| 74-L64 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 75-L65 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 22.04.2016 | |
| L | | |

Course Outcomes

| Learning Outcomes | ADVANCED JAVA PROGRAMMING |
|--------------------------|----------------------------|
| CO1 | Writing JDBC applications |
| CO2 | Types of Statement objects |

| CO3 | Types of result set |
|----------------------------|-----------------------------------|
| CO4 | Inserting an updating records |
| CO5 | using transactions |
| CO6 | Java Servlets and CGI Programming |
| CO7 | A Simple Java Servlet |
| CO8 | Java Servlets and CGI Programming |
| CO9 | A Simple Java Servlet |
| Experimental | |
| Learning | |
| EL1 | Package |
| EL2 | JDBC |
| Integrated Activity | |
| IA1 | Session |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

St. John's College, Palayamkottai

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc(NT&IT) |
|----------------|----------------------|
| Course Name | Software Engineering |
| Course Code | PNTE11 |
| Class | I Msc (2016-2017) |
| Semester | odd |

574

| Staff Name | MR.B.EDWARD DANIEL | | |
|--------------------------------------------------|--------------------|--|--|
| Credits | 4 | | |
| L. Hours /P. Hours | 4 / WK | | |
| Total 60Hrs/Sem | | | |
| Internal Test-3 Hrs | | | |
| Model Test-3 Hrs | | | |
| Dept. Meetings-2 Hrs | | | |
| College Meetings-2 Hrs | | | |
| Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit) | | | |

Course Objectives

- To study the need and nature of mobile applications.
- To learn the tools and platforms required for mobile applications.
- To understand the design issues in mobile applications.

Syllabus

UNIT I SOFTWARE AND SOFTWARE ENGINEERING The Nature of Software – The Nature of Software? The Nature of Software – Stack holders in Software engineering – Stack holders in Software engineering – Activities common to Software projects – Difficult and risk in software engineering as a whole. Review of Object Orientation: What is object orientation/ - Classes and objects – Instance variables – Methods, Operations and Polymorphism – Concepts best define object orientation – Difficulties and risks in programming language choice and object – oriented programming. **(12 L)**

UNIT II DEVELOPING REQUIREMENTS Domain analysis – The starting point for software projects – Defining the problem and the scope – What is a requirement? – Types of requirements – Some techniques for gathering and analyzing requirements – Managing changing requirements – Difficulties and risks in domain and requirements analysis. **(12 L)**

UNIT III MODELING WITH CLASSES What is UML? – Essentials of UML class diagrams – Associations and Multiplicity – Generalization – Instance diagrams – More advanced features of class diagrams. Modeling Interactions and Behavior: Interaction diagram – State diagrams – Activity diagrams. (12 L) **UNIT IV ARCHITECTING AND DESIGNING SOFTWARE** The process of design – Principles leading to good design – Techniques for making good design decisions – Software architecture – Architectural patterns – Writing a good designing document. (12 L)

UNIT V TESTING AND INSPECTING TO ENSURE HIGH QUALITY Basic definitions – Effective and efficient testing – Defects in ordinary Algorithms – Defects in numerical algorithms – Defects in timing and co-ordination. Managing the Software Process: What is project management? – Software process models – Cost estimation – building software engineering teams – Project scheduling and tracking.

| Hour | Class Schedule |
|-----------|-------------------------------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 16.06.2017 |
| 1-L1 | UNIT I SOFTWARE AND SOFTWARE ENGINEERING: The Nature of Software |
| 2-L2 | Stack holders in Software engineering |
| 3- L3 | Activities common to Software projects |
| 4-L4 | Difficult and risk in software engineering as a whole. Review of Object Orientation |
| 5-L5 | What is object orientation? |
| 6-L6 | Classes and objects |
| 7-L7 | Instance variables. |

| 0 01 | Mathada Onorationa and |
|-----------|------------------------------------------------------------------------------|
| 8- P1 | Methods, Operations and |
| 9- L8 | Concepts best define object orientation. |
| 10- L9 | Difficulties and risks in programming language choice and object |
| 11-L10 | Polymorphism. |
| 12-L11 | oriented programming. |
| 13-L12 | UNIT II DEVELOPING REQUIREMENTS Domain analysis |
| 14-L13 | The starting point for software projects ,Defining the problem and the scope |
| 15-L14 | Allotting portion for Internal Test-I |
| 46.145 | Internal Test I begins (25.07.16) |
| 16-L15 | What is a requirement |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Some techniques for gathering |
| 19-L17 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | Types of requirements |
| 21- L19 | and analyzing requirements |
| 22- P2 | College level meeting/ |
| 23-L20 | Managing changing requirements |
| 24-L21 | Difficulties and risks in domain |
| 25-L22 | Cell function |
| 26-L23 | analysis and requirements |
| 27-L24 | UNIT III MODELING WITH CLASSES What is UML |
| 28-L25 | Essentials of UML class diagrams. |
| 29-L26 | Associations and Multiplicity |
| 30-L27 | Generalization |
| 31-L28 | Instance diagrams |
| 32-L29 | More advanced features of class diagrams. |
| 33-L30 | Modeling Interactions and Behavior |
| 34- P3 | Interaction diagram |
| 35-L31 | State diagrams ,Activity diagrams. |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(22.08.16) |
| 37- L33 | UNIT IV ARCHITECTING AND DESIGNING SOFTWARE The process of design: |
| 38- IT-II | Internal Test-II |
| 39-L34 | Principles leading to good design |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Techniques for making good design decisions |
| 42- L37 | Software architecture |
| 43- L38 | Architectural patterns. |
| 44- P4 | Writing a good designing document |
| 45-L39 | UNIT V TESTING AND INSPECTING TO ENSURE HIGH QUALITY Basic definitions. |
| 46-L40 | Effective and efficient testing |
| 47-L41 | Defects in ordinary Algorithms |
| 48-L42 | Defects in numerical algorithms |
| 49-L43 | Managing the Software Process |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(03.10.16) |
| 51 L45 | Software process models |
| 52- L46 | Cost estimation ,building software engineering teams |
| | , 0 0 0 1 |

| 53-IT-III | Internal Test-III | |
|-----------|--------------------------------------------------------------------------------------|--|
| 54-L47 | Project scheduling and tracking. | |
| 55-L48 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 56- MT | Model Test begins(17.10.2016) | |
| 57-MT | Model Test | |
| 58-MT | Model Test | |
| 59- L49 | Model test paper distribution and previous year university question paper discussion | |
| 60-L50 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 06.11.2017 | |

| Learning Outcomes | Software Engineering |
|-----------------------|---------------------------------------------|
| | |
| CO1 | Defects in ordinary Algorithms |
| CO2 | Software process models |
| CO3 | Techniques for making good design decisions |
| CO4 | Concepts best define object orientation |
| Experimental Learning | |
| EL1 | Instance diagrams |
| EL2 | Classes and objects |
| Integrated Activity | |
| IA1 | Software process models |
| IA2 | Techniques for making good design decisions |

Blended Learning : using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for higher study.

For slow learner : special care taken, motivate the advanced learner to support the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|---------------------|--------------------------|
| Course Name | RDBMS |
| Course Code | KNTM22 |
| Class | I year (2016-2017) |
| Semester | EVEN |
| Staff Name | MRS.A.BATHSHEBA PARIMALA |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |
| Total 75 Hrs/Sem | |
| Internal Test-3 Hrs | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 65Hrs (5 units; $5 \times 13 = 65$; 13Hrs /unit)

Course Objectives

- > To understand about Relational Algebra
- > To understand about Combining logic
- > To understand about Third and Fourth normal forms

Syllabus

RDBMS CONCEPTS AND ORACLE

Unit-I Introduction – Purpose of data base systems – Data Models – Data Languages-Transaction management- storage Management-DBA –Database Users – System Structures – E-R Models- Entity and Entity Relationships – Mapping constraints and E-R Diagrams. (10L)

Unit-II Structure of Relational databases—Relational Algebra — Tuple Relational calculus — Domain Relational Calculus- Relational commercial languages (SQL, QBE, QUEL)-Integrity constraints -Normalization - Boyce -Codd - Third and Fourth normal forms domain – Key normal form. (13L)

Unit-III Basic SQL Operations – creating a table – Insert- Rollback-Commit – AutoCommit-Delete-Update- Select, From, where and Order by -Single value tests – Like – simple tests against a list of values – Combining logic – Combining tables - Dropping a column- creating a table from a table – Date functions – Conversion functions- Translate-Decode-Creating a view – Advanced sub queries-Outer joins-Natural & Inner joins-Union, Intersect & Minus – synonyms- indexes- Tablespaces -Clusters- Sequences. (12L)

Unit-IV Basics of Object – Relational databases: Objects – Abstract Data types – Nested tables - Varying arrays – Large objects –References - Object Views – Naming conventions for objects- Structure of an Object. Users, Roles and Privilege: Creating a user – password management - Three Standard roles – Format for Grant command – Revoking privileges – what users can Grant: Moving to another user- Create synonym – Create a role – Granting privileges to a role – Granting a role to another role – Adding password to a role – Removing a password from a role – Enabling & Disabling roles – Revoking privileges from a role – dropping roles. **(13L)**

Unit-V An Introduction to PL/SQL: Pl/SQL overview- Declarations section - Executable commands section - Exception handling section - Triggers: Syntax - Types of Triggers: Row Level - statement - level - before & after - instead of - Schema - Database - Level triggers - Enabling & Disabling triggers - Replacing & Dropping triggers - Procedures, functions & Packages: syntax - Compile - Replace - Drop procedure, Functions & Packages - Cursor Management. (12L)

| Hour | Class Schedule | |
|-----------|------------------------------------------------------------------------|--|
| allotment | | |
| | EVEN Semester Begin on 01.12.2016 | |
| 1-L1 | Unit-I Introduction – Purpose of data base systems | |
| 2-L2 | Data Models , Data Languages | |
| 3- L3 | Transaction management, storage Management-DBA | |
| 4-L4 | Database Users | |
| 5-L5 | System Structures, E-R Models | |
| 6-L6 | Entity and Entity Relationships | |
| 7-L7 | Mapping constraints and E-R Diagrams | |
| 8- P1 | BCA&MSC IT Association | |
| 9- L8 | Unit-II Structure of Relational databases | |
| 10- L9 | Relational Algebra ,Tuple Relational calculus | |
| 11-L10 | Domain Relational Calculus- Relational commercial languages (SQL, QBE, | |
| | QUEL) | |
| 12-L11 | Integrity constraints | |
| 13-L12 | Normalization ,Boyce ,Codd | |
| 14-L13 | Third and Fourth normal forms | |
| 15-L14 | domain,Key normal form. | |
| 16-L15 | Unit-III Basic SQL Operations | |
| 17- L16 | creating a table | |
| 18- L17 | Insert- Rollback-Commit | |
| 19- L18 | AutoCommit-Delete-Update- | |
| 20- L19 | Select, From, where and Order by - | |
| 21- L20 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(24.01.17) | |
| 22- L21 | Single value tests | |
| 23- IT-1 | Internal Test-I | |
| 24- L22 | Like ,simple tests against a list of values | |

| 25- L23 | Combining logic | |
|--------------------|----------------------------------------------------------------------------|--|
| 26- L24 | Test Paper distribution and result analysis | |
| 20 22: | Entering Internal Test-I Marks into University portal | |
| 27- L25 | Combining tables | |
| 28- L26 | Dropping tables | |
| 29- L27 | Dropping a column- creating a table from a table | |
| 30- P2 | College level meeting/Cell function | |
| 31-L28 | Date functions | |
| 32-L29 | Conversion functions | |
| 33-L30 | Translate, Decode, Creating a view | |
| 34- L31 | Advanced sub queries | |
| 35- L32 | Outer joins, Natural & Inner joins- | |
| 36- L33 | Union, Intersect & Minus | |
| 37- L34 | Synonyms, indexes | |
| 38- L35 | Tablespaces, Clusters - Sequences. | |
| 39- L36 | Unit-IV Basics of Object, Relational databases: Objects | |
| 40- L37 | Abstract Data types, Nested tables - Varying arrays | |
| 41- L38 | Large objects ,References | |
| 42-P3 | Department Seminar | |
| 43- L39 | Object Views | |
| 44- L40 | Naming conventions for objects | |
| 45- L41 | Structure of an Object. Users, Roles and Privilege: Creating a user | |
| 46- L42 | password management ,Three Standard roles | |
| 47- L43 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(24.02.17) | |
| 48- L44 | Format for Grant command, Revoking privileges | |
| 49-IT-II | Internal Test-II | |
| 50-L45 | what users can Grant: Moving to another user | |
| 51- L46 | Test Paper distribution and result analysis | |
| 50 T 45 | Entering Internal Test-II Marks into University portal | |
| 52- L47 | Create synonym ,Create a role | |
| 53- L48 | Granting privileges to a role | |
| 54- L49 | Granting a role to another role | |
| 55- L50 | Adding password to a role, Removing a password from a role, Enabling & | |
| 56 T 51 | Disabling roles | |
| 56- L51 | Revoking privileges from a role ,dropping roles | |
| 57- L52 | Unit-V An Introduction to PL/SQL: Pl/SQL overview, Declarations section | |
| 58- L53 59-P4 | Executable commands section, Exception handling section | |
| 59-P4 60- L54 | College level meeting/ function | |
| 61- L55 | Triggers: Syntax ,Types of Triggers: Row Level, statement | |
| 62- L56 | level ,before & after ,instead of Schema, Database ,Level triggers | |
| 62- L56 63- L57 | | |
| 64- L58 | Enabling & Disabling triggers Allotting portion for Internal Test III | |
| U4- LJ8 | Allotting portion for Internal Test-III Internal Test III begins(26.03.17) | |
| 65- L59 | Replacing & Dropping triggers | |
| 66- L60 | Procedures, functions & Packages: syntax | |
| 67-IT-III | Internal Test-III | |
| 07-11-111 | Thichiai Test-111 | |

| 68- L61 | Compile ,Replace | |
|---------|---------------------------------------------------------------------------|--|
| 69- L62 | Drop procedure, Functions & Packages, Cursor Management. | |
| 70- L63 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 71-MT | Model Test begins(05.04.2017) | |
| 72-MT | Model Test | |
| 73-MT | Model Test | |
| 74-L64 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 75-L65 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 21.04.2017 | |

| Learning Outcomes | RDBMS | |
|--------------------------|-----------------------------------------------------------|--|
| | | |
| CO1 | Object Views | |
| CO2 | 2 Granting privileges to a role | |
| CO3 | Granting a role to another role | |
| CO4 | Triggers: Syntax ,Types of Triggers: Row Level, statement | |
| CO5 | Replacing & Dropping triggers | |
| CO6 | Procedures, functions & Packages: syntax | |
| CO7 | Abstract Data types, Nested tables | |
| CO8 | Large objects ,References | |
| CO9 | Varying arrays | |
| Experimental | | |
| Learning | | |
| EL1 | | |
| | Triggers | |
| EL2 | ADT | |
| EL3 | Packages | |
| EL4 | Joins | |
| Integrated Activity | | |
| IA1 | Integrity constraints | |
| IA2 | Entity and Entity Relationships | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT | |
|----------------------|--------------------------------------|--|
| Course Name | Principles of Information Technology | |
| Course Code | KNTM23 | |
| Class | I year (2016-2017) | |
| Semester | EVEN | |
| Staff Name | Mrs.A.BATHSHEBA PARIMALA | |
| Credits | 4 | |
| L. Hours /P. Hours | 4 / WK | |
| Total 60Hrs/Sem | | |
| Internal Test-3 Hrs | | |
| Model Test-3 Hrs | | |
| Dept. Meetings-2 Hrs | | |
| | | |

Course Objectives

College Meetings-2 Hrs

- > To understand Database Management System.
- > To understand Analog and Digital signals.
- > To understand Communication processors.

Syllabus

PRINCIPLES OF INFORMATION TECHNOLOGY

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Unit-I INTRODUCTION TO COMPUTERS – Generations of modern computers – Classification of digital computer systems – Anatomy of a digital computer – computer software – Hardware/software interaction – Classification of software – Operating systems (functions & classification of Os) – Introduction to Database Management system (DBMS – benefits – functions – DB users). **(12L)**

Unit-II Telecommunications - Introduction to Telecommunications: Analog and Digital Signals - Modulations - Types of modulations - Pulse modulation techniques - digital modulation - modems **Computer Networks:** Overview of networks - Communication processors - Communication media - Telecommunication Software - Types of network - network topology. **Communication System**: Radio- TV - Microwave systems - Communication satellites - Radar - Fiber optics - ISDN - ADSL - T1 & T3 line connection. **(12L)**

Unit-III Introduction to Multimedia – Multimedia Applications: Multimedia in education and training – Multimedia in entertainment – multimedia in marketing – **Introduction to Virtual reality**: History of VR – present uses of VR – Future of VR. **(10L)**

Unit-IV New Technologies in Information Technologies- Introduction to Hypermedia – Artificial Intelligence & Business Intelligence – Knowledge Discovery in Databases (KDD) – Data mining and On_Line Analytical Processing (OLAP)- Geographical Information System(GIS) (13L)

Unit-V Application of Information Technology -Computers in business and Industry – Computers at Home – Computers in education and training- Computers in Entertainment Science, Media & Engineering- Mobile computing. **(13L)**

| Hour | Class Schedule | |
|-----------|---------------------------------------------------------------------------|--|
| allotment | | |
| | EVEN Semester Begin on 01.12.2016 | |
| 1-L1 | Unit-I INTRODUCTION TO COMPUTERS – Generations of modern | |
| | computers | |
| 2-L2 | Classification of digital computer systems | |
| 3- L3 | Anatomy of a digital computer | |
| 4-L4 | computer software – Hardware/software interaction | |
| 5-L5 | Classification of software | |
| 6-L6 | Operating systems (functions & classification of Os) | |
| 7-L7 | Introduction to Database Management system (DBMS – benefits – functions – | |
| | DB users). | |
| 8- P1 | BCA &M.Sc(IT)Association | |
| 9- L8 | Unit-II Telecommunications - Introduction to Telecommunications: Analog | |
| | and Digital Signals | |
| 10- L9 | Modulations | |
| 11-L10 | Types of modulations | |
| 12-L11 | Pulse modulation techniques | |
| 13-L12 | digital modulation | |
| 14-L13 | Computer Networks: Overview of networks | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(24.01.17) | |
| 16-L15 | Communication processors | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Communication media | |
| 19-L17 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Telecommunication Software | |
| 21- L19 | Types of network, network topology | |
| 22- P2 | College level meeting/Cell function | |
| 23-L20 | Communication System : Radio- TV | |
| 24-L21 | Microwave systems | |
| 25-L22 | Communication satellites – Radar | |

| 26-L23 | Fiber optics – ISDN – ADSL | |
|-----------|---------------------------------------------------------------------------|--|
| 27-L24 | T1 & T3 line connection | |
| 28-L25 | Unit-III Introduction to Multimedia | |
| 29-L26 | Multimedia Applications:- Multimedia in education and training | |
| 30-L27 | Multimedia in entertainment | |
| 31-L28 | multimedia in marketing | |
| 32-L29 | Introduction to Virtual reality: History of VR | |
| 33-L30 | present uses of VR | |
| 34- P3 | Department Seminar | |
| 35-L31 | Future of VR. | |
| 36-L32 | Allotting portion for Internal Test-II | |
| 60 202 | Internal Test II begins(24.02.17) | |
| 37- L33 | Unit-IV New Technologies in Information Technologies- Introduction to | |
| 0, 200 | Hypermedia | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | Artificial Intelligence | |
| 40-L35 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Knowledge Discovery in Databases (KDD) | |
| 42- L37 | Data mining and On_Line Analytical Processing (OLAP) | |
| 43- L38 | Geographical Information System(GIS) | |
| 44- P4 | College level meeting/ function | |
| 45-L39 | Business Intelligence | |
| 46-L40 | Unit-V Application of Information Technology | |
| 47-L41 | IndustryComputers in business and | |
| 48-L42 | Computers at Home | |
| 49-L43 | Computers in education and training | |
| 50-L44 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(26.03.17) | |
| 51 L45 | Computers in Entertainment Science, | |
| 52- L46 | Media & Engineering- | |
| 53-IT-III | Internal Test-III | |
| 54-L47 | Mobile Computing | |
| 55-L48 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 56- MT | Model Test begins(05.04.2017) | |
| 57-MT | Model Test | |
| 58-MT | Model Test | |
| 59- L49 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 60-L50 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 21.04.2017 | |

| Learning Outcomes | Principles of Information Technology |
|--------------------------------|----------------------------------------|
| | |
| CO1 | Artificial Intelligence |
| CO2 | Knowledge Discovery in Databases (KDD) |
| CO3 | Business Intelligence |
| CO4 | IndustryComputers in business and |
| CO5 | Computers at Home |
| C06 | Computers in education and training |
| CO7 | Computers in Entertainment Science, |
| CO8 | Media & Engineering- |
| CO9 | Mobile Computing |
| Experimental | |
| Learning | |
| EL1 | Computers in business and Industry |
| EL2 | Computers at Home |
| EL3 | Computers in education and training |
| EL4 | Computers in Entertainment |
| Integrated Activity | |
| IA1 | Computers in education and training |
| IA2 Computers in Entertainment | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Application

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | MSc(NT&IT) |
|---------------------|---------------------------------|
| Course Name | Visual Basic |
| Course Code | KNTM31 |
| Class | I year (2016-2017) |
| Semester | ODD |
| Staff Name | Mr. B.Edward Daniel Christopher |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60 Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To understand the benefits of using Visual Basic for windows as an application tool.
- To understand the Visual Basic event-driven programming concepts, terminology and available tools
- Learn the fundamentals of designing, implementing and distributing a vb application.
- ➤ Learn to use the Visual Basic toolbox
- > To study connectivity between VB and databases.

VISUAL BASIC

UNIT I GETTING STARTED WITH VISUAL BASIC 6.0 Introduction to Visual Basic, Visual Basic 6.0 Programming Environment, Working with Forms, Developing an Application, Variables, Data types and Modules, Procedure and Control Structures, Array in Visual Basic, Additional examples. Working with Controls: Introduction, Creating and Using Controls, Working with Control Arrays, Additional examples.

UNIT II MENUS & GRAPHICS Menus, Mouse Events and Dialog Boxes: Introduction, Mouse Events, Dialog Boxes, Additional examples. Graphics, MDI and Flex Grid: Introduction, Graphics for Applications, Multiple Document Interface (MDI), Using the flex Grid Control, Additional examples.

UNIT III OPEN DATABASE CONNECTIVITY ODBC and Data Access Objects: Evolution of Computer Architecture, Data Options, Additional examples. ODBC Using Data Access Objects and Remote Data objects: Open Database Connectivity (ODBC), Remote Data objects, Additional examples.

UNIT IV REPORT CREATION Data Environment and Data Report: Introduction, Data Environment Designer, Data Report, Additional examples. Object Linking and Embedding: Introduction, OLE Fundamentals, Using OLE Container Controls, Using OLE Automation Objects, OLE Drag and Drop, Additional examples.

UNIT V ACTIVE X CONTROLS Built – in Active X Controls: Working with Built – In ActiveXControls, Additional examples. Working with Active X Data objects; An Overview of ADO and OLE DB, ADO Object Model, Additional examples. Files, and File System Controls: Introduction, File System Controls, Accessing Files, Interface with Windows, Additional examples.

| Hour allotment | Class Schedule |
|-------------------|-------------------------------------------------------------------------------|
| anounent | odd Semester Begin on 16.06.2016 |
| 1-L1 | UNIT I GETTING STARTED WITH VISUAL BASIC 6.0 Introduction to Visual Basic, |
| 1 121 | Visual Basic 6.0 Programming Environment. |
| 2-L2 | Working with Forms, Developing an Application, Variables, Data types |
| 3- L3 | Modules, Procedure and Control Structures |
| 4-L4 | Array in Visual Basic,1-D array, 2-D array- Additional examples. |
| 5-L5 | Working with Controls: Introduction-tool box – available controls |
| 6-L6 | Creating and Using Controls-command button, textbox control, dropdown listbox |
| 7-L7 | Picture box, option button, check box – scroll bars |
| 8-L8 | Common dialog control with examples |
| 9-L9 | Working with Control Arrays, Additional examples. |
| 10-L10 | Explanation for calculator programme |
| | |
| 11-L11 | UNIT II MENUS & GRAPHICS Menus, popup menu-introduction- sample |
| | programme |
| 13-L12 | Mouse Events |
| 14-L13 | Dialog Boxes: Introduction – Input box- Additional examples. |
| 15-L14 | Graphics – Image box- picturebox-pixel manipulation Allotting portion for |
| | Internal Test-I |
| | Internal test I begins(24.01.17) |
| 16-L15 | MDI-Multiple document interface- creating MDI form and child form- sample |
| | programme and output |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Flex Grid - Using the flex Grid Control |
| 19-L17 | Test Paper distribution and result analysis- sample programme for flex grid |
| | control design a form with flex grid – setting properties. |

| | Entering Internal Test-I Marks into University portal |
|-----------|--------------------------------------------------------------------------------------------------------|
| 20-L18 | Programme for matrix addition using flex grid. |
| 21-P2 | College level meeting |
| 22-L19 | Dir listbox, drive listbox – sample programme to explain Dir and drive list boxes |
| 23-L20 | Exlaining the calculator programme. – Designing form – using contol arrays. |
| 24-L21 | UNIT III OPEN DATABASE CONNECTIVITYODBC - introduction |
| 25-L22 | Data Access Objects: Evolution of Computer Architecture, |
| 26-L23 | Data Options, Additional examples. ODBC Using Data Access Objects |
| 27-L24 | Remote Data objects |
| 28-L25 | Creating DSN using Open Database Connectivity (ODBC) |
| 29-L26 | Remote Data objects using ODBC - Additional examples. |
| 30-L27 | Insert – Delete – Update- coding using DAO |
| 31-L28 | Creating a student database in MS Access – connecting the database – Manipulating the data using RDO |
| 32-L29 | Linking database with data grid – Bound data with grid. |
| 33-L30 | Seminar By Students – Topic: Open database connectivity and RDO Allotting portion for Internal Test-II |
| 34- P3 | Unit IV:Report CreationData Environment and Data Report: Introduction |
| 35-L31 | Data Environment Designer, Data Report, Additional Examples Internal test II begins(24.02.17) |
| 36-L32 | Object Linking and Embedding: Introduction |
| 37-IT-II | OLE Fundamentals |
| 38-L33 | Using OLE Container Controls |
| 39-L34 | Using OLE Automation Objects |
| 40-L35 | OLE Drag and Drop |
| 41-L36 | Additional examples. |
| 42-P4 | UNIT - V ACTIVE X CONTROLS Built – in Active X Controls: |
| 43-L37 | Working with Built in controls |
| 44-L38 | ActiveX Controls- using and creating controls |
| 45-L39 | Additional examples. |
| | Internal test III begins(26.03.17) |
| 46-L40 | Working with Active X Data objects |
| 47-L41 | An Overview of ADO and OLE DB |
| 48-L42 | ADO Object Model. |
| 49-L43 | Additional examples |
| 50-L44 | Files, and File System Controls: Introduction |
| 51-IT-III | File System Controls |
| 52-L45 | Accessing Files |
| 53-L46 | Interface with Windows |
| 54-L47 | Additional Examples |
| 55-L48 | Entering Internal Test-III Marks into University portal |
| 56-L49 | Model Test begins(17.10.2016) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59-MT | Model test paper distribution and previous year university question paper discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |

| Learning Outcomes | Visual Basic |
|----------------------------|--------------------------------------------------------|
| | |
| CO1 | Gain knowledge about GUI |
| CO2 | Skilled in form design and event driven programming |
| CO3 | Usage of various tools in visual basic |
| CO4 | Able to connect and access database |
| CO5 | Able to connect external data base using ODBC |
| CO6 | How to prepare data report |
| Experimental | |
| Learning | |
| EL1 | To do working models to explain Database connectivity |
| EL2 | Getting resources about Visual basic through Internet |
| EL3 | GD on merit and demerit GUI |
| EL4 | Discussion about Facebook and its database maintenance |
| Integrated Activity | |
| IA1 | Designing a billing software for grocery shop |
| IA2 | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

Forslow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Application & Networking

1. Questionnaires for Course Feedback from Students

| Name of the student | |
|---------------------|--|
| Programme Name | |
| Course Name | |
| Course code | |
| Year of Joining | |
| Semester | |
| Date | |

Put a tick in the best represents your response to each statement.

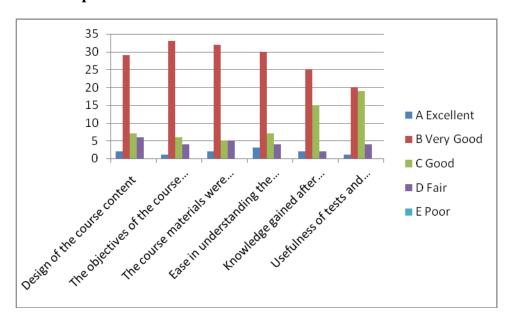
| No. | Parameters | A | В | С | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | The objectives of the course | A | В | С | D | Е |
| | were clearly stated. | | | | | |
| 3 | The course materials were | A | В | C | D | Е |
| | clearly explained. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | E |
| | course content. | | | | | |
| 5 | Knowledge gained after | A | В | C | D | E |
| | completion of the course. | | | | | |
| 6 | Usefulness of tests and | A | В | C | D | Е |
| | assignments | | | | | |
| 7 | Extent of efforts required by | A | В | С | D | E |
| | students. | | | | | |

Course Feedback Analysis and Report Preparation

Number of responses: 44

| No. | Parameters | A | В | С | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 2 | 29 | 7 | 6 | 0 |
| 2 | The objectives of the course | 1 | 33 | 6 | 4 | 0 |
| | were clearly stated. | 1 | 33 | U | 4 | U |
| 3 | The course materials were | 2 | 32 | 5 | 5 | 0 |
| | clearly explained. | 2 | 32 | 3 | 3 | U |
| 4 | Ease in understanding the | 3 | 30 | 7 | 4 | 0 |
| | course content. | 3 | 30 | / | 4 | U |
| 5 | Knowledge gained after | 2. | 25 | 15 | 2 | 0 |
| | completion of the course. | 2 | 23 | 13 | 2 | U |
| 6 | Usefulness of tests and | 1 | 20 | 19 | 4 | 0 |
| | assignments | 1 | 20 | 19 | + | U |
| 7 | Extent of efforts required by | 2 | 25 | 10 | 7 | 0 |
| | students. | | 23 | 10 | / | U |

Chart Preparation



Report Preparation

Department of Computer Application & Networking

2. Questionnaires for Course Feedback from Teachers

| Name of the Teacher | |
|---------------------|--|
| Programme Name | |
| Course Name | |
| Course code | |
| Semester/Year | |
| Date | |

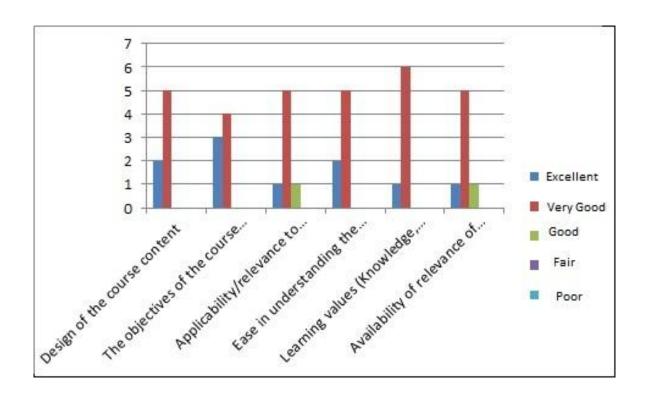
Put a tick in the best represents your response to each statement.

| No. | Parameters | A | В | C | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | The objectives of the course | A | В | C | D | Е |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | A | В | C | D | Е |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | Е |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | A | В | C | D | Е |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | A | В | C | D | E |
| | additional source materials | | | | | |

Number of Responses: 7

| No. | Parameters | A | В | С | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 2 | 5 | 0 | 0 | 0 |
| 2 | The objectives of the course | 3 | 4 | 0 | 0 | 0 |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | 1 | 5 | 1 | 0 | 0 |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | 2 | 5 | 0 | 0 | 0 |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | 1 | 6 | 0 | 0 | 0 |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | 1 | 5 | 1 | 0 | 0 |
| | additional source materials | | | | | |

Chart preparation



Department of Application & Networking

3. Questionnaires for Course Feedback from Alumni

| Name of the Alumni | |
|--------------------|--|
| Programme Name | |
| Course Name | |
| Contact No/Mail id | |
| Semester and year | |
| Date | |

Put a tick in the best represents your response to each statement.

| No. | Parameters | A | В | C | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | The objectives of the course | A | В | C | D | Е |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | A | В | C | D | Е |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | Е |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | A | В | C | D | Е |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | A | В | C | D | Е |
| | additional source materials | | | | | |

Number of Responses: 10

| No. | Parameters | A | В | С | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 5 | 1 | 5 | 3 | 0 |
| 2 | The objectives of the course | 2 | 7 | 4 | 4 | 0 |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | 2 | 5 | 2 | 1 | 0 |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | 1 | 4 | 1 | 8 | 0 |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | 5 | 2 | 1 | 5 | 0 |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | 4 | 2 | 8 | 5 | 0 |
| | additional source materials | | | | | |

4. Questionnaires for Course Feedback from Parents

| Name of the Parent | |
|--------------------------|--|
| Name of the Student | |
| Programme Name | |
| Course Name | |
| Contact Number/Mail id | |
| Year of Joining/Semester | |
| Date | |

Put a tick in the best represents your response to each statement. 15

| No. | Parameters | A | В | С | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | Course materials available in | A | В | C | D | Е |
| | Library. | | | | | |
| 3 | The course materials were | A | В | C | D | Е |
| | clearly explained. | | | | | |
| 4 | Improvement in soft skills, | A | В | C | D | Е |
| | knowledge, observed by you in | | | | | |
| | your ward. | | | | | |
| 5 | Usefulness of the course for | A | В | C | D | E |
| | getting job. | | | | | |
| 6 | Extent of efforts required by | A | В | C | D | E |
| | students. | | | | | |

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | MSc (NT&IT) |
|--------------------|--------------------------|
| Course Name | Operating system |
| Course Code | HNTM32 |
| Class | III year (2016-2017) |
| Semester | ODD |
| Staff Name | Mrs.A.BATHSHEBA PARIMALA |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |

Total 60Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- ➤ To understand design issues related to process management and various related algorithms.
- > To understand design issues related to memory management and various related algorithms.
- > To understand design issues related to File management and various related algorithms

Syllabus

CORE SUBJECT - I

OPERATING SYSTEMS

UNIT I INTRODUCTION What is an Operating System: Mainframe Systems – Desktop Systems – Multiprocessor Systems - Distributed Systems – Clustered Systems – Real – time Systems – Handheld Systems. (10 L)

UNIT II PROCESS CONCEPT Process Concept – Process Scheduling – Operations on Process – Co-operating processes – Inter Processes - Inter Process communication. CPU

Scheduling: Basic Concepts – Scheduling Criteria - Scheduling algorithms – Multi processor Scheduling - Real time Scheduling – Algorithms evaluation. (12 L)

UNIT III PROCESS SYNCHRONIZATION & DEADLOCKS Process Synchronization:

Background – the critical section problem – Synchronization hardware – Semaphores –

Classical problems of Synchronization – critical regions – Monitors – Atomic transaction.

Deadlocks: System model – Deadlock Characterization – methods for handling Deadlocks –

Deadlock prevention – Deadlock Avoidance – Deadlock detection – recovery from

Deadlock.(14 L)

UNIT IV MEMORY MANAGEMENT Memory management: Background – Swapping – Contiguous memory allocation – paging – segmentation – segmentation with paging. Virtual Memory: Background – Demand paging – Page replacement – Allocation of frames. (12 L)

UNIT V File System Interface: File concept – Access methods– File system structure – File system implementation – File system structure – Filesystem implementation – Directories structure - Directory implementation – Allocation methods – Free space management – Efficiency and performance – Recovery. Mass Storage Structure: Disk Structure – Disk Scheduling – Disk management – Swap space management – RAID structure – Disk attachment – Stable Storage. (12 L)

| Hour | Class Schedule |
|-----------|----------------------------------------------------------|
| allotment | |
| | ODD Semester Begin on 16.06.2016 |
| 1-L1 | INTRODUCTION- What is an Operating System |
| 2-L2 | Mainframe Systems |
| 3- L3 | Batchsystem - multiprogrammed system-time sharing system |
| 4-L4 | Desktop Systems |
| 5-L5 | Multiprocessor Systems |
| 6-L6 | Distributed Systems |
| 7-L7 | Client-server system, peer-to-peer system |
| 8- P1 | BCA Association |
| 9- L8 | Real |
| 10- L9 | Time Systems |
| 11-L10 | Handheld Systems. |
| 12-L11 | PROCESS CONCEPT Process Concept |
| 13-L12 | Process Scheduling |
| 14-L13 | Operations on Process |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins(25.07.16) |

| 16-L15 | Inter Processes |
|-----------|------------------------------------------------------------------------------|
| 17-IT-1 | Internal Test-I |
| 18-L16 | Inter Process communication. CPU Scheduling |
| 19-L17 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | Basic Concepts |
| 21- L19 | Scheduling Criteria |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | Scheduling algorithms |
| 24-L21 | Multi processor Scheduling |
| 25-L22 | Real time Scheduling |
| 26-L23 | Algorithms evaluation |
| 27-L24 | PROCESS SYNCHRONIZATION & DEADLOCKS Process Synchronization: |
| | Background |
| 28-L25 | the critical section problem |
| 29-L26 | Synchronization hardware |
| 30-L27 | Semaphores |
| 31-L28 | Classical problems of Synchronization |
| 32-L29 | critical regions |
| 33-L30 | Monitors |
| 34- P3 | Department Seminar |
| 35-L31 | Atomic transaction. Deadlocks: System model |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(22.08.16) |
| 37- L33 | Deadlock Characterization |
| 38- IT-II | Internal Test-II |
| 39-L34 | methods for handling Deadlocks |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Deadlock prevention |
| 42- L37 | Deadlock Avoidance |
| 43- L38 | Deadlock detection, recovery from Deadlock. |
| | |
| 44- P4 | College level meeting/ function |
| 45-L39 | File System Interface: File concept ,Access methods |
| 46-L40 | File system structure, File system implementation |
| 47-L41 | Directories structure ,Directory implementation |
| 48-L42 | Allocation methods, Free space management |
| 49-L43 | Efficiency and performance ,Recovery. Mass Storage Structure: Disk Structure |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(03.10.16) |
| 51 L45 | Disk Scheduling, Disk management |
| 52- L46 | Swap space management, RAID structure |
| 53-IT-III | Internal Test-III |
| 54-L47 | Disk attachment, Stable Storage |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(17.10.2016) |

| 57-MT | Model Test |
|---------|---------------------------------------------------------------------------|
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 06.11.2017 |

| Learning Outcomes | Operating system |
|----------------------------|---------------------------------------------------------------|
| | |
| CO1 | Process Synchronization |
| CO2 | Scheduling Algorithm |
| CO3 | DeadLock |
| CO4 | Dinning Philosopher Algorithm |
| CO5 | Page Allocation Algorithm |
| Experimental | |
| Learning | |
| EL1 | File System Interface: File concept ,Access methods |
| EL2 | Directories structure ,Directory implementation |
| EL3 | Efficiency and performance ,Recovery. Mass Storage Structure: |
| | Disk Structure |
| Integrated Activity | |
| IA1 | Deadlock Characterization |
| IA2 | Atomic transaction. Deadlocks: System model |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|---------------------|--------------------------------|
| Course Name | Network Security& Cryptography |
| Course Code | HNTM33 |
| Class | II year (2016-2017) |
| Semester | Odd |
| Staff Name | Mr.K.Appasamy |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| Internal Test_3 Hrs | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To learn about Attacks, services and Mechanisms
- > To learn about Internet standards and RFCS.
- > To learn about Substitution Techniques
- > To learn about Steganography.

Syllabus

Unit-I

Introduction:

Attacks, services and Mechanisms - security attacks - security services - A model for internetwork security - Internet standards and RFCS. Classical Encryption Techniques: symmetric cipher Model - Substitution Techniques -Transportation Techniques Rotor Mechanism – Steganography. (12L)

Unit-II

Block ciphers and the data encryption standard simplified DES

Block Cipher Principles -The Data encryption standard -The strength of DES - Differentials and Linear Cryptanalysis -Block Cipher design principles -Block Cipher modes of operations. Public Key Cryptography and RSA: Principles of Public - Key Cryptosystems The RSA Algorithm. (13L)

Unit-III

Key Management:

Other Public-Key Cryptosystems: Key Managements- Diffie Hellman Key Exchange-Elliptic curve Arithmetic - Elliptic curve Cryptography Message Authentication & Hash functions: Authentication Requirements-Authentication functions-message Authentication Codes- Hash functions- Security of Hash functions & MACS. Digital Signatures -Authentication Protocols - Digital Signature Standard. (13L)

Unit-IV

Authentication applications:

Kerberos X 509 Authentication service. Electronic Mail security: Pretty good Privacy - S/MIME 445 IP Security: IP Security overview - IP Security Architecture -Authentication Header - Encapsulation security Payload. (10L)

Unit-V

Web Security:

Web Security Considerations - Secure Sockets Layer and Transport Layer Security - Secure Electronic Transactions System Security: Intruders - Intrusion detection -Password Management. Firewalls: Firewalls Design Principles - Trusted Systems (12L)

| Hour | Class Schedule | |
|-----------|-------------------------------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 16.06.2016 | |
| 1-L1 | Attacks | |
| 2-L2 | Services | |
| 3- L3 | Mechanisms | |
| 4-L4 | security attacks | |
| 5-L5 | security services | |
| 6-L6 | A model for internetwork security | |
| 7-L7 | Internet standards and RFCS | |
| 8- P1 | BCA&MSC ITAssociation | |
| 9- L8 | Classical Encryption Techniques | |
| 10- L9 | symmetric cipher Model | |
| 11-L10 | Substitution Techniques | |
| 12-L11 | Transportation Techniques Rotor Mechanism | |
| 13-L12 | Steganography. | |
| 14-L13 | Block Cipher Principles | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(25.07.16) | |
| 16-L15 | The Data encryption standard | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | The strength of DES | |
| 19-L17 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Differentials and Linear Cryptanalysis - | |
| 21- L19 | Block Cipher design principles | |

| 22- P2 | College level meeting/Cell function |
|-----------|---------------------------------------------------------------------------------|
| 23-L20 | Block Cipher modes of operations |
| 24-L21 | Public Key Cryptography and RSA: |
| 25-L22 | Principles of Public |
| 26-L23 | Key Cryptosystems |
| 27-L24 | The RSA Algorithm. |
| 28-L25 | Other Public-Key Cryptosystems |
| 29-L26 | Key Managements |
| 30-L27 | Hellman Key Exchange |
| 31-L28 | Elliptic curve Arithmetic - |
| 32-L29 | Elliptic curve Cryptography Message Authentication & Hash functions |
| 33-L30 | Authentication Requirements |
| 34- P3 | Department Seminar |
| 35-L31 | Authentication functions-message Authentication Codes |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(22.08.16) |
| 37- L33 | Hash functions- Security of Hash functions & MACS |
| 38- IT-II | Internal Test-II |
| 39-L34 | Digital Signatures -Authentication Protocols - Digital Signature Standard. |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Kerberos X 509 Authentication service. Electronic Mail security |
| 42- L37 | Pretty good Privacy |
| 43- L38 | S/MIME 445 IP Security: IP Security overview - |
| 44- P4 | College level meeting/ function |
| 45-L39 | IP Security overview - IP Security Architecture |
| 46-L40 | Authentication Header - Encapsulation security Payload. |
| 47-L41 | Web Security Considerations - Secure Sockets Layer and Transport Layer Security |
| 48-L42 | Secure Electronic Transactions System Security |
| 49-L43 | Intruders - Intrusion detection |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(03.10.16) |
| 51 L45 | Password Management. |
| 52- L46 | Firewalls: Firewalls Design Principles |
| 53-IT-III | Internal Test-III |
| 54-L47 | Trusted Systems |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(17.10.2016) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| -0 | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 30.11.2016 |

| Learning Outcomes | Network Security& Cryptography |
|--------------------------|---------------------------------------------------------|
| | |
| CO1 | IP Security overview |
| CO2 | IP Security Architecture |
| CO3 | Web Security Considerations |
| CO4 | Password Management |
| CO5 | System Security |
| CO6 | Transport Layer Security |
| CO7 | Secure Electronic Transactions |
| CO8 | System Security |
| CO9 | Firewalls Design Principles |
| Experimental | |
| Learning | |
| EL1 | Classical Encryption Techniques |
| EL2 | symmetric cipher Model |
| EL3 | Substitution Techniques |
| EL4 | Transportation Techniques Rotor Mechanism |
| Integrated Activity | |
| IA1 | IP Security overview - IP Security Architecture |
| IA2 | Authentication Header - Encapsulation security Payload. |

Blended Learning : using PPT, video, library resources, ICT techniques,

E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|---------------------|--------------------------|
| Course Name | Research Methodology |
| Course Code | HNTM34 |
| Class | I year (2016-2017) |
| Semester | Odd |
| Staff Name | Mrs.A.BATHSHEBA PARIMALA |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |
| Total 75 Hrs/Sem | |
| Internal Test-3 Hrs | |
| | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 65Hrs (5 units; 5×13=65; 13Hrs /unit)

Course Objectives

- > ToUnderstand about Meaning of Research
- > ToUnderstand about Objectives of Research
- > To Understand about Types of Research
- > To Understand about Motivation in Research
- > To Understand about Research Approaches
- > To Understand about Research Methods Verses Methodology

Syllabus

Research Methodology

Unit-I Research Methodology: An Introduction - Meaning of Research - Objectives of Research - Types of Research, Motivation in Research - Research Approaches, Significance of Research - Research Methods Verses Methodology - Research and Scientific Method - Research Process - Criteria of Good Research - Problems Encountered by Researchers in India. Defining the Research Problem: What is a Research Problem? - Selecting the Problem - Technique Involved in Defining a Problem - Research Design: Meaning - Need for research

Design - Features of a Good Design - Important Concept relating to Research Design - Different Research Designs - Basic Principles of Experimental Designs.

Unit-II Sampling Design: Census and sample survey - Implications of a sample design - Steps in sample design - Criteria of selecting a sampling procedure - Characteristics of a good sample design - Different types of sample designs - How to select a random sample? - Random sample from an infinite Universe - Complex random sampling designs - Measurement and scaling Techniques: measurement in research - Measurement scales - Sources of error in measurement - Tests of sound measurements - Technique of developing measurement tools - Scaling, meaning of scaling - Scale classification bases - Important scaling techniques - Scale construction techniques.

Unit-III Methods of Data Collection - Collection of Primary Data - Observation Method - Interview method - Collection of Data through Questionnaires - Collection of Data through Schedules - Some Other Methods of Data Collection - Collection of Secondary Data - Selection of Appropriate Method for Data Collection - Interpretation and Report writing - Meaning of Interpretation, Why Interpretation? - Technique of Interpretation, Precaution in Interpretation - Significance of Report Writing - Different Steps in Writing Report - Layout of the Research Report - Types of Reports - Mechanics of Writing a Research Report - Precautions for Writing Research Reports.

Unit-IV Chi-Square Test for large samples – Definition of Chi-Square – Limitations of Chi-Square test - Chi-Square test as a test of goodness of fit and as a test of independence – Yate's correction and its applications – Analysis of variance(ANOVA) : Concept – One way ANOVA – ANOVA in test in Latin Square Design

Unit - V Algorithmic Research – Introduction - Algorithmic Research Problems - Types of Solution procedure/Algorithm - Steps of Development of Algorithm - Steps of algorithmic Research - Design of Experiments and Comparison of Algorithms - Meta Heuristics for Combinatorial Problems - The Computer: Its Role in research - The computer and Computer Technology - The Computer System - Important Characteristics - Computer Applications-Computers and Researchers.

| Hour | Class Schedule | |
|-----------|--------------------------------------------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 18.06.2016 | |
| 1-L1 | Unit-I Research Methodology: An Introduction - Meaning of Research | |
| 2-L2 | Objectives of Research - Types of Research, Motivation in Research | |
| 3-L3 | Algorithmic Research Problems | |
| 4-L4 | Types of Solution procedure/Algorithm | |
| 5-L5 | Steps of Development of Algorithm | |
| 6-L6 | The Computer: Its Role in research | |

| 7-L7 | Research Approaches, Significance of Research | |
|------------------------------------------------|-------------------------------------------------------------------------------|--|
| 8- P1 | BCA &M.Sc(IT)ASSOCIATION | |
| 9- L8 | Features of a Good Design - Important Concept relating to Research Design | |
| 10- L9 | Different Research Designs - Basic Principles of Experimental Designs. | |
| 11-L10 | Unit-II Sampling Design: Census and sample survey - Implications of a | |
| 11-L10 | sample design - Steps in sample design | |
| 12-L11 | Criteria of selecting a sampling procedure - Characteristics of a good sample | |
| 12 211 | design | |
| 13-L12 | Different types of sample designs - How to select a random sample? | |
| 14-L13 | Random sample from an infinite Universe | |
| 15-L14 | Complex random sampling designs | |
| 16-L15 | Measurement and scaling Techniques: measurement in research - | |
| | Measurement scales | |
| 17- L16 | Sources of error in measurement - Tests of sound measurements - | |
| 18- L17 | Technique of developing measurement tools - Scaling, meaning of scaling | |
| 19- L18 | Scale classification bases - Important scaling techniques | |
| 20- L19 | Scale construction techniques. | |
| 21- L20 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(25.07.16) | |
| 22- L21 | Unit-III Methods of Data Collection - Collection of Primary Data | |
| 23- IT-1 | Internal Test-I | |
| 24- L22 | Observation Method - Interview method - | |
| 25- L23 | Collection of Data through Questionnaires | |
| 26- L24 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 27- L25 | Collection of Data through Schedules | |
| 28- L26 | Schedules | |
| 29- L27 | Collection of Secondary Data | |
| 30- P2 | College level meeting/Cell function | |
| 31-L28 | Selection of Appropriate Method for Data Collection | |
| 32-L29 | Interpretation and Report writing | |
| 33-L30 | Meaning of Interpretation, Why Interpretation? | |
| 34- L31 | Technique of Interpretation, | |
| 35- L32 | Precaution in Interpretation | |
| 36- L33 | Significance of Report Writing - | |
| 37- L34 | Different Steps in Writing Report | |
| 38- L35 | Layout of the Research Report | |
| 39- L36 | Types of Reports | |
| 40- L37 | Mechanics of Writing a Research Report | |
| 41- L38 | Precautions for Writing Research Reports. | |
| 42-P3 | Department Seminar | |
| 43- L39 | Unit-IV Chi-Square Test for large samples | |
| 44- L40 | Definition of Chi-Square | |
| 45- L41 | Limitations of Chi-Square test - | |
| 46- L42 | Chi-Square test as a test of goodness of fit and as a test of independence | |
| 47- L43 Allotting portion for Internal Test-II | | |
| 40 T 44 | Internal Test II begins(22.08.16) | |
| 48- L44 | Yate's correction and its applications | |

| 49-IT-II | Internal Test-II | | |
|-----------|---------------------------------------------------------------------|--|--|
| 50-L45 | Analysis of variance(ANOVA): Concept | | |
| 51- L46 | Test Paper distribution and result analysis | | |
| | Entering Internal Test-II Marks into University portal | | |
| 52- L47 | One way ANOVA | | |
| 53- L48 | ANOVA in test in Latin Square Design | | |
| 54- L49 | Unit - V Algorithmic Research – Introduction | | |
| 55- L50 | Algorithmic Research Problems | | |
| 56- L51 | Types of Solution procedure/Algorithm | | |
| 57- L52 | Steps of Development of Algorithm | | |
| 58- L53 | Steps of algorithmic Research - | | |
| 59-P4 | College level meeting/ function | | |
| 60- L54 | Design of Experiments and Comparison of Algorithms - | | |
| 61- L55 | Meta Heuristics for Combinatorial Problems | | |
| 62- L56 | The Computer: Its Role in research | | |
| 63- L57 | The computer and Computer Technology | | |
| 64- L58 | Allotting portion for Internal Test-III | | |
| | Internal Test III begins(03.10.16) | | |
| 65- L59 | The Computer System | | |
| 66- L60 | Important Characteristics | | |
| 67-IT-III | Internal Test-III | | |
| 68- L61 | Computer Applications | | |
| 69- L62 | Computers and Researchers. | | |
| 70- L63 | Test Paper distribution and result analysis | | |
| | Entering Internal Test-III Marks into University portal | | |
| 71-MT | Model Test begins(17.10.2016) | | |
| 72-MT | Model Test | | |
| 73-MT | Model Test | | |
| 74-L64 | Model test paper distribution and previous year university question | | |
| | paper discussion | | |
| 75-L65 | Feedback of the Course, analysis and report preparation | | |
| | Last Working day on 30.11.2016 | | |

| Learning Outcomes | Research Methodology |
|--------------------------|------------------------------------------------------------|
| | |
| CO1 | An Introduction - Meaning of Research |
| CO2 | Objectives of Research - Types of Research, Motivation in |
| | Research |
| CO3 | Algorithmic Research Problems |
| CO4 | Types of Solution procedure/Algorithm |
| CO5 | Steps of Development of Algorithm |
| CO6 | Different types of sample designs - How to select a random |
| | sample? |
| CO7 | Random sample from an infinite Universe |
| CO8 | Complex random sampling designs |
| CO9 | Technique of Interpretation |

| Experimental | |
|----------------------------|-----------------------------------------|
| Learning | |
| EL1 | Algorithmic Research Problems |
| EL2 | Layout of the Research Report |
| EL3 | Complex random sampling designs |
| EL4 | Random sample from an infinite Universe |
| Integrated Activity | |
| IA1 | Collection of Secondary Data |
| IA2 | ANOVA in test in Latin Square Design |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|--------------------|-----------------------|
| Course Name | Mobile Communication |
| Course Code | KLTN31 |
| Class | II year (2016-2017) |
| Semester | Odd |
| Staff Name | Mr. L . Abraham David |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |

Total 60Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To understand about Wireless transmission
- > To understand about Frequencies for radio transmission
- > To understand about Signal Propagation
- > To understand about Multiplexing

Syllabus

Unit-I

Introduction:

Wireless transmission, Frequencies for radio transmission, Signals, Antennas, Signal Propagation, Multiplexing, Modulations, Spread spectrum, MAC, SDMA, FDMA, TDMA, CDMA, Cellular Wireless Network. (12L)

Unit-II

Telecommunication systems:

GSM, GPRS, DECT, UMTS, IMT-2000, Satellite Networks, Basics, Parameters and Configurations, Capacity Allocation, FAMA and DAMA, Broadcast Systems, DAB, DVB. (12L)

Unit-III

Wireless LAN:

IEEE 802.11, Architecture, Services, MAC, Physical layer, IEEE802.11a-802.11b standards, HIPERLAN, BlueTooth. (12L)

Unit-IV

Mobile Communication Protocols:

Mobile IP, Dynamic Host Configuration Protocol, Routing, DSDV, DSR, Alternative Metrics (12L)

Unit-V

WAP and WML:

Traditional TCP, Classical TCP improvements, WAP, WAP 2.0, WML Basics, WML Cards. (12L)

| Hour allotment | Class Schedule | |
|-------------------|-------------------------------------|--|
| | Odd Semester Begin on 18.06.2016 | |
| 1-L1 | Wireless transmission | |
| 2-L2 | Frequencies for radio transmission, | |
| 3- L3 | Signals | |
| 4-L4 | Antennas, | |
| 5-L5 | , Signal Propagation | |

| 6-L6 | Multiplexing |
|---------|-------------------------------------------------------|
| 7-L7 | Modulations, |
| 8- P1 | BCA &M.Sc(IT)Association |
| 9- L8 | Spread spectrum |
| 10- L9 | MAC, |
| 11-L10 | SDMA |
| 12-L11 | Cellular Wireless Network |
| 13-L12 | GSM, GPRS, DECT |
| 14-L13 | UMTS, ΓMT-2000 |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins(25.07.16) |
| 16-L15 | Satellite Networks, Basics |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Parameters and Configurations |
| 19-L17 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | Capacity Allocation |
| 21- L19 | FAMA |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | Broadcast Systems |
| 24-L21 | DAB |
| 25-L22 | IEEE 802.11, Architecture |
| 26-L23 | Services, MAC |
| 27-L24 | Physical layer |
| 28-L25 | IEEE802.11a-802.11b standards |
| 20 223 | |
| 29-L26 | HIPERLAN |
| | HIPERLAN BlueTooth |

| 32-L29 | DAMA |
|-----------|--------------------------------------------------------|
| | |
| 33-L30 | FDMA |
| 34- P3 | Department Seminar |
| 35-L31 | TDMA |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(22.08.16) |
| 37- L33 | CDMA |
| 38- IT-II | Internal Test-II |
| 39-L34 | Mobile IP |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Routing, |
| 42- L37 | Dynamic Host, |
| 43- L38 | Configuration Protocol |
| 44- P4 | College level meeting/ function |
| 45-L39 | DSDV, DSR, |
| 46-L40 | Alternative Metrics |
| 47-L41 | Traditional TCP |
| 48-L42 | Classical TCP improvements |
| 49-L43 | WAP |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(03.10.16) |
| 51 L45 | WAP 2.0 |
| 52- L46 | WML Basics |
| 53-IT-III | Internal Test-III |
| 54-L47 | WML Cards. |
| 55-L48 | Test Paper distribution and result analysis |
| | |

| | Entering Internal Test-III Marks into University portal |
|---------|--------------------------------------------------------------------------------------|
| 56- MT | Model Test begins(17.10.2016) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 30.11.2016 |

| Learning Outcomes | Mobile Communication |
|--------------------------|-------------------------------------|
| | |
| CO1 | Wireless transmission |
| CO2 | Frequencies for radio transmission, |
| CO3 | Signals |
| CO4 | Antennas, |
| CO5 | Signal Propagation |
| CO6 | Multiplexing |
| CO7 | Modulations, |
| CO8 | MAC |
| CO9 | SDMA |
| Experimental Learning | |
| EL1 | Cellular Wireless Network |
| EL2 | GPRS |
| EL3 | BlueTooth. |

| EL4 | WAP |
|---------------------|------------|
| Integrated Activity | |
| IA1 | BlueTooth. |
| IA2 | GPRS |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

St. John's College, Palayamkottai

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|--------------------|---------------------|
| Course Name | Mobile Computing |
| Course Code | KNTE31 |
| Class | II year (2016-2017) |
| Semester | Odd |
| Staff Name | Mr.K.APPASAMY |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To understand about Wireless transmission
- > To understand about Frequencies for radio transmission
- > To understand about Signal Propagation
- > To understand about Multiplexing

Syllabus

Unit-I

Introduction:

Wireless transmission, Frequencies for radio transmission, Signals, Antennas, Signal Propagation, Multiplexing, Modulations, Spread spectrum, MAC, SDMA, FDMA, TDMA, CDMA, Cellular Wireless Network. (12L)

Unit-II

Telecommunication systems:

GSM, GPRS, DECT, UMTS, IMT-2000, Satellite Networks, Basics, Parameters and Configurations, Capacity Allocation, FAMA and DAMA, Broadcast Systems, DAB, DVB. (12L)

Unit-III

Wireless LAN:

IEEE 802.11, Architecture, Services, MAC, Physical layer, IEEE802.11a-802.11b standards, HIPERLAN, BlueTooth. (12L)

Unit-IV

Mobile Communication Protocols:

Mobile IP, Dynamic Host Configuration Protocol, Routing, DSDV, DSR, Alternative Metrics (12L)

Unit-V

WAP and WML:

Traditional TCP, Classical TCP improvements, WAP, WAP 2.0, WML Basics, WML Cards. (12L)

| Hour | Class Schedule | |
|-----------|-------------------------------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 16.06.2016 | |
| 1-L1 | Wireless transmission | |
| 2-L2 | Frequencies for radio transmission, | |
| 3- L3 | Signals | |
| 4-L4 | Antennas, | |
| 5-L5 | Signal Propagation | |
| 6-L6 | Multiplexing | |
| 7-L7 | Modulations, | |
| 8- P1 | BCA&M.Sc(IT)Association | |
| 9- L8 | Spread spectrum | |
| 10- L9 | MAC, | |
| 11-L10 | SDMA | |
| 12-L11 | Cellular Wireless Network | |
| 13-L12 | GSM, GPRS, DECT | |
| 14-L13 | UMTS, ΓMT-2000 | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(25.07.16) | |
| 16-L15 | Satellite Networks, Basics | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Parameters and Configurations | |
| 19-L17 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Capacity Allocation | |
| 21- L19 | FAMA | |
| 22- P2 | College level meeting/Cell function | |
| 23-L20 | Broadcast Systems | |
| 24-L21 | DAB, | |

| 25 1 22 | IEEE 902 11 Anabito stum | |
|-----------|---------------------------------------------------------------------------|--|
| 25-L22 | IEEE 802.11, Architecture | |
| 26-L23 | Services, MAC | |
| 27-L24 | Physical layer | |
| 28-L25 | IEEE802.11a-802.11b standards | |
| 29-L26 | HIPERLAN | |
| 30-L27 | BlueTooth | |
| 31-L28 | , DVB. | |
| 32-L29 | DAMA | |
| 33-L30 | FDMA | |
| 34- P3 | Department Seminar | |
| 35-L31 | TDMA | |
| 36-L32 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(22.08.16) | |
| 37- L33 | CDMA | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | Mobile IP | |
| 40-L35 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Routing, | |
| 42- L37 | Dynamic Host, | |
| 43- L38 | Configuration Protocol | |
| 44- P4 | College level meeting/ function | |
| 45-L39 | DSDV, DSR, | |
| 46-L40 | Alternative Metrics | |
| 47-L41 | Traditional TCP | |
| 48-L42 | Classical TCP improvements | |
| 49-L43 | WAP | |
| 50-L44 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(03.10.16) | |
| 51 L45 | WAP 2.0 | |
| 52- L46 | WML Basics | |
| 53-IT-III | Internal Test-III | |
| 54-L47 | WML Cards. | |
| 55-L48 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 56- MT | Model Test begins(17.10.2016) | |
| 57-MT | Model Test | |
| 58-MT | Model Test | |
| 59- L49 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 60-L50 | Feedback of the Course, analysis and report preparation | |
| 30 250 | Last Working day on 30.11.2016 | |
| | AMOUNT OF THE GREAT OF THE CONTRACTOR | |

| Learning Outcomes | Mobile Computing |
|--------------------------|-------------------------------------|
| | |
| CO1 | Wireless transmission |
| CO2 | Frequencies for radio transmission, |
| CO3 | Signals |
| CO4 | Antennas, |
| CO5 | Signal Propagation |
| CO6 | Multiplexing |
| CO7 | Modulations, |
| CO8 | MAC |
| CO9 | SDMA |
| Experimental | |
| Learning | |
| EL1 | Frequencies for radio transmission, |
| EL2 | Signals |
| EL3 | Antennas, |
| EL4 | Signal Propagation |
| Integrated Activity | |
| IA1 | Routing, |
| IA2 | Dynamic Host, |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

St. John's College, Palayamkottai

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|---------------------|-----------------------------------------|
| Course Name | DataCommunication and computer Networks |
| Course Code | KNTM11 |
| Class | I year (2016-2017) |
| Semester | Odd |
| Staff Name | A.BATHSHEBA PARIMALA |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |
| Total 75 Hrs/Sem | |
| Internal Test 2 Hrs | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 65 Hrs (5 units; 5×13=65; 13Hrs /unit)

Course Objectives

- ➤ Data Communications Networks
- ➤ Data Link Layer : Error Detection and Correction
- ➤ Layers Virtual-Circuit Networks
- ➤ Network Layer : Internet Protocol Internetworking
- > Frame Relay and ATM
- ➤ Process-to-Process Delivery: UDP, TCP

Syllabus

Unit-I

Introduction: Data Communications – Networks – The Internet – Protocols and Standards. Network Models: The OSI Model – Layers in the OSI Model. Physical Layer and Media: Analog and Digital – Periodic Analog Signals – Digital Signals. Digital Transmission: Digital to Digital Conversion – Analog to Digital Conversion. Transmission Media: Guided Media – Unguided Media. Using Telephone and Cable Networks for Data Transmission: Telephone Network – Digital Subscriber Line.

Unit-II

Data Link Layer: Error Detection and Correction: Introduction – Block Coding – Cyclic Codes – Noisy Channels – HDLC. Multiple Access: Random Access. Wired LANs: Ethernet – Standard Ethernet – Fast Ethernet – Gigabit Ethernet.

Unit-III

SONET/SDH: Architecture – Sonet Layers Virtual-Circuit Networks: Frame Relay and ATM – . Network Layer: IPv4 Address – IPv6 Address.

Unit-IV

Network Layer: Internet Protocol – Internetworking – IPv4 – IPv6. Network Layer: Address Mapping, Error Reporting and Multicasting – ICMP – IGMP. Network Layer: Delivery, Forwarding, and Routing – Unicast Routing Protocols – Multicast Routing Protocols.

Unit-V

Process-to-Process Delivery: UDP, TCP – Process-to-Process Delivery – User Datagram Protocol(UDP) – TCP. Congestion Control and Quality of Service – Data Traffic – Congestion – Congestion Control – Quality of Service – Techniques to Improve. Application Layer: Name space – Domain Name System – Distribution of Name Space.

| Hour | Class Schedule |
|-----------|---------------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 16.06.2016 |
| 1-L1 | Introduction : Data Communications |
| 2-L2 | Networks |
| 3- L3 | The Internet |
| 4-L4 | C Network Models |
| 5-L5 | The OSI Model |
| 6-L6 | Layers in the OSI Model |
| 7-L7 | Physical Layer and Media |
| 8- P1 | Welcoming of First year and Inauguration of BCA& MSC Association |
| 9- L8 | Analog and Digital |
| 10- L9 | Periodic Analog Signals |
| 11-L10 | Digital Signals. |
| 12-L11 | Digital Transmission: Digital to Digital Conversion |
| 13-L12 | Transmission Media : Guided Media – Unguided Media |
| 14-L13 | Using Telephone and Cable Networks for Data Transmission: Telephone |
| | Network – Digital Subscriber Line. |
| 15-L14 | Data Link Layer |
| 16-L15 | Error Detection and Correction |

| 17- L16 | Introduction – Block Coding |
|----------|--------------------------------------------------------|
| 18- L17 | Cyclic Codes |
| 19- L18 | Noisy Channels |
| 20- L19 | HDLC. |
| 21- L20 | Allotting portion for Internal Test-I |
| 21- L20 | Internal Test I begins(25.07.16) |
| 22- L21 | Multiple Access: Random Access. |
| 23- IT-1 | Internal Test-I |
| 24- L22 | Wired LANs |
| 25- L23 | Ethernet |
| 26- L24 | Test Paper distribution and result analysis |
| 20 22: | Entering Internal Test-I Marks into University portal |
| 27- L25 | Standard Ethernet |
| 28- L26 | Fast Ethernet |
| 29- L27 | Gigabit Ethernet |
| 30- P2 | College level meeting/Cell function |
| 31-L28 | SONET/SDH |
| 32-L29 | Architecture |
| 33-L30 | Sonet Layers Virtual |
| 34- L31 | Circuit Networks |
| 35- L32 | Frame Relay |
| 36- L33 | ATM |
| 37- L34 | Network Layer |
| 38-L35 | IPv4 Address |
| 39- L36 | IPv6 Address |
| 40- L37 | Process-to-Process Delivery: |
| 41- L38 | UDP, TCP |
| 42-P3 | Department Seminar |
| 43- L39 | User Datagram Protocol(UDP) |
| 44- L40 | Congestion Control and Quality of Service |
| 45- L41 | Techniques to Improve. |
| 46- L42 | Application Layer |
| 47- L43 | Allotting portion for Internal Test-II |
| | Internal Test II begins(22.08.16) |
| 48- L44 | Name space |
| 49-IT-II | Internal Test-II |
| 50-L45 | Domain Name System |
| 51- L46 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 52- L47 | Distribution of Name Space. |
| 53- L48 | Network Layer |
| 54- L49 | Internet Protocol |
| 55- L50 | Internetworking |
| 56- L51 | IPv4 – IPv6 |
| 57- L52 | Network Layer |
| 58- L53 | Address Mapping |
| 59-P4 | College level meeting/ function |
| 60- L54 | Error Reporting and Multicasting |

| 61- L55 | ICMP |
|-----------|---------------------------------------------------------------------------|
| 62- L56 | IGMP |
| 63- L57 | Forwarding, and Routing |
| 64- L58 | Allotting portion for Internal Test-III |
| | Internal Test III begins(03.10.16) |
| 65- L59 | Techniques to Improve. |
| 66- L60 | Application Layer |
| 67-IT-III | Internal Test-III |
| 68- L61 | TCP. Congestion Control and Quality of Service |
| 69- L62 | Data Traffic |
| 70- L63 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 71-MT | Model Test begins(17.10.2016) |
| 72-MT | Model Test |
| 73-MT | Model Test |
| 74-L64 | Model test paper distribution and previous year university question paper |
| | discussion |
| 75-L65 | Feedback of the Course, analysis and report preparation |
| | Last Working day Of 30.11.2016 |

| Learning Outcomes | DataCommunication and computer Networks |
|----------------------------|---------------------------------------------------------|
| 601 | TI OCIM 11 |
| CO1 | The OSI Model |
| CO2 | |
| | Block Coding |
| CO3 | Network Layer: IPv4 Address – IPv6 Address. |
| CO4 | IGMP. Network Layer |
| CO5 | Multicast Routing Protocols. |
| CO6 | TCP – Process-to-Process Delivery |
| CO7 | Techniques to Improve. |
| CO8 | Data Traffic |
| CO9 | Congestion |
| Experimental | |
| Learning | |
| EL1 | Mapping, Error Reporting and Multicasting – ICMP – IGMP |
| EL2 | Telephone Network – Digital Subscriber Line. |
| EL3 | Congestion – Congestion Control – Quality of Service |
| EL4 | Multicast Routing Protocols. |
| Integrated Activity | |
| IA1 | Application Layer: Name space – Domain Name System |
| IA2 | Distribution of Name Space. |

Blended Learning : using PPT, video, library resources, ICT techniques, Elearning resources, Google classroom, study tour, etc., # For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

St. John's College, Palayamkottai

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|--------------------|-----------------------------|
| Course Name | OBJECT ORIENTED PROGRAMMING |
| | C++ |
| Course Code | KNTM12 |
| Class | I YEAR (2016-2017) |
| Semester | ODD |
| Staff Name | MrK.APPASAMY |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |
| Total 75 IIma/Com | |

Total 75 Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 65 Hrs (5 units; 5×13=65; 13Hrs /unit)

Course Objectives

- ➤ To understand how C++ improves C with object-oriented features.
- > To learn how to write inline functions for efficiency and performance.
- ➤ To learn how to design C++ classes for code reuse

Syllabus

Unit-I Principles of Object Oriented Programming : Basic Concepts of Object Oriented Programming-Benefits of OOP —Applications of OOP — Tokens, Expressions and Control Structures : Tokens-Keywords- Identifiers and constants-Basic data types- User Defined Data Types — Derived Data types — Symbolic Constants —Type Compatibility — Declaration of Variables —Operators in C++ - Expressions and their types — Control Structures. **(12L)**

Unit- II Classes and Objects Specifying a class –Defining Member functions – Memory allocation for objects – Static Member functions –Arrays of Objects –Objects as Function Arguments – Friendly functions –Returning Objects – Pointers to Members . Constructors and Destructors – Parameterized Constructors –Multiple Constructors – Constructors with Default Arguments – Copy Constructor – Destructors. **(12L)**

Unit-III

Operator Overloading and Type conversions: Defining Operator Overloading – Overloading Unary Operators –Overloading binary Operators – Overloading binary operators using friends – Manipulation of Strings using operators – Rules for overloading operators – Type Conversions. Inheritance: Defining derived classes – single inheritance – Multilevel Inheritance – Multiple Inheritance – Hierarchical Inheritance – Virtual base classes – Abstract Classes –Constructors in Derived classes – Nesting of classes. (10L)

Unit- IV Pointers, Virtual Functions and Polymorphism - Pointers - Pointers to Objects - this Pointer - Pointers to Derived Classes - Virtual functions - Pure virtual functions Managing Console I/O Operations : C++ streams - C++ Stream Classes - Unformatted I/O Operations - Formatted Console I/O Operations - Managing Output with Manipulators . **(13L)**

Unit-V Working with Files – Opening and closing a File – Updating a file – Command-line arguments – Templates – Class templates – Class templates with Multiple Parameters – Function Templates - Function Templates with multiple parameters- Overloading of Template functions – Member function Template-Exception handling Mechanisms. **(13L)**

| Hour | Class Schedule |
|-----------|------------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 18.06.2016 |
| 1-L1 | Principles of Object Oriented Programming: |
| 2-L2 | Basic Concepts of Object Oriented Programming-Benefits of OOP |
| 3- L3 | Applications of OOP – Tokens, Expressions and Control Structures |
| 4-L4 | Tokens-Keywords- Identifiers and constants |
| 5-L5 | Basic data types- User Defined Data Types |
| 6-L6 | Derived Data types – Symbolic Constants – Type Compatibility – |
| 7-L7 | Declaration of Variables –Operators in C++ |
| 8- P1 | BCA &M.Sc(IT)Association |
| 9- L8 | Expressions and their types |
| 10- L9 | Control Structures. |
| 11-L10 | Classes and Objects Specifying a class |

| 12-L11 Defining Member functions | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------------------------------------------------------------|
| 14-L13 Arrays of Objects -Objects as Function Arguments 15-L14 Friendly functions -Returning Objects 16-L15 Pointers to Members - Constructors and Destructors 17-L16 Parameterized Constructors -Multiple Constructors 18-L17 Constructors with Default Arguments - 19-L18 Copy Constructor - Destructors. 20-L19 Operator Overloading and Type conversions 20-L19 Operator Overloading and Type conversions 21-L20 Allotting portion for Internal Test-I Internal Test I begins(25.07.16) 22-L21 Defining Operator Overloading - Overloading Unary Operators - 23- IT-1 Internal Test-I 24-L22 Overloading binary Operators 25-L23 Overloading binary Operators 26-L24 Test Paper distribution and result analysis Entering Internal Test-I Marks into University portal 27-L25 Manipulation of Strings using operators 28-L26 Rules for overloading operators 29-L27 Type Conversions, Inheritance 29-L27 Type Conversions, Inheritance 30-P2 College level meeting/Cell function 31-L28 Defining derived classes 32-L29 single inheritance - Multilevel Inheritance 34-L31 Virtual base classes - 35-L32 Abstract Classes 36-L33 Constructors in Derived classes 37-L34 Nesting of classes. 38-L35 Pointers, Virtual Functions and Polymorphism 39-L36 Pointers - Pointers to Objects 40-L37 this Pointer - Pointers to Objects 40-L37 this Pointer - Pointers to Objects 41-L38 Virtual functions - Pure virtual functions 42-P3 Department Seminar 43-L39 Managing Console I/O Operations 44-L40 C++ streams 45-L41 Unformatted I/O Operations 47-L43 Allotting portion for Internal Test-II Internal Test II begins(22.08.16) 48-L44 Cornsole I/O Operations 49-IT-II Internal Test-II Marks into University portal 50-L45 Managing Output with Manipulators 51-L46 Updating a file 50-L47 Working with Files 51-L48 Opening and closies a file 51-L47 Opening and closies a file 51-L48 Updating a file | 12-L11 | Defining Member functions |
| 15-L14 Friendly functions –Returning Objects 16-L15 Pointers to Members . Constructors and Destructors — 17- L16 Parameterized Constructors —Multiple Constructors 18- L17 Constructors with Default Arguments — 19- L18 Copy Constructor — Destructors. 20- L19 Operator Overloading and Type conversions 21- L20 Allotting portion for Internal Test-I Internal Test I begins(25.07.16) 22- L21 Defining Operator Overloading — Overloading Unary Operators — 11- L22 Unary Overloading binary Operators using friends 25- L23 Overloading binary Operators using friends 26- L24 Test Paper distribution and result analysis 27- L25 Manipulation of Strings using operators 28- L26 Rules for overloading operators 29- L27 Type Conversions. Inheritance 30- P2 College level meeting/Cell function 31-L28 Defining derived classes 32-L29 single inheritance — Hierarchical Inheritance 33-L30 Multiple Inheritance — Hierarchical Inheritance 34- L31 Virtual base classes — 35- L32 Abstract Classes 36- L33 Constructors in Derived classes 37- L34 Nesting of classes. 38- L35 Pointers, Virtual Functions and Polymorphism 39- L36 Pointers - Pointers to Objects 40- L37 this Pointer - Pointers to Derived Classes — 41- L38 Virtual functions - Pure virtual functions 42- L39 Managing Console I/O Operations 43- L39 Managing Console I/O Operations 44- L40 C++ Stream 45- L41 Unformatted I/O Operations 47- L43 Mental Test-II Internal Test-II Marks into University portal 48- L44 Formatted Console I/O Operations 49- IT-II Internal Test-II Marks into University portal 50- L44 Working with Files 50- L44 Updating a file | | · · · |
| 16-1.15 | | |
| 17- L16 | 15-L14 | |
| 18- L17 | 16-L15 | |
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| 59-P4 | College level meeting/ function |
| 60- L54 | Function Templates |
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| 64- L58 | Allotting portion for Internal Test-III |
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| Learning Outcomes | OBJECT ORIENTED PROGRAMMING C++ |
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| CO1 | Working with Files |
| CO2 | opening and closing a File |
| CO3 | Updating a file |
| CO4 | Command-line arguments |
| CO5 | Templates |
| CO6 | Class templates |
| CO7 | Class templates with Multiple Parameters |
| CO8 | Function Templates |
| CO9 | templates with Multiple Parameters |
| Experimental | |
| Learning | |
| EL1 | Program for classes and objects |
| EL2 | Overloading |
| EL3 | Decision and looping |
| EL4 | Working with files |
| Integrated Activity | |
| IA1 | Developing inheritance program |
| IA2 | Developing Operator overloading program |

Blended Learning : using PPT, video, library resources, ICT techniques,

E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

St. John's College, Palayamkottai

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|---------------------|---------------------|
| Course Name | UNIX ADMINISTRATION |
| Course Code | HNTE21 |
| Class | I year (2017-2018) |
| Semester | Even |
| Staff Name | Mr.D.EDWARD DANIEL |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| Internal Test-3 Hrs | |
| 34 115 . 311 | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; $5\times10=50$; 10Hrs /unit)

Course Objectives

- > To understand programmable logic device.
- > To understand development environment.
- > To understand advanced communication principles.

Syllabus

Unit-I

Introduction to Unix Administration: Introduction to Unix OS-introduction to operating system – History of operating system – Features of Unix operating system -Unix Architecture -Unix File System -system administration – login -logout – Unix command – date,cal,finger,id,man,who-3 Files and Directories Command -Unix Directories -File Name Expansion-Working with Files- Comparing Files – Printing files- Working with I/O Redirection ,pipes and filters- I/O -redirection, pipes and filters – Standard Input -I/O redirection – Pipes -filters-Unix processes -Switching between process.

Unit-II

Introduction to shell programming: Shell programming-types of shell programming-processing command -by shells-variables -types of variables -command substitution-positional parameters- the export command – advanced shell scripts – the echo command - read command – the expr command – the if -statement -the for statement -the while statement – the until statement – the case statement – the break statement – the continue statement -the

trap statement – booting and shutting -booting -types of booting – boot process -system boot sequence – init process -Daemons- run levels-overview of run levels-run levels functions – run level identification – run control scripts- single /multi-user mode -shutting down -user and group management – managing group -group add command -group mod command - group del command-managing user -user add command -user mod command – user del command.

Unit-III

Device and Disk Management : Device and disk management-Device Geomentry - partitions-Device naming -Adding hard disks -character and block mode devices – introduction to file system- local based file system types – Ofs(HDD)-floppy -CD-ROM -the ext2 file system -Raw & block device – boot block – super block -backup super block - cylinder groups -Inodes - types of file system-Mounting the local based file system-common network file system(NFS)- nsfd - mountd- lockd- statd- rpc.portmapper-starting and stopping the nfs daemonsTo start and stop NFS Daemons Configuring nfs Servers and Clients Mounting the Remote File System - NFS-mounting the File System Mounting the NFS File System Process File System - Process File System - What is /proc File System? - Virtual File System - Virtual File System - Types of Virtual File System- Swap File System What is in this File System?

Unit-IV

Security - Security - Types of Security - File Server Security - System Level Security - Printer Management - Printer Management Configuring Print Services Setting up the Printer - Setting up the Print server- Setting up the Print client- Print service Architecture Print ServiceDirectories - Print Functions Starting and Stopping Daemons - Configuring Printer - Printing a file - To print a file - To view the status of a printer - Canceling the print job - Backup and Recovery-Backups - tar command, cpio command, dd command, mt command, dump/restore command.

Unit-V

Space Management - Space Management - Quota - Quota set up for a user - Turning quotas on - Setting up quotas for single user - Setting quotas for multiple user - To check quota consistency - Checking quotas on a file system - Scheduling of System Events - Scheduling of System Events - Types of Scheduling Events Jobs Scheduling Using Crontab - Jobs Scheduling Using At Performance Monitoring Managing System Performance - Process Management Process States - Process Management Commands - ps command - Listing Processes Network Management - Network Types of network - Classification of network LAN Fundamentals - Characteristic of LAN - Features of LAN - LANs and OSI Reference Model - OSI Reference Model - LAN Reference Models / Protocols in TCP/IP Protocol Suite Testing the TCP/IP using IPCONFIG and PING - IP address

| Hour allotment | Class Schedule |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| anothent | Even Semester Begin on 07.12.2017 |
| 1-L1 | Introduction to Unix OS-introduction to operating system – History of operating |
| | system |
| 2-L2 | Features of Unix operating system -Unix Architecture -Unix File System - |
| | system administration |
| 3- L3 | login -logout - Unix command - date,cal,finger,id,man,who-3 Files and |
| | Directories Command |
| 4-L4 | Unix Directories -File Name Expansion-Working with Files |
| 5-L5 | Comparing Files – Printing files |
| 6-L6 | Working with I/O Redirection ,pipes and filters |
| 7-L7 | I/O -redirection, pipes and filters – Standard Input |
| 8- P1 | BCA & M.Sc(IT)Association |
| 9- L8 | I/O redirection – Pipes |
| 10- L9 | filters-Unix processes -Switching between process |
| 11-L10 | Introduction to shell programming: Shell programming-types of shell |
| | programming- |
| 12-L11 | processing command -by shells-variables -types of variables |
| 13-L12 | command substitution-positional parameters- the export command – advanced |
| 14 1 10 | shell scripts |
| 14-L13 | advanced shell scripts – the echo command -read command – the expr command |
| 15-L14 | Allotting portion for Internal Test-I |
| 16-L15 | Internal Test I begins(24.01.17) the if -statement -the for statement -the while statement - the until statement - |
| 10-L13 | the case statement |
| 17-IT-1 | Internal Test-I |
| 18-L16 | the break statement – the continue statement -the trap statement – booting and |
| 10 LIO | shutting -booting -types of booting |
| 19-L17 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | boot process -system boot sequence – init process -Daemons- run levels |
| 21- L19 | overview of run levels-run levels functions – run level identification – run |
| | control scripts |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | single /multi-user mode -shutting down -user and group management - |
| | managing group -group add command |
| 24-L21 | group mod command -group del command-managing user -user add command |
| 25-L22 | user mod command – user del command. |
| 26-L23 | Device and Disk Management: Device and disk management-Device |
| | Geomentry -partitions-Device naming -Adding hard disks -character and block |
| | mode devices – introduction to file system- |
| 27-L24 | local based file system types- Ofs(HDD)-floppy -CD-ROM -the ext2 file system |
| 20.125 | -Raw & block device – boot block – super block |
| 28-L25 | backup super block -cylinder groups -Inodes - types of file system |
| 29-L26 | Mounting the local based file system-common network file system(NFS)- nsfd - |
| 20 1 27 | mountd- lockd- statd- rpc.portmapper |
| 30-L27 | starting and stopping the nfs daemonsTo start and stop NFS Daemons Configuring nfs Servers and Clients Mounting the Permete File System |
| | Configuring nfs Servers and Clients Mounting the Remote File System |

| 31-L28 | MEC mounting the Eile System Mounting the MEC Eile System Droppes Eile |
|-----------|-------------------------------------------------------------------------------------------------------|
| 31-L26 | NFS-mounting the File System Mounting the NFS File System Process File System - Process File System |
| 32-L29 | |
| 32-L29 | What is /proc File System? - Virtual File System - Virtual File System - Types of Virtual File System |
| 33-L30 | · |
| | Swap File System What is in this File System? |
| 34- P3 | Department Seminar |
| 35-L31 | Security - Security - Types of Security - File Server Security - System Level |
| 26 1 22 | Security |
| 36-L32 | Allotting portion for Internal Test-II |
| 27 1 22 | Internal Test II begins(24.02.17) |
| 37- L33 | Printer Management - Printer Management Configuring Print Services Setting |
| 20 15 11 | up the Printer |
| 38- IT-II | Internal Test-II |
| 39-L34 | Setting up the Print server- Setting up the Print client- Print service Architecture |
| | Print ServiceDirectories |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Print Functions Starting and Stopping Daemons - Configuring Printer - Printing |
| | a file - To print a file |
| 42- L37 | To view the status of a printer - Canceling the print job - Backup and Recovery- |
| | Backups |
| 43- L38 | tar command, cpio command, dd command, mt command, dump/restore |
| | command. |
| 44- P4 | College level meeting/ function |
| 45-L39 | Space Management - Space Management - Quota - Quota set up for a user - |
| | Turning quotas on |
| 46-L40 | Setting up quotas for single user - Setting quotas for multiple user - To check |
| | quota consistency - Checking quotas on a file system |
| 47-L41 | Scheduling of System Events - Scheduling of System Events - Types of |
| 10.7.10 | Scheduling Events Jobs Scheduling Using Crontab |
| 48-L42 | Jobs Scheduling Using At Performance Monitoring Managing System |
| 10.7.10 | Performance |
| 49-L43 | Process Management Process States - Process Management Commands - ps |
| | command - Listing Processes Network Management - Network Types of |
| | network |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(26.03.17) |
| 51 L45 | Classification of network LAN Fundamentals - Characteristic of LAN - Features |
| | of LAN |
| 52- L46 | LANs and OSI Reference Model - OSI Reference Model |
| 53-IT-III | Internal Test-III |
| 54-L47 | LAN Reference Models /Protocols in TCP/IP Protocol Suite Testing the TCP/IP |
| | using IPCONFIG and PING - IP address |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(05.04.2017 |
| |) |
| 57-MT | Model Test |
| 58-MT | Model Test |

| 59- L49 | Model test paper distribution and previous year university question paper discussion |
|---------|--------------------------------------------------------------------------------------|
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23.04.2018 |

| Learning Outcomes | UNIX ADMINISTRATION |
|----------------------------|--------------------------------------------------------------|
| 901 | |
| CO1 | general purpose registers |
| CO2 | stack-interrupt vectors AT 8535Processor |
| CO3 | Serial PortsMemory map-Addressing modes |
| CO4 | Operational features and programming aspects |
| CO5 | Control blockchoosing the prescalar |
| C06 | ATmega Analog to digital converters |
| CO7 | Serial I/O |
| CO8 | Implementation, Dataflow model- Real time systems |
| CO9 | State machine model- process model Concurrent processes |
| Experimental | |
| Learning | |
| EL1 | LAN Reference Models /Protocols in TCP/IP Protocol Suite |
| | Testing the TCP/IP using IPCONFIG and PING - IP address |
| EL2 | Print Functions Starting and Stopping Daemons - Configuring |
| | Printer - Printing a file - To print a file |
| EL3 | Printer Management - Printer Management Configuring Print |
| | Services Setting up the Printer |
| EL4 | booting and shutting -booting -types of booting |
| Integrated Activity | |
| IA1 | Printer Management Configuring Print Services Setting up the |
| | Printer |
| IA2 | Print Functions Starting and Stopping Daemons |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

St. John's College, Palayamkottai

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|----------------------|---------------------------|
| Course Name | ADVANCED JAVA PROGRAMMING |
| Course Code | KNTM21 |
| Class | I year (2016-2017) |
| Semester | EVEN |
| Staff Name | Mr.I.THOMAS JEBASINGH |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |
| Total 75 Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |
| Dept. Meetings-2 Hrs | |

Course Objectives

College Meetings-2 Hrs

> To understand about introducing java

Remaining 65 Hrs (5 units; 5×13=65; 13Hrs /unit)

- > To understand about the evolution of java
- ➤ To understand about The logical evolution of C to C++
- > To understand aboutFundamentals of Java language
- > To understand aboutUsing data types
- > To understand aboutExpressions

Syllabus

Unit-I

Introducing Java-The Evolution of Java-The logical evolution of C to C++ and Java-Object oriented programming concepts and java programming with java. Getting started with Java Developer's kit(JDK)- The Java developer's environment. The Java browser and the world wide web –Navigating the world wide web –using URL"s- web surfing with Java enchanced browsers –Web-Hot spots for Java developers-Java tools-Java language. (12L)

Unit-II

Fundamentals of Java language-Token-Using data types-Expressions-Declarations-control flowBuilding objects-An introduction to classes- working with objects-packages-InheritanceInterfaces-threads-exceptions-streams. (10L)

Unit-III

Java API packages, The structure of API Packages. Using the Java API, API web reference Structure. The Java Applet class, Java language- packages and its classes. The AWT class library-Introduction to the AWT-Using the frame class to implement application windows-Implementing dialog boxes with dialog class –organizing the components using the panel and layout classes-using common GUI controls-using Fonts - image related classes-using scroll bars. The java I/O and utility class libraries. The Net and debug class libraries (13L)

Unit-IV

Defining the applet structure- building the applet- The Java extensions to HTML – Adding animation to web documents. The reducing animation flickers- Publishing a Java-presentation on the web. Applets reuse-adding functionality to existing applets –when to reuse –when to rewrite-extending an applet-Testing the extended applet.

JDBC: Java Database Connectivity, Types of JDBC drivers, Writing JDBC applications, Types of Statement objects, Types of resultset, Inserting an updating records, using transactions. (13L)

Unit-V:

Java Servlets: Java Servlets and CGI Programming –A Simple Java Servlet –Anatomy of a Java Servlet Reading Data from a Client –Sending Data to a Client – Working with Cookies Java Server Pages: JSP-JSP tags-Tomcat-Request String –User sessions-Cookies-Session Object. (12L)

| Hour allotment | Class Schedule |
|-------------------|----------------------------------------------------------------------------------------|
| | Odd Semester Begin on 01.12.2016 |
| 1-L1 | The Evolution of Java |
| 2-L2 | The logical evolution of C to C++ and Java |
| 3- L3 | Object oriented programming concepts and java programming with java |
| 4-L4 | Getting started with Java Developer's kit(JDK) |
| 5-L5 | The Java developer's environment |
| 6-L6 | The Java browser and the world wide web |
| 7-L7 | Navigating the world wide web |
| 8- P1 | Welcoming of First year and Inauguration of M.Sc(NT & IT) Association |
| 9- L8 | Using URL"s- web surfing with Java enchanced browsers |
| 10- L9 | Web |
| 11-L10 | Hot spots for Java developers |
| 12-L11 | Java tools |
| 13-L12 | Java language |
| 14-L13 | Fundamentals of Java language |
| 15-L14 | Token-Using data types |
| 16-L15 | Expressions |
| 17- L16 | Declarations |
| 18- L17 | Control flow Building objects |
| 19- L18 | An introduction to classes |
| 20- L19 | working with objects |
| 21- L20 | Allotting portion for Internal Test-I Internal Test I begins(24.01.17) |
| 22- L21 | Packages |
| 23- IT-1 | Internal Test-I |
| 24- L22 | Inheritance Interfaces |
| 25- L23 | Threads |
| 26- L24 | Test Paper distribution and result analysis |
| 20 121 | Entering Internal Test-I Marks into University portal |
| 27- L25 | Exceptions |
| 28- L26 | Streams |
| 29- L27 | Java API packages |
| 30- P2 | College level meeting/Cell function |
| 31-L28 | The structure of API Packages |
| 32-L29 | Using the Java API, API web reference Structure |
| 33-L30 | The Java Applet class |
| 34- L31 | Java language |
| 35- L32 | packages and its classes |
| 36- L33 | The AWT class library |
| 37- L34 | Introduction to the AWT |
| 38-L35 | Using the frame class to implement application windows |
| 39- L36 | Implementing dialog boxes with dialog class |
| 40- L37 | Organizing the components using the panel and layout classes-using common GUI controls |
| 41- L38 | image related classes |

| 42-P3 | Department Seminar | |
|-----------|---------------------------------------------------------------------------|--|
| 43- L39 | using scroll bars | |
| 44- L40 | The java I/O and utility class libraries | |
| 45- L41 | The Net and debug class libraries | |
| 46- L42 | using Fonts | |
| 47- L43 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(24.02.17) | |
| 48- L44 | Java Database Connectivity. | |
| 49-IT-II | Internal Test-II | |
| 50-L45 | Types of JDBC drivers | |
| 51- L46 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 52- L47 | Writing JDBC applications | |
| 53- L48 | Types of Statement objects | |
| 54- L49 | Types of result set | |
| 55- L50 | Inserting an updating records | |
| 56- L51 | using transactions | |
| 57- L52 | Java Servlets and CGI Programming | |
| 58- L53 | A Simple Java Servlet | |
| 59-P4 | College level meeting/ function | |
| 60- L54 | Anatomy of a Java Servlet Reading Data from a Client | |
| 61- L55 | Sending Data to a Client | |
| 62- L56 | Working with Cookies Java Server Pages | |
| 63- L57 | JSP- JSP tags | |
| 64- L58 | Allotting portion for Internal Test-III | |
| | Internal Test III begins (26.03.17) | |
| 65- L59 | JSG | |
| 66- L60 | Tomcat- Request String | |
| 67-IT-III | Internal Test-III | |
| 68- L61 | Cookies-Session Object | |
| 69- L62 | User sessions | |
| 70- L63 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 71-MT | Model Test begins(05.04.2017) | |
| 72-MT | Model Test | |
| 73-MT | Model Test | |
| 74-L64 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 75-L65 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 21.04.2017 | |

| Learning Outcomes | ADVANCED JAVA PROGRAMMING |
|-------------------|----------------------------|
| CO1 | Writing JDBC applications |
| CO2 | Types of Statement objects |
| CO3 | Types of result set |

| CO4 | Inserting an updating records |
|----------------------------|-----------------------------------|
| CO5 | using transactions |
| CO6 | Java Servlets and CGI Programming |
| CO7 | A Simple Java Servlet |
| CO8 | Java Servlets and CGI Programming |
| CO9 | A Simple Java Servlet |
| Experimental | |
| Learning | |
| EL1 | Package |
| EL2 | interface |
| EL3 | Applet |
| Integrated Activity | |
| IA1 | JDBC |
| IA2 | Session |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

St. John's College, Palayamkottai

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|--------------------|---------------------|
| Course Name | Web Designing |
| Course Code | KNTM31 |
| Class | II year (2016-2017) |
| Semester | Odd |
| Staff Name | I.Thomas Jebasingh |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- ➤ HTML basics- Putting your Server to work-Server side programming- XML Basics
- ➤ The Building blocks of PHP- Flow Control Functions in PHP- Working with Functions- Working with Arrays- Working with Objects- Working with Strings, Dates and Time
- Managing a Simple Mailing List- Creating an Online Address Book- Creating a Simple Discussion Forum- Creating an Online Storefront and shopping Cart Mechanism
- Understanding the Database Design- Process Learning Basic SQL Commands Using Transactions and Stored Procedures in MySQL

Syllabus

Unit-1

Web programming Basics and Installations:

Web Publishing: A Quick look-HTML 4.0: the web Publishing Foundation- HTML basics- Putting your Server to work-Server side programming- XML Basics. (12L)

Unit-II

Installation and Configuration:

Getting up and running: Installation Quick Start Guide- Installing and configuring MySql-Installing and configuring Apache-Installing and configuring PHP. (10L)

Unit-III

PHP Language Structure:

The Building blocks of PHP- Flow Control Functions in PHP- Working with Functions- Working with Arrays- Working with Objects- Working with Strings, Dates and Time- Working with Forms-Working with Cookies and User Sessions- Working with Files and Directories Working with Images (14L)

Unit-IV

PHP and MySQL Integration:

Understanding the Database Design- Process Learning Basic SQL Commands Using Transactions and Stored Procedures in MySQL- Interacting with MySQL Using PHP. (12L)

Unit-V

Basic Projects:

Managing a Simple Mailing List- Creating an Online Address Book- Creating a Simple Discussion Forum- Creating an Online Storefront and shopping Cart Mechanism- Creating a Simple Calendar- Restricting Access to Your Applications- Logging and Monitoring Web Page 4 of 18 MSU / 2017-18 / PG —Colleges / M.Sc.(Networking and Information Technology) / Semester — III / Ppr.no.15 / Core-14

Server Activity- Application Localization- Working with XML- Connecting to Web Services Apache Performance Tuning and Virtual Hosting- Setting Up a Secure Web Server- Optimizing and Tuning MySQL. (12L)

| Hour allotment | Class Schedule | |
|----------------|----------------------------------------------------------------------|--|
| | Odd Semester Begin on 16.06.2016 | |
| 1-L1 | Web programming Basics and Installations: | |
| 2-L2 | Web Publishing | |
| 3- L3 | A Quick look | |
| 4-L4 | HTML 4.0 | |
| 5-L5 | web Publishing Foundation | |
| 6-L6 | HTML basics | |
| 7-L7 | Putting your Server to work | |
| 8- P1 | Welcoming of First year and Inauguration of M.Sc(NT & IT)Association | |
| 9- L8 | Server side programming | |
| 10- L9 | XML Basics. | |
| 11-L10 | Working with xml | |
| 12-L11 | Xml program installation | |
| 13-L12 | Installation and Configuration: | |
| 14-L13 | Getting up and running | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(25.07.16) | |
| 16-L15 | Installation Quick Start Guide | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Installing and configuring MySql | |
| 19-L17 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Installing and configuring MySql | |
| 21- L19 | Installing and configuring PHP | |
| 22- P2 | College level meeting/Cell function | |
| 23-L20 | Quick Start | |
| 24-L21 | Appache configuration | |
| 25-L22 | Configuration of php | |
| 26-L23 | PHP Language Structure: | |
| 27-L24 | The Building blocks of PHP | |
| 28-L25 | Control Functions in PHP | |
| 29-L26 | Working with Functions | |
| 30-L27 | Working with Arrays | |
| 31-L28 | Working with Objects | |
| 32-L29 | Working with Strings | |
| 33-L30 | Dates and Time | |
| 34- P3 | Department Seminar | |
| 35-L31 | Working with Forms | |
| 36-L32 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(22.08.16) | |
| 37- L33 | Working with Cookies | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | User Sessions | |

| 40-L35 | Test Paper distribution and result analysis |
|-----------|----------------------------------------------------------------------------------|
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Working with Files and Directories |
| 42- L37 | Working with Images |
| 43- L38 | Flow Control functions |
| 44- P4 | College level meeting/ function |
| 45-L39 | PHP and MySQL Integration: |
| 46-L40 | Understanding the Database Design |
| 47-L41 | Learning Basic SQL Commands |
| 48-L42 | Using Transactions and Stored Procedures in MySQL |
| 49-L43 | Interacting with MySQL Using PHP. |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(03.10.16) |
| 51 L45 | Basic Projects: |
| | Managing a Simple Mailing List- Creating an Online Address Book- Creating a |
| | Simple Discussion Forum- Creating an Online Storefront and shopping Cart |
| | Mechanism |
| 52- L46 | Creating a Simple Calendar- Restricting Access to Your Applications- Logging and |
| | Monitoring Server Activity- Application Localization |
| 53-IT-III | Internal Test-III |
| 54-L47 | Working with XML- Connecting to Web Services Apache Performance Tuning and |
| | Virtual Hosting- Setting Up a Secure Web Server- Optimizing and Tuning MySQL |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(17.10.2016) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 30.11.2016 |

| Learning Outcomes | Web Designing |
|--------------------------|----------------------------------|
| | |
| CO1 | HTML 4.0 |
| CO2 | web Publishing Foundation |
| CO3 | Server side programming |
| CO4 | XML Basics |
| CO5 | Xml program installation |
| CO6 | Installation Quick Start Guide |
| CO7 | Installing and configuring MySql |
| CO8 | Installing and configuring PHP |
| CO9 | Working with Strings |
| Experimental | |
| Learning | |

| EL1 | Working with Cookies |
|---------------------|------------------------------------|
| EL2 | Working with Files and Directories |
| EL3 | Working with Images |
| EL4 | Flow Control functions |
| Integrated Activity | |
| IA1 | Interacting with MySQL Using PHP |
| IA2 | Application Localization |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

St. John's College, Palayamkottai

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc(NT&IT) |
|---------------------|----------------------|
| Course Name | Software Engineering |
| Course Code | PNTE11 |
| Class | I Msc (2017-2018) |
| Semester | odd |
| Staff Name | MR.B.EDWARD DANIEL |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | <u>.</u> |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |

Dept. Meetings-2 Hrs
College Meetings-2 Hrs
Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- To study the need and nature of mobile applications.
- To learn the tools and platforms required for mobile applications.
- To understand the design issues in mobile applications.

Syllabus

UNIT I SOFTWARE AND SOFTWARE ENGINEERING The Nature of Software – The Nature of Software? The Nature of Software – Stack holders in Software engineering – Stack holders in Software engineering – Activities common to Software projects – Difficult and risk in software engineering as a whole. Review of Object Orientation: What is object orientation/ - Classes and objects – Instance variables – Methods, Operations and Polymorphism – Concepts best define object orientation – Difficulties and risks in programming language choice and object – oriented programming. **(12 L)**

UNIT II DEVELOPING REQUIREMENTS Domain analysis – The starting point for software projects – Defining the problem and the scope – What is a requirement? – Types of requirements – Some techniques for gathering and analyzing requirements – Managing changing requirements – Difficulties and risks in domain and requirements analysis. **(12 L)**

UNIT III MODELING WITH CLASSES What is UML? – Essentials of UML class diagrams – Associations and Multiplicity – Generalization – Instance diagrams – More advanced features of class diagrams. Modeling Interactions and Behavior: Interaction diagram – State diagrams – Activity diagrams. **(12 L) UNIT IV ARCHITECTING AND DESIGNING SOFTWARE** The process of design – Principles leading to good design – Techniques for making good design decisions – Software architecture – Architectural patterns – Writing a good designing document. **(12 L)**

UNIT V TESTING AND INSPECTING TO ENSURE HIGH QUALITY Basic definitions – Effective and efficient testing – Defects in ordinary Algorithms – Defects in numerical algorithms – Defects in timing and co-ordination. Managing the Software Process: What is project management? – Software process models – Cost estimation – building software engineering teams – Project scheduling and tracking.

| Hour | Class Schedule |
|-----------|-------------------------------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 16.06.2017 |
| 1-L1 | UNIT I SOFTWARE AND SOFTWARE ENGINEERING: The Nature of Software |
| 2-L2 | Stack holders in Software engineering |
| 3- L3 | Activities common to Software projects |
| 4-L4 | Difficult and risk in software engineering as a whole. Review of Object Orientation |
| 5-L5 | What is object orientation? |
| 6-L6 | Classes and objects |
| 7-L7 | Instance variables. |
| 8- P1 | Methods, Operations and |
| 9- L8 | Concepts best define object orientation. |
| 10- L9 | Difficulties and risks in programming language choice and object |
| 11-L10 | Polymorphism. |
| 12-L11 | oriented programming. |
| 13-L12 | UNIT II DEVELOPING REQUIREMENTS Domain analysis |

| 14-L13 | The starting point for software projects ,Defining the problem and the scope |
|--------------------|------------------------------------------------------------------------------------------------------------|
| 15-L14 | Allotting portion for Internal Test-I |
| 13-614 | Internal Test I begins(31.07.17) |
| 16-L15 | What is a requirement |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Some techniques for gathering |
| 19-L17 | Test Paper distribution and result analysis |
| 19-L17 | Entering Internal Test-I Marks into University portal |
| 20-L18 | Types of requirements |
| 21- L19 | and analyzing requirements |
| 22- P2 | College level meeting/ |
| 23-L20 | Managing changing requirements |
| 24-L21 | Difficulties and risks in domain |
| 25-L22 | Cell function |
| 26-L23 | analysis and requirements |
| 27-L24 | UNIT III MODELING WITH CLASSES What is UML |
| 28-L25 | Essentials of UML class diagrams. |
| 29-L26 | Associations and Multiplicity |
| 30-L27 | Generalization |
| 31-L28 | |
| 32-L29 | Instance diagrams More advanced features of class diagrams. |
| 33-L30 | Modeling Interactions and Behavior |
| 34- P3 | |
| 35-L31 | Interaction diagrams State diagrams Activity diagrams |
| | State diagrams ,Activity diagrams. |
| 36-L32 | Allotting portion for Internal Test-II |
| 37- L33 | Internal Test II begins (30.08.17) UNIT IV ARCHITECTING AND DESIGNING SOFTWARE The process of design: |
| 38- IT-II | Internal Test-II |
| 39-L34 | Principles leading to good design |
| 40-L35 | Test Paper distribution and result analysis |
| 40-L33 | Entering Internal Test-II Marks into University portal |
| 11 126 | Techniques for making good design decisions |
| 41-L36 42- L37 | |
| 42- L37 43- L38 | Software architecture Architectural patterns |
| 43- L36 44- P4 | Architectural patterns. |
| | Writing a good designing document UNIT V TESTING AND INSPECTING TO ENSURE HIGH QUALITY Basic definitions. |
| 45-L39 46-L40 | |
| 40-L40 47-L41 | Effective and efficient testing Defects in ordinary Algorithms |
| 47-L41 48-L42 | , - |
| | Defects in numerical algorithms Managing the Software Process |
| 49-L43 | Managing the Software Process Allotting portion for Internal Test-III |
| 50-L44 | |
| E1 1/E | Internal Test III begins (03.10.17) |
| 51 L45 | Software process models Cost astimation, building software angineering teams |
| 52- L46 | Cost estimation ,building software engineering teams |
| 53-IT-III | Internal Test-III |
| 54-L47 | Project scheduling and tracking. |
| 55-L48 | Test Paper distribution and result analysis |
| FC NAT | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(19.10.2017) |
| 57-MT | Model Test |

| 58-MT | Model Test | |
|---------|--------------------------------------------------------------------------------------|--|
| 59- L49 | Model test paper distribution and previous year university question paper discussion | |
| 60-L50 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 06.11.2017 | |

| Learning Outcomes | Software Engineering |
|-----------------------|---------------------------------------------|
| | |
| CO1 | Defects in ordinary Algorithms |
| CO2 | Software process models |
| CO3 | Techniques for making good design decisions |
| CO4 | Concepts best define object orientation |
| Experimental Learning | |
| EL1 | Instance diagrams |
| EL2 | Classes and objects |
| Integrated Activity | |
| IA1 | Software process models |
| IA2 | Techniques for making good design decisions |

Blended Learning : using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for higher study.

For slow learner : special care taken, motivate the advanced learner to support the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

Staff Signature

Principal

HOD Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|---------------------|--------------------------|
| Course Name | RDBMS |
| Course Code | KNTM22 |
| Class | I year (2017-2018) |
| Semester | EVEN |
| Staff Name | MRS.A.BATHSHEBA PARIMALA |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |
| Total 75 Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 65Hrs (5 units; 5×13=65; 13Hrs /unit)

Course Objectives

- > To understand about Relational Algebra
- > To understand about Combining logic
- > To understand about Third and Fourth normal forms

Syllabus

RDBMS CONCEPTS AND ORACLE

Unit-I Introduction – Purpose of data base systems – Data Models – Data Languages-Transaction management- storage Management-DBA –Database Users – System Structures – E-R Models- Entity and Entity Relationships – Mapping constraints and E-R Diagrams. (10L)

Unit-II Structure of Relational databases—Relational Algebra — Tuple Relational calculus — Domain Relational Calculus- Relational commercial languages (SQL, QBE, QUEL)-Integrity constraints –Normalization – Boyce –Codd – Third and Fourth normal forms – domain – Key normal form. (13L)

Unit-III Basic SQL Operations – creating a table – Insert- Rollback-Commit – AutoCommit-Delete-Update- Select, From, where and Order by -Single value tests – Like – simple tests against a list of values – Combining logic – Combining tables - Dropping a column- creating a table from a table – Date functions – Conversion functions- TranslateDecode-Creating a view – Advanced sub queries-Outer joins-Natural & Inner joins-Union, Intersect & Minus – synonyms- indexes- Tablespaces -Clusters- Sequences. (12L)

Unit-IV Basics of Object – Relational databases: Objects – Abstract Data types – Nested tables - Varying arrays – Large objects –References - Object Views – Naming conventions for objects- Structure of an Object. Users, Roles and Privilege: Creating a user – password management - Three Standard roles – Format for Grant command – Revoking privileges – what users can Grant: Moving to another user- Create synonym – Create a role – Granting privileges to a role – Granting a role to another role – Adding password to a role – Removing a password from a role – Enabling & Disabling roles – Revoking privileges from a role – dropping roles. **(13L)**

Unit-V An Introduction to PL/SQL: Pl/SQL overview- Declarations section - Executable commands section - Exception handling section - Triggers: Syntax - Types of Triggers: Row Level - statement - level - before & after - instead of - Schema - Database - Level triggers - Enabling & Disabling triggers - Replacing & Dropping triggers - Procedures, functions & Packages: syntax - Compile - Replace - Drop procedure, Functions & Packages - Cursor Management. **(12L)**

| Hour | Class Schedule |
|-----------|------------------------------------------------------------------------|
| allotment | |
| | EVEN Semester Begin on 07.12.2017 |
| 1-L1 | Unit-I Introduction – Purpose of data base systems |
| 2-L2 | Data Models , Data Languages |
| 3- L3 | Transaction management, storage Management-DBA |
| 4-L4 | Database Users |
| 5-L5 | System Structures , E-R Models |
| 6-L6 | Entity and Entity Relationships |
| 7-L7 | Mapping constraints and E-R Diagrams |
| 8- P1 | BCA&MSC IT Association |
| 9- L8 | Unit-II Structure of Relational databases |
| 10- L9 | Relational Algebra ,Tuple Relational calculus |
| 11-L10 | Domain Relational Calculus- Relational commercial languages (SQL, QBE, |
| | QUEL) |
| 12-L11 | Integrity constraints |
| 13-L12 | Normalization ,Boyce ,Codd |
| 14-L13 | Third and Fourth normal forms |
| 15-L14 | domain,Key normal form. |
| 16-L15 | Unit-III Basic SQL Operations |
| 17- L16 | creating a table |
| 18- L17 | Insert- Rollback-Commit |
| 19- L18 | AutoCommit-Delete-Update- |
| 20- L19 | Select, From, where and Order by - |
| 21- L20 | Allotting portion for Internal Test-I |

| | Internal Test I begins(22.01.18) | |
|----------|-------------------------------------------------------------------------|--|
| 22- L21 | Single value tests | |
| 23- IT-1 | Internal Test-I | |
| 24- L22 | Like ,simple tests against a list of values | |
| 25- L23 | Combining logic | |
| 26- L24 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 27- L25 | Combining tables | |
| 28- L26 | Dropping tables | |
| 29- L27 | Dropping a column- creating a table from a table | |
| 30- P2 | College level meeting/Cell function | |
| 31-L28 | Date functions | |
| 32-L29 | Conversion functions | |
| 33-L30 | Translate, Decode, Creating a view | |
| 34- L31 | Advanced sub queries | |
| 35- L32 | Outer joins, Natural & Inner joins- | |
| 36- L33 | Union, Intersect & Minus | |
| 37- L34 | Synonyms, indexes | |
| 38- L35 | Tablespaces, Clusters - Sequences. | |
| 39- L36 | Unit-IV Basics of Object, Relational databases: Objects | |
| 40- L37 | Abstract Data types, Nested tables - Varying arrays | |
| 41- L38 | Large objects ,References | |
| 42-P3 | Department Seminar | |
| 43- L39 | Object Views | |
| 44- L40 | Naming conventions for objects | |
| 45- L41 | Structure of an Object. Users, Roles and Privilege: Creating a user | |
| 46- L42 | password management ,Three Standard roles | |
| 47- L43 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(26.02.18) | |
| 48- L44 | Format for Grant command, Revoking privileges | |
| 49-IT-II | Internal Test-II | |
| 50-L45 | what users can Grant: Moving to another user | |
| 51- L46 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 52- L47 | Create synonym ,Create a role | |
| 53- L48 | Granting privileges to a role | |
| 54- L49 | Granting a role to another role | |
| 55- L50 | Adding password to a role, Removing a password from a role, Enabling & | |
| | Disabling roles | |
| 56- L51 | Revoking privileges from a role ,dropping roles | |
| 57- L52 | Unit-V An Introduction to PL/SQL: Pl/SQL overview, Declarations section | |
| 58- L53 | Executable commands section, Exception handling section | |
| 59-P4 | College level meeting/ function | |
| 60- L54 | Triggers: Syntax ,Types of Triggers: Row Level, statement | |
| 61- L55 | level ,before & after ,instead of | |
| 62- L56 | Schema, Database ,Level triggers | |
| 63- L57 | Enabling & Disabling triggers | |
| 64- L58 | Allotting portion for Internal Test-III | |

| | Internal Test III begins(01.04.18) |
|-----------|---------------------------------------------------------------------------|
| 65- L59 | Replacing & Dropping triggers |
| 66- L60 | Procedures, functions & Packages: syntax |
| 67-IT-III | Internal Test-III |
| 68- L61 | Compile ,Replace |
| 69- L62 | Drop procedure, Functions & Packages, Cursor Management. |
| 70- L63 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 71-MT | Model Testbegins(12.04.2018) |
| 72-MT | Model Test |
| 73-MT | Model Test |
| 74-L64 | Model test paper distribution and previous year university question paper |
| | discussion |
| 75-L65 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23.04.2018 |

| Learning Outcomes | RDBMS |
|--------------------------|-----------------------------------------------------------|
| | |
| CO1 | Object Views |
| CO2 | Granting privileges to a role |
| CO3 | Granting a role to another role |
| CO4 | Triggers: Syntax ,Types of Triggers: Row Level, statement |
| CO5 | Replacing & Dropping triggers |
| CO6 | Procedures, functions & Packages: syntax |
| CO7 | Abstract Data types, Nested tables |
| CO8 | Large objects ,References |
| CO9 | Varying arrays |
| Experimental | |
| Learning | |
| EL1 | Data Languages |
| EL2 | Users, Roles and Privilege |
| EL3 | Adding password to a role |
| EL4 | Removing a password from a role |
| Integrated Activity | |
| IA1 | Purpose of data base systems |
| IA2 | Basic SQL Operations |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|---------------------|---------------------|
| Course Name | EMBEDDED SYSTEMS |
| Course Code | KNTM24 |
| Class | I year (2017-2018) |
| Semester | Even |
| Staff Name | Mr.B .EDWARD DANIEL |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To understand programmable logic device.
- > To understand development environment.
- > To understand advanced communication principles.

Syllabus

Unit-I

Embedded systems Overview - Design Challenge - Optimizing Design Metrics, Processor Technology, IC Technology - Introduction- Full Custom (VLSI) IC Technology - Semi Custom (ASIC) IC Technology, Programmable Logic Device (PLD) IC Technology.-Design Technology, Trade – Offs- Custom Single – Purpose Processors: Hardware – Combinational Logic, Sequential Logic, Custom Single - Purpose Processors Design, Optimizing Custom Single - Purpose Processors.

Unit-II

General Purpose Processors: Software – Introduction- Basic Architecture-Operation Programmers View - Development Environment - Application - Specific Instruction - Set Processors, Selecting a Microprocessor, General Purpose Processor Design - Standard Single -Purpose Processors: Peripherals – Introduction - Timers - Counters and watchdog Timers - UART - Pulse width modulators - LCD Controllers - Keypad Controllers.

Unit-III

Memory - Introduction, Memory write ability and storage permanence - Common MemoryTypes - Composing Memory, Memory Hierarchy and cache - Advanced RAM. Interfacing –Introduction Communication Basics - Microprocessor Interfacing: I/O Addressing -Microprocessor Interfacing: Interrupts - Microprocessor Interfacing: Direct Memory Access - Arbitration, Multilevel Bus Architectures - Advanced Communication Principles – serialProtocols - Parallel Protocols-wireless protocols. (10L)

Unit-IV

State Machine and Concurrent Process Models - Introduction, Model vs Languages, Text vsGraphics, An Introductory example- A Basic State Machine Model: Finite – state machinesFinite - state machine with data path Model: FSMD - Using state machines-HCFSM and theState charts Language- Program – state machine model- process model Concurrent processes-Communication among Processes - Synchronization among processes - Implementation, Dataflow model- Real time systems. (13L)

Unit-V

Advanced Embedded Systems: ATmega Processors-Introduction-architecture-instruction setSREG-general purpose registers-stack-interrupt vectors AT 8535 Processor-Serial PortsMemory map-Addressing modes-Operational features and programming aspects-control blockchoosing the prescalar-ATmega Analog to digital converters-Serial I/O-Programmable logic-Introduction to Xmega family-Infrared communication-Data encryption and decryption-DMA.

| Hour | Class Schedule | |
|-----------|--------------------------------------------------------------------------|--|
| allotment | | |
| | Even Semester Begin on 07.12.2017 | |
| 1-L1 | Embedded systems Overview - Design Challenge – Optimizing Design Metrics | |
| 2-L2 | Processor Technology, IC Technology | |
| 3- L3 | Introduction Full Custom (VLSI) IC Technology Semi Custom (ASIC) IC | |
| | Technology | |
| 4-L4 | Programmable Logic Device (PLD) IC Technology | |
| 5-L5 | Design Technology, Trade - Offs- Custom Single | |
| 6-L6 | Purpose Processors: Hardware – Combinational Logic, Sequential Logic, | |
| 7-L7 | Custom Single - Purpose Processors Design | |
| 8- P1 | BCA & M.Sc(IT)Association | |
| 9- L8 | Optimizing Custom Single - Purpose Processors | |
| 10- L9 | General Purpose Processors: Software – Introduction- Basic Architecture | |
| 11-L10 | Operation Programmers View - Development Environment | |

| 12-L11 | Application – Specific Instruction |
|------------------|--------------------------------------------------------------------------------------------------------------------|
| 13-L12 | |
| 13-L12 14-L13 | SetProcessors, Selecting a Microprocessor General Purpose Processor Design - Standard Single -Purpose Processors: |
| 14-L13 | Peripherals – Introduction |
| 15-L14 | Allotting portion for Internal Test-I |
| 13 114 | Internal Test I begins(22.01.18) |
| 16-L15 | Timers - Counters and watchdog Timers –UART |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Pulse width modulators - LCD Controllers - Keypad Controllers |
| 19-L17 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | Memory - Introduction, Memory write ability and storage permanence |
| 21- L19 | Common MemoryTypes - Composing Memory, Memory Hierarchy and cache - |
| | Advanced RAM |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | Interfacing –Introduction Communication Basics |
| 24-L21 | Microprocessor Interfacing: I/O Addressing -Microprocessor Interfacing: |
| | Interrupts |
| 25-L22 | Microprocessor Interfacing: Direct Memory Access -Arbitration, Multilevel Bus |
| | Architectures |
| 26-L23 | Advanced Communication Principles – serialProtocols - Parallel Protocols- |
| | wireless protocols |
| 27-L24 | State Machine and Concurrent Process Models – Introduction |
| 28-L25 | Model vs Languages, Text vsGraphics |
| 29-L26 | An Introductory example- A Basic State Machine Model: Finite – state machines |
| 30-L27 | Finite - state machine with data path Model: FSMD - Using state machines |
| 31-L28 | HCFSM and theState charts Language- Program |
| 32-L29 | State machine model- process model Concurrent processes |
| 33-L30 | Communication among Processes - Synchronization among processes |
| 34- P3 | Department Seminar |
| 35-L31 | Implementation, Dataflow model- Real time systems |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(26.02.18) |
| 37- L33 | Advanced Embedded Systems: ATmega Processors- |
| 38- IT-II | Internal Test-II |
| 39-L34 | Introduction |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | architecture-instruction setSREG- |
| 42- L37 | general purpose registers |
| 43- L38 | stack-interrupt vectors AT 8535Processor |
| 44- P4 | College level meeting/ function |
| 45-L39 | Serial PortsMemory map-Addressing modes |
| 46-L40 | Operational features and programming aspects |
| 47-L41 | Control blockchoosing the prescalar |
| 48-L42 | ATmega Analog to digital converters |
| 49-L43 | Serial I/O |

| 50-L44 | Allotting portion for Internal Test-III |
|-----------|---------------------------------------------------------------------------|
| | Internal Test III begins(01.04.18) |
| 51 L45 | Programmable logic |
| 52- L46 | Introduction to Xmega family- Infrared communication |
| 53-IT-III | Internal Test-III |
| 54-L47 | Data encryption and decryption-DMA |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(12.04.2018) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23.04.2018 |

| Learning Outcomes | EMBEDDED SYSTEMS |
|--------------------------|---------------------------------------------------------|
| | |
| CO1 | general purpose registers |
| CO2 | stack-interrupt vectors AT 8535Processor |
| CO3 | Serial PortsMemory map-Addressing modes |
| CO4 | Operational features and programming aspects |
| CO5 | Control blockchoosing the prescalar |
| CO6 | ATmega Analog to digital converters |
| CO7 | Serial I/O |
| CO8 | Implementation, Dataflow model- Real time systems |
| CO9 | State machine model- process model Concurrent processes |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|----------------------|--------------------------------|
| Course Name | MANAGEMENT INFORMATION SYSTEMS |
| Course Code | PNTE21 |
| Class | I year (2017-2018) |
| Semester | Even |
| Staff Name | Mr.K.APPASAMY |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |
| Dept. Meetings-2 Hrs | |

Course Objectives

College Meetings-2 Hrs

✓ To understand Process of Management

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

- ✓ To understand Electronic Business Technology
- ✓ To understand Enterprise Management System

Syllabus

Unit-I Introduction to Management of Information Systems-Introduction - Role and Importance of Management-Process of Management –Organization structure and theory –Strategic Management of Business.

Unit-II Basics of Management Information Systems-Basics of Management Information Systems-Decision making —Information Systems-Systems analysis and design —development of MIS-Choice of information Technology. Nature of it decision, Information Technology to implementation plan, choice of the information Technology and the Management Information System.

Unit -III Application of Management Information Systems- Application in Manufacturing Sector - Applications in Service Sector – Decision Support Systems – Enterprise Management Systems.

Unit-IV Technology in Management Information Systems – Technology of Implementation Systems – Database Management Systems – Object Oriented Technology : Conceptual presentation. Client- Server architecture – Networks.

Unit -V Business Reprocess Engineering, Data Warehouse: Architecture of Implementation, Electronic Business Technology, WEB: A tool for Business Management. Case study: A Comprehensive case study on MIS, Information Management. System Development Cycle, Enterprise Management System, MIS in Research environment, Role of MIS in Consumer Goods Industry, Role of MIS in Capital Goods Industry, Comparison of Internet and Intranet Applications, knowledge of Management.

| Hour allotment | Class Schedule |
|----------------|-----------------------------------------------------------------------------|
| | Odd Semester Begin on 07.12.2017 |
| 1-L1 | Introduction to Management of Information Systems |
| 2-L2 | Introduction |
| 3- L3 | Role and Importance of Management |
| 4-L4 | Process of Management |
| 5-L5 | Organization structure and theory |
| 6-L6 | Organization structure and theory |
| 7-L7 | Strategic Management of Business. |
| 8- P1 | Welcoming of First year and Inauguration of M.SC[IT]Association |
| 9- L8 | Strategic Management of Business. |
| 10- L9 | Basics of Management Information Systems |
| 11-L10 | Basics of Management Information Systems |
| 12-L11 | Decision making |
| 13-L12 | Decision making |
| 14-L13 | Information Systems-Systems analysis and design |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins(22.01.18) |
| 16-L15 | Information Systems-Systems analysis and design |
| 17-IT-1 | Internal Test-I |
| 18-L16 | development of MIS |
| 19-L17 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | Choice of information Technology. |
| 21- L19 | Nature of it decision, Information Technology to implementation plan |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | choice of the information Technology and the Management Information System. |
| 24-L21 | Application of Management Information Systems |
| 25-L22 | Application of Management Information Systems |
| 26-L23 | Application in Manufacturing Sector |
| 27-L24 | Applications in Service Sector |
| 28-L25 | Decision Support Systems |
| 29-L26 | Decision Support Systems |
| 30-L27 | Enterprise Management Systems |
| 31-L28 | Technology in Management Information Systems |
| 32-L29 | Technology of Implementation Systems |
| 33-L30 | Database Management Systems |
| 34- P3 | Department Seminar |

| 35-L31 | Database Management Systems |
|-----------|--------------------------------------------------------------------------------|
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(26.02.18) |
| 37- L33 | Object Oriented Technology : Conceptual presentation. Client |
| 38- IT-II | Internal Test-II |
| 39-L34 | Server architecture |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Server architecture |
| 42- L37 | Networks. |
| 43- L38 | |
| 44- P4 | College level meeting/ function |
| 45-L39 | Business Reprocess Engineering |
| 46-L40 | Data Warehouse: Architecture of Implementation |
| 47-L41 | Electronic Business Technology |
| 48-L42 | WEB: A tool for Business Management. Case study: A Comprehensive case study |
| | on MIS |
| 49-L43 | Information Management. System Development Cycle |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(01.04.18) |
| 51 L45 | Enterprise Management System- MIS in Research environment |
| 52- L46 | Role of MIS in Consumer Goods Industry - Role of MIS in Capital Goods Industry |
| 53-IT-III | Internal Test-III |
| 54-L47 | Comparison of Internet and Intranet Applications - knowledge of Management. |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(12.04.2018) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23.04.2018 |

| Learning Outcomes | MANAGEMENT INFORMATION SYSTEMS |
|--------------------------|-----------------------------------|
| | |
| CO1 | Organization structure and theory |
| CO2 | Decision Support Systems |
| CO3 | Server architecture |
| CO4 | Enterprise Management Systems |
| CO5 | Applications in Service Sector |
| CO6 | Database Management Systems |
| CO7 | Client- Server architecture |
| CO8 | System Development Cycle |
| CO9 | MIS in Research environment |

| Experimental | |
|---------------------|-----------------------------------|
| Learning | |
| EL1 | Organization structure and theory |
| EL2 | Decision Support Systems |
| EL3 | Server architecture |
| EL4 | Enterprise Management Systems |
| Integrated Activity | |
| IA1 | Client- Server architecture |
| IA2 | System Development Cycle |

Blended Learning : using PPT, video, library resources, ICT techniques,

E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|---------------------|--------------------------------------|
| Course Name | Principles of Information Technology |
| Course Code | PNTM23 |
| Class | I year (2017-2018) |
| Semester | EVEN |
| Staff Name | A.BATHSHEBA PARIMALA |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To understand Database Management System.
- > To understand Analog and Digital signals.
- > To understand Communication processors.

Syllabus

PRINCIPLES OF INFORMATION TECHNOLOGY

Unit-I INTRODUCTION TO COMPUTERS – Generations of modern computers – Classification of digital computer systems - Anatomy of a digital computer - computer software -Hardware/software interaction - Classification of software - Operating systems (functions & classification of Os) - Introduction to Database Management system (DBMS - benefits functions - DB users). (12L)

Unit-II Telecommunications - Introduction to Telecommunications: Analog and Digital Signals - Modulations - Types of modulations - Pulse modulation techniques - digital modulation - modems Computer Networks: Overview of networks - Communication processors - Communication media - Telecommunication Software - Types of network network topology. Communication System: Radio- TV - Microwave systems - Communication satellites – Radar – Fiber optics – ISDN – ADSL – T1 & T3 line connection. **(12L)**

Unit-III Introduction to Multimedia – Multimedia Applications: Multimedia in education and training – Multimedia in entertainment – multimedia in marketing – **Introduction to Virtual reality:** History of VR – present uses of VR – Future of VR. **(10L)**

Unit-IV New Technologies in Information Technologies- Introduction to Hypermedia – Artificial Intelligence & Business Intelligence – Knowledge Discovery in Databases (KDD) – Data mining and On_Line Analytical Processing (OLAP)- Geographical Information System(GIS) (13L)

Unit-V Application of Information Technology -Computers in business and Industry – Computers at Home – Computers in education and training- Computers in Entertainment Science, Media & Engineering- Mobile computing. **(13L)**

| Hour | Class Schedule |
|-----------|---------------------------------------------------------------------------|
| allotment | |
| | EVEN Semester Begin on 07.12.2017 |
| 1-L1 | Unit-I INTRODUCTION TO COMPUTERS – Generations of modern |
| | computers |
| 2-L2 | Classification of digital computer systems |
| 3- L3 | Anatomy of a digital computer |
| 4-L4 | computer software – Hardware/software interaction |
| 5-L5 | Classification of software |
| 6-L6 | Operating systems (functions & classification of Os) |
| 7-L7 | Introduction to Database Management system (DBMS – benefits – functions – |
| | DB users). |
| 8- P1 | BCA &M.Sc(IT)Association |
| 9- L8 | Unit-II Telecommunications - Introduction to Telecommunications: Analog |
| | and Digital Signals |
| 10- L9 | Modulations |
| 11-L10 | Types of modulations |
| 12-L11 | Pulse modulation techniques |
| 13-L12 | digital modulation |
| 14-L13 | Computer Networks: Overview of networks |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins(22.01.18) |
| 16-L15 | Communication processors |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Communication media |
| 19-L17 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | Telecommunication Software |
| 21- L19 | Types of network, network topology |

| 22- P2 | College level meeting/Cell function |
|-----------|---------------------------------------------------------------------------|
| 23-L20 | Communication System : Radio- TV |
| 24-L21 | Microwave systems |
| 25-L22 | Communication satellites – Radar |
| 26-L23 | Fiber optics – ISDN – ADSL |
| 27-L24 | T1 & T3 line connection |
| 28-L25 | Unit-III Introduction to Multimedia |
| 29-L26 | Multimedia Applications:- Multimedia in education and training |
| 30-L27 | Multimedia in entertainment |
| 31-L28 | multimedia in marketing |
| 32-L29 | Introduction to Virtual reality: History of VR |
| 33-L30 | present uses of VR |
| 34- P3 | Department Seminar |
| 35-L31 | Future of VR. |
| 36-L32 | Allotting portion for Internal Test-II |
| - | Internal Test II begins (26.02.18) |
| 37- L33 | Unit-IV New Technologies in Information Technologies- Introduction to |
| | Hypermedia |
| 38- IT-II | Internal Test-II |
| 39-L34 | Artificial Intelligence |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Knowledge Discovery in Databases (KDD) |
| 42- L37 | Data mining and On_Line Analytical Processing (OLAP) |
| 43- L38 | Geographical Information System(GIS) |
| 44- P4 | College level meeting/ function |
| 45-L39 | Business Intelligence |
| 46-L40 | Unit-V Application of Information Technology |
| 47-L41 | IndustryComputers in business |
| 48-L42 | Computers at Home |
| 49-L43 | Computers in education and training |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(01.04.18) |
| 51 L45 | Computers in Entertainment Science, |
| 52- L46 | Media & Engineering- |
| 53-IT-III | Internal Test-III |
| 54-L47 | Mobile Computing |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(12.04.2018) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| I | Last Working day on 23.04.2018 |

| Learning Outcomes | Principles of Information Technology |
|--------------------------|----------------------------------------|
| | |
| CO1 | Artificial Intelligence |
| CO2 | Knowledge Discovery in Databases (KDD) |
| CO3 | Business Intelligence |
| CO4 | IndustryComputers in business and |
| CO5 | Computers at Home |
| CO6 | Computers in education and training |
| CO7 | Computers in Entertainment Science, |
| CO8 | Media & Engineering- |
| CO9 | Mobile Computing |
| Experimental | |
| Learning | |
| EL1 | Multimedia in education and training |
| EL2 | Multimedia in entertainment |
| EL3 | Multimedia in marketing |
| EL4 | present uses of VR |
| Integrated Activity | |
| IA1 | Computers in business and Industry |
| IA2 | Computers in education and training |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

Department of Computer Application

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | MSc(NT&IT) |
|---------------------|---------------------------------|
| Course Name | Visual Basic |
| Course Code | PNTM31 |
| Class | I year (2017-201) |
| Semester | ODD |
| Staff Name | Mr. B.Edward Daniel Christopher |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60 Hrs/Sem | |
| Internal Test-3 Hrs | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- ➤ To understand the benefits of using Visual Basic for windows as an application tool.
- ➤ To understand the Visual Basic event-driven programming concepts, terminology and available tools
- ➤ Learn the fundamentals of designing, implementing and distributing a vb application.
- ➤ Learn to use the Visual Basic toolbox
- > To study connectivity between VB and databases.

VISUAL BASIC

UNIT I GETTING STARTED WITH VISUAL BASIC 6.0 Introduction to Visual Basic, Visual Basic 6.0 Programming Environment, Working with Forms, Developing an Application, Variables, Data types and Modules, Procedure and Control Structures, Array in Visual Basic, Additional examples. Working with Controls: Introduction, Creating and Using Controls, Working with Control Arrays, Additional examples.

UNIT II MENUS & GRAPHICS Menus, Mouse Events and Dialog Boxes: Introduction, Mouse Events, Dialog Boxes, Additional examples. Graphics, MDI and Flex Grid: Introduction, Graphics

for Applications, Multiple Document Interface (MDI), Using the flex Grid Control, Additional examples.

UNIT III OPEN DATABASE CONNECTIVITY ODBC and Data Access Objects: Evolution of Computer Architecture, Data Options, Additional examples. ODBC Using Data Access Objects and Remote Data objects: Open Database Connectivity (ODBC), Remote Data objects, Additional examples.

UNIT IV REPORT CREATION Data Environment and Data Report: Introduction, Data Environment Designer, Data Report, Additional examples. Object Linking and Embedding: Introduction, OLE Fundamentals, Using OLE Container Controls, Using OLE Automation Objects, OLE Drag and Drop, Additional examples.

UNIT V ACTIVE X CONTROLS Built – in Active X Controls: Working with Built – In ActiveXControls, Additional examples. Working with Active X Data objects; An Overview of ADO and OLE DB, ADO Object Model, Additional examples. Files, and File System Controls: Introduction, File System Controls, Accessing Files, Interface with Windows, Additional examples.

| Hour | Class Schedule |
|-----------|-------------------------------------------------------------------------------|
| allotment | |
| | odd Semester Begin on 16.06.2017 |
| 1-L1 | UNIT I GETTING STARTED WITH VISUAL BASIC 6.0 Introduction to Visual Basic, |
| | Visual Basic 6.0 Programming Environment. |
| 2-L2 | Working with Forms, Developing an Application, Variables, Data types |
| 3- L3 | Modules, Procedure and Control Structures |
| 4-L4 | Array in Visual Basic,1-D array, 2-D array- Additional examples. |
| 5-L5 | Working with Controls: Introduction-tool box – available controls |
| 6-L6 | Creating and Using Controls-command button, textbox control, dropdown listbox |
| 7-L7 | Picture box, option button, check box – scroll bars |
| 8-L8 | Common dialog control with examples |
| 9-L9 | Working with Control Arrays, Additional examples. |
| 10-L10 | Explanation for calculator programme |
| | |
| 11-L11 | UNIT II MENUS & GRAPHICS Menus, popup menu-introduction- sample |
| | programme |
| 13-L12 | Mouse Events |
| 14-L13 | Dialog Boxes: Introduction – Input box- Additional examples. |
| 15-L14 | Graphics – Image box- picturebox-pixel manipulation |
| | -Allotting portion for Internal Test-I |
| | Internal test I begins(31.07.17) |
| 16-L15 | MDI-Multiple document interface- creating MDI form and child form- sample |
| | programme and output |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Flex Grid - Using the flex Grid Control |
| 19-L17 | Test Paper distribution and result analysis- sample programme for flex grid |
| | control design a form with flex grid – setting properties . |

| | Entering Internal Test-I Marks into University portal |
|-----------|------------------------------------------------------------------------------------------------------|
| 20-L18 | Programme for matrix addition using flex grid. |
| 21-P2 | College level meeting |
| 22-L19 | Dir listbox, drive listbox – sample programme to explain Dir and drive list boxes |
| 23-L20 | Exlaining the calculator programme. – Designing form – using contol arrays. |
| 24-L21 | UNIT III OPEN DATABASE CONNECTIVITYODBC - introduction |
| 25-L22 | Data Access Objects: Evolution of Computer Architecture, |
| 26-L23 | Data Options, Additional examples. ODBC Using Data Access Objects |
| 27-L24 | Remote Data objects |
| 28-L25 | Creating DSN using Open Database Connectivity (ODBC) |
| 29-L26 | Remote Data objects using ODBC - Additional examples. |
| 30-L27 | Insert – Delete – Update- coding using DAO |
| 31-L28 | Creating a student database in MS Access – connecting the database – Manipulating the data using RDO |
| 32-L29 | Linking database with data grid – Bound data with grid. |
| 33-L30 | Seminar By Students – Topic: Open database connectivity and RDO |
| 33-L30 | Allotting portion for Internal Test-II |
| | Internal test II begins(30.08.17) |
| 34- P3 | Unit IV:Report CreationData Environment and Data Report: Introduction |
| 35-L31 | Data Environment Designer, Data Report, Additional Examples |
| 36-L32 | Object Linking and Embedding: Introduction |
| 37-IT-II | OLE Fundamentals |
| 38-L33 | Using OLE Container Controls |
| 39-L34 | Using OLE Automation Objects |
| 40-L35 | OLE Drag and Drop |
| 41-L36 | Additional examples. |
| 42-P4 | UNIT - V ACTIVE X CONTROLS Built – in Active X Controls: |
| 43-L37 | Working with Built in controls |
| 44-L38 | ActiveX Controls- using and creating controls |
| 45-L39 | Additional examples. |
| 46-L40 | Working with Active X Data objects |
| 47-L41 | An Overview of ADO and OLE DB |
| | Internal test III begins(03.10.17) |
| 48-L42 | ADO Object Model. |
| 49-L43 | Additional examples |
| 50-L44 | Files, and File System Controls: Introduction |
| 51-IT-III | File System Controls |
| 52-L45 | Accessing Files |
| 53-L46 | Interface with Windows |
| 54-L47 | Additional Examples |
| 55-L48 | Entering Internal Test-III Marks into University portal |
| 56-L49 | Model Test begins(19.10.2017) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59-MT | Model test paper distribution and previous year university question paper discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |

| Learning Outcomes | Visual Basic |
|--------------------------|--------------------------------------------------------|
| | |
| CO1 | Gain knowledge about GUI |
| CO2 | Skilled in form design and event driven programming |
| CO3 | Usage of various tools in visual basic |
| CO4 | Able to connect and access database |
| CO5 | Able to connect external data base using ODBC |
| CO6 | How to prepare data report |
| Experimental | |
| Learning | |
| EL1 | To do working models to explain Database connectivity |
| EL2 | Getting resources about Visual basic through Internet |
| EL3 | GD on merit and demerit GUI |
| EL4 | Discussion about Facebook and its database maintenance |
| Integrated Activity | |
| IA1 | Designing a billing software for grocery shop |
| IA2 | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

Forslow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

Department of Computer Application & Networking

1. Questionnaires for Course Feedback from Students

| Name of the student | |
|---------------------|--|
| Programme Name | |
| Course Name | |
| Course code | |
| Year of Joining | |
| Semester | |
| Date | |

Put a tick in the best represents your response to each statement.

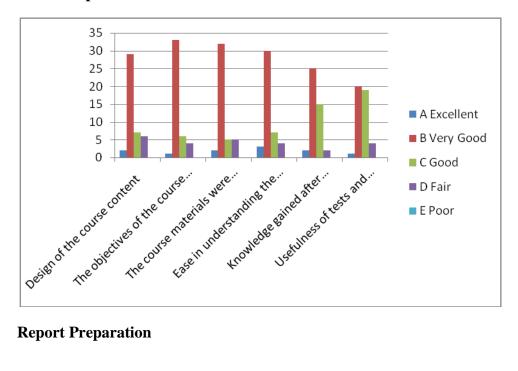
| No. | Parameters | A | В | С | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | The objectives of the course | A | В | C | D | Е |
| | were clearly stated. | | | | | |
| 3 | The course materials were | A | В | C | D | Е |
| | clearly explained. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | E |
| | course content. | | | | | |
| 5 | Knowledge gained after | A | В | C | D | Е |
| | completion of the course. | | | | | |
| 6 | Usefulness of tests and | A | В | C | D | Е |
| | assignments | | | | | |
| 7 | Extent of efforts required by | A | В | C | D | Е |
| | students. | | | | | |

Course Feedback Analysis and Report Preparation

Number of responses: 44

| No. | Parameters | A | В | С | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 2 | 29 | 7 | 6 | 0 |
| 2 | The objectives of the course | 1 | 33 | 6 | 4 | 0 |
| | were clearly stated. | 1 | 33 | U | 4 | U |
| 3 | The course materials were | 2 | 32 | 5 | 5 | 0 |
| | clearly explained. | 2 | 32 | 3 | 3 | U |
| 4 | Ease in understanding the | 3 | 30 | 7 | 4 | 0 |
| | course content. | 3 | 30 | , | 7 | U |
| 5 | Knowledge gained after | 2 | 25 | 15 | 2 | 0 |
| | completion of the course. | 2 | 23 | 13 | 2 | U |
| 6 | Usefulness of tests and | 1 | 20 | 19 | 4 | 0 |
| | assignments | 1 | 20 | 17 | 4 | U |
| 7 | Extent of efforts required by | 2 | 25 | 10 | 7 | 0 |
| | students. | 2 | 23 | 10 | / | U |

Chart Preparation



Department of Computer Application & Networking

2. Questionnaires for Course Feedback from Teachers

| Name of the Teacher | |
|---------------------|--|
| Programme Name | |
| Course Name | |
| Course code | |
| Semester/Year | |
| Date | |

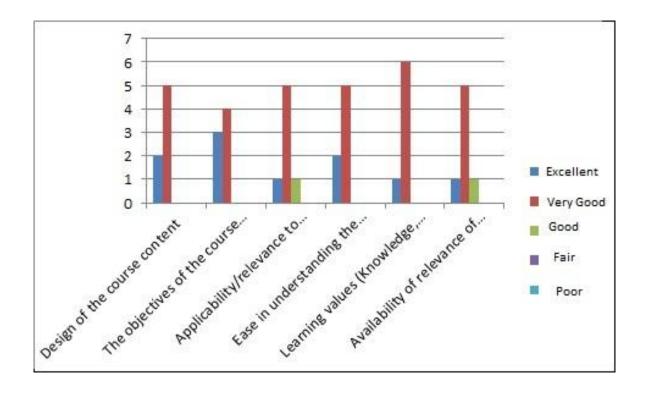
Put a tick in the best represents your response to each statement.

| No. | Parameters | A | В | C | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | The objectives of the course | A | В | C | D | Е |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | A | В | C | D | Е |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | Е |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | A | В | C | D | Е |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | A | В | C | D | Е |
| | additional source materials | | | | | |

Number of Responses: 7

| No. | Parameters | A | В | С | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 2 | 5 | 0 | 0 | 0 |
| 2 | The objectives of the course | 3 | 4 | 0 | 0 | 0 |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | 1 | 5 | 1 | 0 | 0 |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | 2 | 5 | 0 | 0 | 0 |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | 1 | 6 | 0 | 0 | 0 |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | 1 | 5 | 1 | 0 | 0 |
| | additional source materials | | | | | |

Chart preparation



Department of Application & Networking

3. Questionnaires for Course Feedback from Alumni

| Name of the Alumni | |
|--------------------|--|
| Programme Name | |
| Course Name | |
| Contact No/Mail id | |
| Semester and year | |
| Date | |

Put a tick in the best represents your response to each statement.

| No. | Parameters | A | В | C | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | The objectives of the course | A | В | C | D | Е |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | A | В | C | D | Е |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | Е |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | A | В | C | D | Е |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | A | В | C | D | Е |
| | additional source materials | | | | | |

Number of Responses: 10

| No. | Parameters | A | В | С | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 5 | 1 | 5 | 3 | 0 |
| 2 | The objectives of the course | 2 | 7 | 4 | 4 | 0 |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | 2 | 5 | 2 | 1 | 0 |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | 1 | 4 | 1 | 8 | 0 |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | 5 | 2 | 1 | 5 | 0 |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | 4 | 2 | 8 | 5 | 0 |
| | additional source materials | | | | | |

4. Questionnaires for Course Feedback from Parents

| Name of the Parent | |
|--------------------------|--|
| Name of the Student | |
| Programme Name | |
| Course Name | |
| Contact Number/Mail id | |
| Year of Joining/Semester | |
| Date | |

Put a tick in the best represents your response to each statement. 15

| No. | Parameters | A | В | С | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | Course materials available in | A | В | C | D | Е |
| | Library. | | | | | |
| 3 | The course materials were | A | В | C | D | Е |
| | clearly explained. | | | | | |
| 4 | Improvement in soft skills, | A | В | C | D | Е |
| | knowledge, observed by you in | | | | | |
| | your ward. | | | | | |
| 5 | Usefulness of the course for | A | В | C | D | E |
| | getting job. | | | | | |
| 6 | Extent of efforts required by | A | В | C | D | E |
| | students. | | | | | |

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|--------------------|--------------------------------------|
| Course Name | Principles of Information Technology |
| Course Code | KNTM23 |
| Class | I year (2017-2018) |
| Semester | Odd |
| Staff Name | Mr.L.ABRAHAM DAVID |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |

Total 60Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To understand Database Management System.
- > To understand Analog and Digital signals.
- > To understand Communication processors.

Syllabus

PRINCIPLES OF INFORMATION TECHNOLOGY

Unit-I INTRODUCTION TO COMPUTERS – Generations of modern computers – Classification of digital computer systems – Anatomy of a digital computer – computer software – Hardware/software interaction – Classification of software – Operating systems (functions & classification of Os) – Introduction to Database Management system (DBMS – benefits – functions – DB users). **(12L)**

Unit-II Telecommunications - Introduction to Telecommunications: Analog and Digital Signals - Modulations - Types of modulations - Pulse modulation techniques – digital modulation – modems **Computer Networks**: Overview of networks - Communication processors - Communication media - Telecommunication Software – Types of network – network topology. **Communication System**: Radio- TV – Microwave systems – Communication satellites – Radar – Fiber optics – ISDN – ADSL – T1 & T3 line connection. **(12L)**

Unit-III Introduction to Multimedia – Multimedia Applications: Multimedia in education and training – Multimedia in entertainment – multimedia in marketing – **Introduction to Virtual reality:** History of VR – present uses of VR – Future of VR. **(10L)**

Unit-IV New Technologies in Information Technologies- Introduction to Hypermedia – Artificial Intelligence & Business Intelligence – Knowledge Discovery in Databases (KDD) – Data mining and OnLine Analytical Processing (OLAP)- Geographical Information System(GIS) **(13L)**

Unit-V Application of Information Technology -Computers in business and Industry – Computers at Home – Computers in education and training- Computers in Entertainment Science, Media & Engineering- Mobile computing. **(13L)**

REFERENCE BOOKS 1. Fundamental of Information Technology (second edition), Alexis Leon and Mathew Leon- Leon Vikas publication. 2. Information Technology – Dennis P.Curtin, Kim Foley, Kunalson, TATA McGRAW – Hill edition.

| Hour allotment | Class Schedule |
|-------------------|---------------------------------------------------------------------------------------------|
| | Odd Semester Begin on 18.06.2017 |
| 1-L1 | Unit-I INTRODUCTION TO COMPUTERS – Generations of modern computers |
| 2-L2 | Classification of digital computer systems |
| 3- L3 | Anatomy of a digital computer |
| 4-L4 | computer software – Hardware/software interaction |
| 5-L5 | Classification of software |
| 6-L6 | Operating systems (functions & classification of Os) |
| 7-L7 | Introduction to Database Management system (DBMS – benefits – functions – DB users). |
| 8- P1 | BCA & M.Sc(IT)Association |
| 9- L8 | Unit-II Telecommunications - Introduction to Telecommunications: Analog and Digital Signals |
| 10- L9 | Modulations |
| 11-L10 | Types of modulations |
| 12-L11 | Pulse modulation techniques |
| 13-L12 | digital modulation |
| 14-L13 | modems Computer Networks: Overview of networks |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins(31.07.17) |
| 16-L15 | Communication processors |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Communication media |
| 19-L17 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | Telecommunication Software |

| 21- L19 | Types of network, network topology |
|-----------|----------------------------------------------------------------------------------|
| 22- P2 | College level meeting/Cell function |
| 23-L20 | Communication System : Radio- TV |
| 24-L21 | Microwave systems |
| 25-L22 | Communication satellites – Radar |
| 26-L23 | Fiber optics – ISDN – ADSL |
| 27-L24 | T1 & T3 line connection |
| 28-L25 | Unit-III Introduction to Multimedia |
| 29-L26 | Multimedia Applications:- Multimedia in education and training |
| 30-L27 | Multimedia in entertainment |
| 31-L28 | multimedia in marketing |
| 32-L29 | Introduction to Virtual reality: History of VR |
| 33-L30 | present uses of VR |
| 34- P3 | Department Seminar |
| 35-L31 | Future of VR. |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(13.08.17) |
| 37- L33 | Unit-IV New Technologies in Information Technologies- Introduction to Hypermedia |
| 38- IT-II | Internal Test-II |
| 39-L34 | Artificial Intelligence |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Knowledge Discovery in Databases (KDD) |
| 42- L37 | Data mining and On_Line Analytical Processing (OLAP) |
| 43- L38 | Geographical Information System(GIS) |
| 44- P4 | College level meeting/ function |
| 45-L39 | Business Intelligence |

| 46-L40 | Unit-V Application of Information Technology |
|-----------|--------------------------------------------------------------------------------------|
| 47-L41 | IndustryComputers in business and |
| 48-L42 | Computers at Home |
| 49-L43 | Computers in education and training |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(01.04.18) |
| 51 L45 | Computers in Entertainment Science, |
| 52- L46 | Media & Engineering- |
| 53-IT-III | Internal Test-III |
| 54-L47 | Mobile Computing |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 06.11.2017 |

| Learning Outcomes | COs of the course " <course name="">"</course> |
|--------------------------|------------------------------------------------|
| CO1 | Artificial Intelligence |
| CO2 | Knowledge Discovery in Databases (KDD) |

| CO3 | Business Intelligence |
|--------------------------|-------------------------------------------------------------------------------------------|
| CO4 | IndustryComputers in business and |
| CO5 | Computers at Home |
| CO6 | Computers in education and training |
| CO7 | Computers in Entertainment Science, |
| CO8 | Media & Engineering- |
| CO9 | Mobile Computing |
| Experimental Learning | |
| EL1 | Analog and Digital Cignals |
| EEI | Analog and Digital Signals |
| EL2 | Multimedia in education and training |
| | |
| EL2 | Multimedia in education and training |
| EL2 EL3 | Multimedia in education and training Data mining and OnLine Analytical Processing (OLAP) |
| EL2 EL3 EL4 | Multimedia in education and training Data mining and OnLine Analytical Processing (OLAP) |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

| Programme Name | M.Sc. NT&IT |
|----------------------------------------|------------------------|
| Course Name | Web Designing |
| Course Code | KNTM31 |
| Class | II year (2017-2018) |
| Semester | Odd |
| Staff Name | 1.A.BATHSHEBA PARIMALA |
| | 2.I.THOMAS JEBASINGH |
| Credits | 4 |
| T II /D II | 4 / 33777 |
| L. Hours /P. Hours | 4 / WK |
| L. Hours /P. Hours Total 60Hrs/Sem | 4 / WK |
| | 4 / WK |
| Total 60Hrs/Sem | 4 / WK |
| Total 60Hrs/Sem Internal Test-3 Hrs | 4 / WK |

Course Objectives

- ➤ HTML basics- Putting your Server to work-Server side programming- XML Basics
- ➤ The Building blocks of PHP- Flow Control Functions in PHP- Working with Functions- Working with Arrays- Working with Objects- Working with Strings, Dates and Time
- ➤ Managing a Simple Mailing List- Creating an Online Address Book- Creating a Simple Discussion Forum- Creating an Online Storefront and shopping Cart Mechanism
- ➤ Understanding the Database Design- Process Learning Basic SQL Commands Using Transactions and Stored Procedures in MySQL

Syllabus

Unit-1

Web programming Basics and Installations:

Web Publishing: A Quick look-HTML 4.0: the web Publishing Foundation- HTML basics-Putting your Server to work-Server side programming- XML Basics. (12L)

Unit-II

Installation and Configuration:

Getting up and running: Installation Quick Start Guide- Installing and configuring MySql-Installing and configuring Apache-Installing and configuring PHP. (10L)

Unit-III

PHP Language Structure:

The Building blocks of PHP- Flow Control Functions in PHP- Working with Functions-Working with Arrays- Working with Objects- Working with Strings, Dates and Time- Working with Forms- Working with Cookies and User Sessions- Working with Files and Directories Working with Images (14L)

Unit-IV

PHP and MySQL Integration:

Understanding the Database Design- Process Learning Basic SQL Commands Using Transactions and Stored Procedures in MySQL- Interacting with MySQL Using PHP. **(12L)**

Unit-V

Basic Projects:

Managing a Simple Mailing List- Creating an Online Address Book- Creating a Simple Discussion Forum- Creating an Online Storefront and shopping Cart Mechanism- Creating a Simple Calendar- Restricting Access to Your Applications- Logging and Monitoring Web Page **Server Activity**- Application Localization- Working with XML- Connecting to Web Services Apache Performance Tuning and Virtual Hosting- Setting Up a Secure Web Server-Optimizing and Tuning MySQL. (12L)

| Hour | Class Schedule |
|-----------|-------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 16.06.2016 |
| 1-L1 | Web programming Basics and Installations: |
| 2-L2 | Web Publishing |
| 3- L3 | A Quick look |
| 4-L4 | HTML 4.0 |
| 5-L5 | web Publishing Foundation |
| 6-L6 | HTML basics |
| 7-L7 | Putting your Server to work |
| 8- P1 | Welcoming of First year and Inauguration of BCA Association |
| 9- L8 | Server side programming |
| 10- L9 | XML Basics. |
| 11-L10 | Working with xml |
| 12-L11 | Xml program installation |
| 13-L12 | Installation and Configuration: |
| 14-L13 | Getting up and running |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins(31.07.17) |
| 16-L15 | Installation Quick Start Guide |

| 17-IT-1 | Internal Test-I | |
|-----------|------------------------------------------------------------------------------|--|
| 18-L16 | Installing and configuring MySql | |
| 19-L17 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Installing and configuring MySql | |
| 21- L19 | Installing and configuring PHP | |
| 22- P2 | College level meeting/Cell function | |
| 23-L20 | Quick Start | |
| 24-L21 | Apache configuration | |
| 25-L22 | Configuration of php | |
| 26-L23 | PHP Language Structure: | |
| 27-L24 | The Building blocks of PHP | |
| 28-L25 | Control Functions in PHP | |
| 29-L26 | Working with Functions | |
| 30-L27 | Working with Arrays | |
| 31-L28 | Working with Objects | |
| 32-L29 | Working with Strings | |
| 33-L30 | Dates and Time | |
| 34- P3 | Department Seminar | |
| 35-L31 | Working with Forms | |
| 36-L32 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(30.08.17) | |
| 37- L33 | Working with Cookies | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | User Sessions | |
| 40-L35 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Working with Files and Directories | |
| 42- L37 | Working with Images | |
| 43- L38 | Flow Control functions | |
| 44- P4 | College level meeting/ function | |
| 45-L39 | PHP and MySQL Integration: | |
| 46-L40 | Understanding the Database Design | |
| 47-L41 | Learning Basic SQL Commands | |
| 48-L42 | Using Transactions and Stored Procedures in MySQL | |
| 49-L43 | Interacting with MySQL Using PHP. | |
| 50-L44 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(01.04.17) | |
| 51 L45 | Basic Projects: | |
| | Managing a Simple Mailing List- Creating an Online Address Book- Creating a | |
| | Simple Discussion Forum- Creating an Online Storefront and shopping Cart | |
| | Mechanism | |
| 52- L46 | Creating a Simple Calendar- Restricting Access to Your Applications- Logging | |
| | and Monitoring Server Activity- Application Localization | |
| 53-IT-III | Internal Test-III | |
| 54-L47 | Working with XML- Connecting to Web Services Apache Performance Tuning | |
| | and Virtual Hosting- Setting Up a Secure Web Server- Optimizing and Tuning | |
| | MySQL | |

| 55-L48 | Test Paper distribution and result analysis |
|---------|---------------------------------------------------------------------------|
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(19.10.2017) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 30.11.2016 |

| Learning Outcomes | Web Designing |
|----------------------------|------------------------------------|
| | |
| CO1 | HTML 4.0 |
| CO2 | web Publishing Foundation |
| CO3 | Server side programming |
| CO4 | XML Basics |
| CO5 | Xml program installation |
| CO6 | Installation Quick Start Guide |
| CO7 | Installing and configuring MySql |
| CO8 | Installing and configuring PHP |
| CO9 | Working with Strings |
| Experimental | |
| Learning | |
| EL1 | Working with Cookies |
| EL2 | Working with Files and Directories |
| EL3 | Working with Images |
| EL4 | Flow Control functions |
| Integrated Activity | |
| IA1 | Interacting with MySQL Using PHP |
| IA2 | Application Localization |

Blended Learning : using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E-books, motivate student to prepare for higher study.

For slow learner : special care taken, motivate the advanced learner to support the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | MSc (NT&IT) |
|--------------------|--------------------------|
| Course Name | Operating system |
| Course Code | KNTM32 |
| Class | III year (2017-2018) |
| Semester | ODD |
| Staff Name | Mrs.A.BATHSHEBA PARIMALA |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total COLLyg/Com | |

Total 60Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- ➤ To understand design issues related to process management and various related algorithms.
- > To understand design issues related to memory management and various related algorithms.
- > To understand design issues related to File management and various related algorithms

Syllabus

CORE SUBJECT - I

OPERATING SYSTEMS

UNIT I INTRODUCTION What is an Operating System: Mainframe Systems – Desktop Systems – Multiprocessor Systems - Distributed Systems – Clustered Systems – Real – time Systems – Handheld Systems. (10 L)

UNIT II PROCESS CONCEPT Process Concept – Process Scheduling – Operations on Process – Co-operating processes – Inter Processes - Inter Process communication. CPU

Scheduling: Basic Concepts –Scheduling Criteria - Scheduling algorithms – Multi processor Scheduling - Real time Scheduling – Algorithms evaluation. (12 L)

UNIT III PROCESS SYNCHRONIZATION & DEADLOCKS Process Synchronization:

Background – the critical section problem – Synchronization hardware – Semaphores –

Classical problems of Synchronization – critical regions – Monitors – Atomic transaction.

Deadlocks: System model – Deadlock Characterization – methods for handling Deadlocks –

Deadlock prevention – Deadlock Avoidance – Deadlock detection – recovery from

Deadlock.(14 L)

UNIT IV MEMORY MANAGEMENT Memory management: Background – Swapping – Contiguous memory allocation – paging – segmentation – segmentation with paging. Virtual Memory: Background – Demand paging – Page replacement – Allocation of frames. (12 L)

UNIT V File System Interface: File concept – Access methods– File system structure – File system implementation – File system structure – Filesystem implementation – Directories structure - Directory implementation – Allocation methods – Free space management – Efficiency and performance – Recovery. Mass Storage Structure: Disk Structure – Disk Scheduling – Disk management – Swap space management – RAID structure – Disk attachment – Stable Storage. (12 L)

| Hour | Class Schedule |
|-----------|----------------------------------------------------------|
| allotment | |
| | ODD Semester Begin on 16.06.2017 |
| 1-L1 | INTRODUCTION- What is an Operating System |
| 2-L2 | Mainframe Systems |
| 3- L3 | Batchsystem - multiprogrammed system-time sharing system |
| 4-L4 | Desktop Systems |
| 5-L5 | Multiprocessor Systems |
| 6-L6 | Distributed Systems |
| 7-L7 | Client-server system, peer-to-peer system |
| 8- P1 | BCA Association |
| 9- L8 | Real |
| 10- L9 | Time Systems |
| 11-L10 | Handheld Systems. |
| 12-L11 | PROCESS CONCEPT Process Concept |
| 13-L12 | Process Scheduling |
| 14-L13 | Operations on Process |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins(31.07.17) |

| 16-L15 | Inter Processes | |
|--------------------|---------------------------------------------------------------------------------------|--|
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Inter Process communication. CPU Scheduling | |
| 19-L17 | Test Paper distribution and result analysis | |
| 19-L17 | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Basic Concepts | |
| 21- L19 | Scheduling Criteria | |
| 22- P2 | College level meeting/Cell function | |
| 23-L20 | Scheduling algorithms | |
| 24-L21 | Multi processor Scheduling | |
| 25-L22 | Real time Scheduling | |
| 26-L23 | Algorithms evaluation | |
| 27-L24 | PROCESS SYNCHRONIZATION & DEADLOCKS Process Synchronization: | |
| 27-L2 4 | Background | |
| 28-L25 | the critical section problem | |
| 29-L26 | Synchronization hardware | |
| 30-L27 | Semaphores | |
| 31-L28 | Classical problems of Synchronization | |
| 32-L29 | critical regions | |
| 33-L30 | Monitors | |
| 34- P3 | Department Seminar | |
| 35-L31 | Atomic transaction. Deadlocks: System model | |
| 36-L32 | Allotting portion for Internal Test-II | |
| 30 E32 | Internal Test II begins(30.08.17) | |
| 37- L33 | Deadlock Characterization | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | methods for handling Deadlocks | |
| 40-L35 | Test Paper distribution and result analysis | |
| - | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Deadlock prevention | |
| 42- L37 | Deadlock Avoidance | |
| 43- L38 | Deadlock detection, recovery from Deadlock. | |
| | | |
| 44- P4 | College level meeting/ function | |
| 45-L39 | File System Interface: File concept ,Access methods | |
| 46-L40 | File system structure, File system implementation | |
| 47-L41 | Directories structure ,Directory implementation | |
| 48-L42 | Allocation methods, Free space management | |
| 49-L43 | Efficiency and performance ,Recovery. Mass Storage Structure: Disk Structure | |
| 50-L44 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(01.04.17) | |
| 51 L45 | Disk Scheduling, Disk management | |
| 52- L46 | Swap space management, RAID structure | |
| 53-IT-III | Internal Test-III | |
| 54-L47 | Disk attachment, Stable Storage | |
| 55-L48 | Test Paper distribution and result analysis | |
| | Entoning Intornal Tool III Mayles into University montal | |
| 56- MT | Entering Internal Test-III Marks into University portal Model Test begins(19.10.2017) | |

| 57-MT | Model Test |
|---------|---------------------------------------------------------------------------|
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 06.11.2017 |

| Learning Outcomes | Operating system |
|----------------------------|---------------------------------------------------------------|
| | |
| CO1 | Process Synchronization |
| CO2 | Scheduling Algorithm |
| CO3 | DeadLock |
| CO4 | Dinning Philosopher Algorithm |
| CO5 | Page Allocation Algorithm |
| Experimental | |
| Learning | |
| EL1 | File System Interface: File concept ,Access methods |
| EL2 | Directories structure ,Directory implementation |
| EL3 | Efficiency and performance ,Recovery. Mass Storage Structure: |
| | Disk Structure |
| Integrated Activity | |
| IA1 | Deadlock Characterization |
| IA2 | Atomic transaction. Deadlocks: System model |

Blended Learning : using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E-books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|---------------------|-------------------------------|
| Course Name | Network security&cryptography |
| Course Code | KNTM33 |
| Class | II year (2017-2018) |
| Semester | Odd |
| Staff Name | Mr.K.Appasamy |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| Internal Test-3 Hrs | |
| 36 115 311 | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To learn about Attacks, services and Mechanisms
- > To learn about Internet standards and RFCS.
- > To learn about Substitution Techniques
- > To learn about Steganography.

Syllabus

Unit-I

Introduction:

Attacks, services and Mechanisms - security attacks - security services - A model for internetwork security - Internet standards and RFCS. Classical Encryption Techniques: symmetric cipher Model - Substitution Techniques - Transportation Techniques Rotor Mechanism – Steganography. (12L)

Unit-II

Block ciphers and the data encryption standard simplified DES

Block Cipher Principles -The Data encryption standard -The strength of DES - Differentials and Linear Cryptanalysis -Block Cipher design principles -Block Cipher modes of operations. Public Key Cryptography and RSA: Principles of Public - Key Cryptosystems The RSA Algorithm. (13L)

Unit-III

Key Management:

Other Public-Key Cryptosystems: Key Managements- Diffie Hellman Key Exchange-Elliptic curve Arithmetic - Elliptic curve Cryptography Message Authentication & Hash functions: Authentication Requirements-Authentication functions-message Authentication Codes- Hash functions- Security of Hash functions & MACS. Digital Signatures - Authentication Protocols - Digital Signature Standard. (13L)

Unit-IV

Authentication applications:

Kerberos X 509 Authentication service. Electronic Mail security: Pretty good Privacy - S/MIME 445 IP Security: IP Security overview - IP Security Architecture -Authentication Header - Encapsulation security Payload. (10L)

Unit-V

Web Security:

Web Security Considerations - Secure Sockets Layer and Transport Layer Security - Secure Electronic Transactions System Security: Intruders - Intrusion detection - Password Management. Firewalls: Firewalls Design Principles - Trusted Systems (12L)

| Hour | Class Schedule | |
|-----------|-------------------------------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 16.06.2017 | |
| 1-L1 | Attacks | |
| 2-L2 | Services | |
| 3- L3 | Mechanisms | |
| 4-L4 | security attacks | |
| 5-L5 | security services | |
| 6-L6 | A model for internetwork security | |
| 7-L7 | Internet standards and RFCS | |
| 8- P1 | BCA&MSC ITAssociation | |
| 9- L8 | Classical Encryption Techniques | |
| 10- L9 | symmetric cipher Model | |
| 11-L10 | Substitution Techniques | |
| 12-L11 | Transportation Techniques Rotor Mechanism | |
| 13-L12 | Steganography. | |
| 14-L13 | Block Cipher Principles | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(31.07.17) | |
| 16-L15 | The Data encryption standard | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | The strength of DES | |
| 19-L17 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Differentials and Linear Cryptanalysis - | |
| 21- L19 | Block Cipher design principles | |

| 22- P2 | College level meeting/Cell function |
|-----------|---------------------------------------------------------------------------------|
| 23-L20 | Block Cipher modes of operations |
| 24-L21 | Public Key Cryptography and RSA: |
| 25-L22 | Principles of Public |
| 26-L23 | Key Cryptosystems |
| 27-L24 | The RSA Algorithm. |
| 28-L25 | Other Public-Key Cryptosystems |
| 29-L26 | Key Managements |
| 30-L27 | Hellman Key Exchange |
| 31-L28 | Elliptic curve Arithmetic - |
| 32-L29 | Elliptic curve Cryptography Message Authentication & Hash functions |
| 33-L30 | Authentication Requirements |
| 34- P3 | Department Seminar |
| 35-L31 | Authentication functions-message Authentication Codes |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(30.08.17) |
| 37- L33 | Hash functions- Security of Hash functions & MACS |
| 38- IT-II | Internal Test-II |
| 39-L34 | Digital Signatures -Authentication Protocols - Digital Signature Standard. |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Kerberos X 509 Authentication service. Electronic Mail security |
| 42- L37 | Pretty good Privacy |
| 43- L38 | S/MIME 445 IP Security: IP Security overview - |
| 44- P4 | College level meeting/ function |
| 45-L39 | IP Security overview - IP Security Architecture |
| 46-L40 | Authentication Header - Encapsulation security Payload. |
| 47-L41 | Web Security Considerations - Secure Sockets Layer and Transport Layer Security |
| 48-L42 | Secure Electronic Transactions System Security |
| 49-L43 | Intruders - Intrusion detection |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(01.04.17) |
| 51 L45 | Password Management. |
| 52- L46 | Firewalls: Firewalls Design Principles |
| 53-IT-III | Internal Test-III |
| 54-L47 | Trusted Systems |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(19.10.2017) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| -0 | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 06.11.2017 |

| Learning Outcomes | Network security &cryptography |
|----------------------------|--------------------------------|
| | |
| CO1 | IP Security overview |
| CO2 | IP Security Architecture |
| CO3 | Web Security Considerations |
| CO4 | Password Management |
| CO5 | System Security |
| CO6 | Transport Layer Security |
| CO7 | Secure Electronic Transactions |
| CO8 | System Security |
| CO9 | Firewalls Design Principles |
| Experimental | |
| Learning | |
| EL1 | |
| EL2 | |
| EL3 | |
| EL4 | |
| Integrated Activity | |
| IA1 | |
| IA2 | |

Blended Learning : using PPT, video, library resources, ICT techniques,

E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|--------------------|----------------------|
| Course Name | Research Methodology |
| Course Code | KNTM34 |
| Class | I year (2017-2018) |
| Semester | Odd |
| Staff Name | Mr.B.JEFFERSON |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |

Total 75 Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 65Hrs (5 units; 5×13=65; 13Hrs /unit)

Course Objectives

- > ToUnderstand about Meaning of Research
- > ToUnderstand about Objectives of Research
- > To Understand about Types of Research
- > To Understand about Motivation in Research
- ➤ To Understand about Research Approaches
- > To Understand about Research Methods Verses Methodology

Syllabus

Research Methodology

Unit-I Research Methodology: An Introduction - Meaning of Research - Objectives of Research - Types of Research, Motivation in Research - Research Approaches, Significance of Research - Research Methods Verses Methodology - Research and Scientific Method - Research Process - Criteria of Good Research - Problems Encountered by Researchers in India. Defining the Research Problem: What is a Research Problem? - Selecting the Problem - Technique Involved in Defining a Problem - Research Design: Meaning - Need for research Design - Features of a Good Design - Important Concept relating to Research Design - Different Research Designs - Basic Principles of Experimental Designs.

Unit-II Sampling Design: Census and sample survey - Implications of a sample design - Steps in sample design - Criteria of selecting a sampling procedure - Characteristics of a good sample design - Different types of sample designs - How to select a random sample? - Random sample from an infinite Universe - Complex random sampling designs - Measurement and scaling Techniques: measurement in research - Measurement scales - Sources of error in measurement - Tests of sound measurements - Technique of developing measurement tools - Scaling, meaning of scaling - Scale classification bases - Important scaling techniques - Scale construction techniques.

Unit-III Methods of Data Collection - Collection of Primary Data - Observation Method - Interview method - Collection of Data through Questionnaires - Collection of Data through Schedules - Some Other Methods of Data Collection - Collection of Secondary Data - Selection of Appropriate Method for Data Collection - Interpretation and Report writing - Meaning of Interpretation, Why Interpretation? - Technique of Interpretation, Precaution in Interpretation - Significance of Report Writing - Different Steps in Writing Report - Layout of the Research Report - Types of Reports - Mechanics of Writing a Research Report - Precautions for Writing Research Reports.

Unit-IV Chi-Square Test for large samples – Definition of Chi-Square – Limitations of Chi-Square test - Chi-Square test as a test of goodness of fit and as a test of independence – Yate "s correction and its applications – Analysis of variance(ANOVA): Concept – One way ANOVA – ANOVA in test in Latin Square Design

Unit - V Algorithmic Research – Introduction - Algorithmic Research Problems - Types of Solution procedure/Algorithm - Steps of Development of Algorithm - Steps of algorithmic Research - Design of Experiments and Comparison of Algorithms - Meta Heuristics for Combinatorial Problems - The Computer: Its Role in research - The computer and Computer Technology - The Computer System - Important Characteristics - Computer Applications- Computers and Researchers.

REFERENCE BOOKS:

- 1. C.R.Kothari, "Research Methodology Methods and Techniques", (Second Revised Edition), New Age International Publishers, New Delhi, 2010.
- 2. R.Panneerselvam, "Research Methodology", PHI Learning Private Limited, New Delhi, 2009.

| Hour | Class Schedule |
|-----------|--------------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 18.06.2017 |
| 1-L1 | Unit-I Research Methodology: An Introduction - Meaning of Research |
| 2-L2 | Objectives of Research - Types of Research, Motivation in Research |

| 3-L3 | Algorithmic Research Problems | |
|----------|---------------------------------------------------------------------------------------------------------------------|--|
| 4-L4 | Types of Solution procedure/Algorithm | |
| 5-L5 | Steps of Development of Algorithm | |
| 6-L6 | · · · | |
| 7-L7 | The Computer: Its Role in research | |
| | Research Approaches, Significance of Research | |
| 8- P1 | BCA &M.Sc(IT)ASSOCIATION | |
| 9- L8 | Features of a Good Design - Important Concept relating to Research Design | |
| 10- L9 | Different Research Designs - Basic Principles of Experimental Designs. | |
| 11-L10 | Unit-II Sampling Design: Census and sample survey - Implications of a sample design - Steps in sample design | |
| 12-L11 | Criteria of selecting a sampling procedure - Characteristics of a good sample | |
| 12 211 | design | |
| 13-L12 | Different types of sample designs - How to select a random sample? | |
| 14-L13 | Random sample from an infinite Universe | |
| 15-L14 | Complex random sampling designs | |
| 16-L15 | Measurement and scaling Techniques: measurement in research - | |
| | Measurement scales | |
| 17- L16 | Sources of error in measurement - Tests of sound measurements - | |
| 18- L17 | Technique of developing measurement tools - Scaling, meaning of scaling | |
| 19- L18 | Scale classification bases - Important scaling techniques | |
| 20- L19 | Scale construction techniques. | |
| 21- L20 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(31.07.17) | |
| 22- L21 | Unit-III Methods of Data Collection - Collection of Primary Data | |
| 23- IT-1 | Internal Test-I | |
| 24- L22 | Observation Method - Interview method - | |
| 25- L23 | Collection of Data through Questionnaires | |
| 26- L24 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 27- L25 | Collection of Data through Schedules | |
| 28- L26 | Schedules | |
| 29- L27 | Collection of Secondary Data | |
| 30- P2 | College level meeting/Cell function | |
| 31-L28 | Selection of Appropriate Method for Data Collection | |
| 32-L29 | Interpretation and Report writing | |
| 33-L30 | Meaning of Interpretation, Why Interpretation? | |
| 34- L31 | Technique of Interpretation, | |
| 35- L32 | Precaution in Interpretation | |
| 36- L33 | Significance of Report Writing - | |
| 37- L34 | Different Steps in Writing Report | |
| 38- L35 | Layout of the Research Report | |
| 39- L36 | Types of Reports | |
| 40- L37 | Mechanics of Writing a Research Report | |
| 41- L38 | Precautions for Writing Research Reports. | |
| 42-P3 | Department Seminar | |
| i e | | |
| 43- L39 | Unit-IV Chi-Square Test for large samples | |
| | • | |

| 46- L42 | Chi-Square test as a test of goodness of fit and as a test of independence |
|-----------|----------------------------------------------------------------------------|
| 47- L43 | Allotting portion for Internal Test-II |
| | Internal Test II begins(30.08.17) |
| 48- L44 | Yate's correction and its applications |
| 49-IT-II | Internal Test-II |
| 50-L45 | Analysis of variance(ANOVA) : Concept |
| 51- L46 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 52- L47 | One way ANOVA |
| 53- L48 | ANOVA in test in Latin Square Design |
| 54- L49 | Unit - V Algorithmic Research – Introduction |
| 55- L50 | Algorithmic Research Problems |
| 56- L51 | Types of Solution procedure/Algorithm |
| 57- L52 | Steps of Development of Algorithm |
| 58- L53 | Steps of algorithmic Research - |
| 59-P4 | College level meeting/ function |
| 60- L54 | Design of Experiments and Comparison of Algorithms - |
| 61- L55 | Meta Heuristics for Combinatorial Problems |
| 62- L56 | The Computer: Its Role in research |
| 63- L57 | The computer and Computer Technology |
| 64- L58 | Allotting portion for Internal Test-III |
| | Internal Test III begins(01.04.17) |
| 65- L59 | The Computer System |
| 66- L60 | Important Characteristics |
| 67-IT-III | Internal Test-III |
| 68- L61 | Computer Applications |
| 69- L62 | Computers and Researchers. |
| 70- L63 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 71-MT | Model Test begins(19.10.2017) |
| 72-MT | Model Test |
| 73-MT | Model Test |
| 74-L64 | Model test paper distribution and previous year university question |
| | paper discussion |
| 75-L65 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 06.11.2017 |
| | |

| Learning Outcomes | Research Methodology |
|--------------------------|-----------------------------------------------------------|
| | |
| CO1 | An Introduction - Meaning of Research |
| CO2 | Objectives of Research - Types of Research, Motivation in |
| | Research |
| CO3 | Algorithmic Research Problems |
| CO4 | Types of Solution procedure/Algorithm |
| CO5 | Steps of Development of Algorithm |

| CO6 | Different types of sample designs - How to select a random |
|----------------------------|------------------------------------------------------------|
| | sample? |
| CO7 | Random sample from an infinite Universe |
| CO8 | Complex random sampling designs |
| CO9 | Technique of Interpretation |
| Experimental | |
| Learning | |
| EL1 | Algorithmic Research Problems |
| EL2 | Layout of the Research Report |
| EL3 | Collection of Secondary Data |
| EL4 | Development of Algorithm |
| Integrated Activity | |
| IA1 | Random sample from an infinite Universe |
| IA2 | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|---------------------|-----------------------------------------|
| Course Name | DataCommunication and computer Networks |
| Course Code | PNTM11 |
| Class | I year (2017-2018) |
| Semester | Odd |
| Staff Name | A.BATHSHEBA PARIMALA |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |
| Total 75 Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 65 Hrs (5 units; 5×13=65; 13Hrs /unit)

Course Objectives

- ➤ Data Communications Networks
- ➤ Data Link Layer : Error Detection and Correction
- ➤ Layers Virtual-Circuit Networks
- ➤ Network Layer : Internet Protocol Internetworking
- > Frame Relay and ATM
- > Process-to-Process Delivery: UDP, TCP

Syllabus

Unit-I

Introduction: Data Communications - Networks - The Internet - Protocols and Standards. Network Models: The OSI Model - Layers in the OSI Model. Physical Layer and Media: Analog and Digital - Periodic Analog Signals - Digital Signals. Digital Transmission: Digital to Digital Conversion - Analog to Digital Conversion . Transmission Media : Guided Media - Unguided Media. Using Telephone and Cable Networks for Data Transmission: Telephone Network – Digital Subscriber Line.

Unit-II

Data Link Layer: Error Detection and Correction: Introduction – Block Coding – Cyclic Codes – Noisy Channels – HDLC. Multiple Access: Random Access. Wired LANs: Ethernet – Standard Ethernet – Fast Ethernet – Gigabit Ethernet.

Unit-III

SONET/SDH: Architecture – Sonet Layers Virtual-Circuit Networks: Frame Relay and ATM – . Network Layer: IPv4 Address – IPv6 Address.

Unit-IV

Network Layer : Internet Protocol – Internetworking – IPv4 – IPv6. Network Layer : Address Mapping , Error Reporting and Multicasting – ICMP – IGMP. Network Layer : Delivery , Forwarding, and Routing – Unicast Routing Protocols – Multicast Routing Protocols.

Unit-V

Process-to-Process Delivery: UDP, TCP – Process-to-Process Delivery – User Datagram Protocol(UDP) – TCP. Congestion Control and Quality of Service – Data Traffic – Congestion – Congestion Control – Quality of Service – Techniques to Improve. Application Layer: Name space – Domain Name System – Distribution of Name Space.

| Hour | Class Schedule |
|-----------|---------------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 16.06.2017 |
| 1-L1 | Introduction : Data Communications |
| 2-L2 | Networks |
| 3- L3 | The Internet |
| 4-L4 | C Network Models |
| 5-L5 | The OSI Model |
| 6-L6 | Layers in the OSI Model |
| 7-L7 | Physical Layer and Media |
| 8- P1 | Welcoming of First year and Inauguration of BCA& MSC Association |
| 9- L8 | Analog and Digital |
| 10- L9 | Periodic Analog Signals |
| 11-L10 | Digital Signals. |
| 12-L11 | Digital Transmission : Digital to Digital Conversion |
| 13-L12 | Transmission Media : Guided Media – Unguided Media |
| 14-L13 | Using Telephone and Cable Networks for Data Transmission: Telephone |
| | Network – Digital Subscriber Line. |
| 15-L14 | Data Link Layer |
| 16-L15 | Error Detection and Correction |
| 17- L16 | Introduction – Block Coding |
| 18- L17 | Cyclic Codes |
| 19- L18 | Noisy Channels |

| 20- L19 | HDLC. |
|----------|--------------------------------------------------------|
| 21- L20 | Allotting portion for Internal Test-I |
| | Internal Test I begins(31.07.17) |
| 22- L21 | Multiple Access : Random Access. |
| 23- IT-1 | Internal Test-I |
| 24- L22 | Wired LANs |
| 25- L23 | Ethernet |
| 26- L24 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 27- L25 | Standard Ethernet |
| 28- L26 | Fast Ethernet |
| 29- L27 | Gigabit Ethernet |
| 30- P2 | College level meeting/Cell function |
| 31-L28 | SONET/SDH |
| 32-L29 | Architecture |
| 33-L30 | Sonet Layers Virtual |
| 34- L31 | Circuit Networks |
| 35- L32 | Frame Relay |
| 36- L33 | ATM |
| 37- L34 | Network Layer |
| 38-L35 | IPv4 Address |
| 39- L36 | IPv6 Address |
| 40- L37 | Process-to-Process Delivery: |
| 41- L38 | UDP, TCP |
| 42-P3 | Department Seminar |
| 43- L39 | User Datagram Protocol(UDP) |
| 44- L40 | Congestion Control and Quality of Service |
| 45- L41 | Techniques to Improve. |
| 46- L42 | Application Layer |
| 47- L43 | Allotting portion for Internal Test-II |
| | Internal Test II begins(30.08.17) |
| 48- L44 | Name space |
| 49-IT-II | Internal Test-II |
| 50-L45 | Domain Name System |
| 51- L46 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 52- L47 | Distribution of Name Space. |
| 53- L48 | Network Layer |
| 54- L49 | Internet Protocol |
| 55- L50 | Internetworking |
| 56- L51 | IPv4 – IPv6 |
| 57- L52 | Network Layer |
| 58- L53 | Address Mapping |
| 59-P4 | College level meeting/ function |
| 60- L54 | Error Reporting and Multicasting |
| 61- L55 | ICMP |
| 62- L56 | IGMP |
| 63- L57 | Forwarding, and Routing |

| 64- L58 | Allotting portion for Internal Test-III |
|-----------|---------------------------------------------------------------------------|
| | Internal Test III begins(01.04.17) |
| 65- L59 | Techniques to Improve. |
| 66- L60 | Application Layer |
| 67-IT-III | Internal Test-III |
| 68- L61 | TCP. Congestion Control and Quality of Service |
| 69- L62 | Data Traffic |
| 70- L63 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 71-MT | Model Test begins(19.10.2017) |
| 72-MT | Model Test |
| 73-MT | Model Test |
| 74-L64 | Model test paper distribution and previous year university question paper |
| | discussion |
| 75-L65 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 06.11.2017 |

| Learning Outcomes | DataCommunication and computer Networks |
|----------------------------|-----------------------------------------------------------------|
| | |
| CO1 | The OSI Model |
| CO2 | Data Link Layer: Error Detection and Correction: Introduction – |
| | Block Coding |
| CO3 | Network Layer: IPv4 Address – IPv6 Address. |
| CO4 | IGMP. Network Layer |
| CO5 | Multicast Routing Protocols. |
| CO6 | TCP – Process-to-Process Delivery |
| CO7 | Techniques to Improve. |
| CO8 | Data Traffic |
| CO9 | Congestion |
| Experimental | |
| Learning | |
| EL1 | Mapping, Error Reporting and Multicasting – ICMP – IGMP |
| EL2 | Telephone Network – Digital Subscriber Line. |
| EL3 | Congestion – Congestion Control – Quality of Service |
| EL4 | Multicast Routing Protocols. |
| Integrated Activity | |
| IA1 | Application Layer : Name space – Domain Name System |
| IA2 | Distribution of Name Space. |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name M.Sc. NT&IT | |
|----------------------------------------------|-----------------------------|
| Course Name | OBJECT ORIENTED PROGRAMMING |
| | C++ |
| Course Code | PNTM12 |
| Class | I YEAR (2017-2018) |
| Semester | ODD |
| Staff Name | Mr.K.APPASAMY |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |
| Total 75 Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |
| Dept. Meetings-2 Hrs | |
| College Meetings-2 Hrs | |
| Remaining 65 Hrs (5 units; 5×13=65; 13Hrs / | unit) |

Course Objectives

- To understand how C++ improves C with object-oriented features.
- > To learn how to write inline functions for efficiency and performance.
- ➤ To learn how to design C++ classes for code reuse.

Syllabus

Unit-I Principles of Object Oriented Programming: Basic Concepts of Object Oriented Programming-Benefits of OOP —Applications of OOP — Tokens, Expressions and Control Structures: Tokens-Keywords- Identifiers and constants-Basic data types- User Defined Data Types — Derived Data types — Symbolic Constants —Type Compatibility — Declaration of Variables —Operators in C++ - Expressions and their types — Control Structures. **(12L)**

Unit- II Classes and Objects Specifying a class –Defining Member functions – Memory allocation for objects – Static Member functions –Arrays of Objects –Objects as Function Arguments – Friendly functions –Returning Objects – Pointers to Members . Constructors and Destructors – Parameterized Constructors –Multiple Constructors – Constructors with Default Arguments – Copy Constructor – Destructors. **(12L)**

Unit-III

Operator Overloading and Type conversions: Defining Operator Overloading – Overloading Unary Operators –Overloading binary Operators – Overloading binary operators using friends – Manipulation of Strings using operators – Rules for overloading operators – Type Conversions. Inheritance: Defining derived classes – single inheritance – Multilevel

Inheritance – Multiple Inheritance – Hierarchical Inheritance – Virtual base classes – Abstract Classes – Constructors in Derived classes – Nesting of classes. (10L)

Unit- IV Pointers, Virtual Functions and Polymorphism - Pointers - Pointers to Objects - this Pointer - Pointers to Derived Classes - Virtual functions - Pure virtual functions Managing Console I/O Operations : C++ streams - C++ Stream Classes - Unformatted I/O Operations - Formatted Console I/O Operations - Managing Output with Manipulators . **(13L)**

Unit-V Working with Files – Opening and closing a File – Updating a file – Command-line arguments – Templates – Class templates – Class templates with Multiple Parameters – Function Templates - Function Templates with multiple parameters- Overloading of Template functions – Member function Template-Exception handling Mechanisms. **(13L**

| Hour | Class Schedule |
|-----------|------------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 18.06.2017 |
| 1-L1 | Principles of Object Oriented Programming : |
| 2-L2 | Basic Concepts of Object Oriented Programming-Benefits of OOP |
| 3- L3 | Applications of OOP – Tokens, Expressions and Control Structures |
| 4-L4 | Tokens-Keywords- Identifiers and constants |
| 5-L5 | Basic data types- User Defined Data Types |
| 6-L6 | Derived Data types – Symbolic Constants – Type Compatibility – |
| 7-L7 | Declaration of Variables –Operators in C++ |
| 8- P1 | BCA &M.Sc(IT)Association |
| 9- L8 | Expressions and their types |
| 10- L9 | Control Structures. |
| 11-L10 | Classes and Objects Specifying a class |
| 12-L11 | Defining Member functions |
| 13-L12 | Memory allocation for objects – Static Member functions |
| 14-L13 | Arrays of Objects –Objects as Function Arguments |
| 15-L14 | Friendly functions –Returning Objects |
| 16-L15 | Pointers to Members . Constructors and Destructors – |
| 17- L16 | Parameterized Constructors –Multiple Constructors |
| 18- L17 | Constructors with Default Arguments – |
| 19- L18 | Copy Constructor – Destructors. |
| 20- L19 | Operator Overloading and Type conversions |
| 21- L20 | Allotting portion for Internal Test-I |
| | Internal Test I begins(31.07.17) |
| 22- L21 | Defining Operator Overloading – Overloading Unary Operators – |
| 23- IT-1 | Internal Test-I |
| 24- L22 | Overloading binary Operators |
| 25- L23 | Overloading binary operators using friends |
| 26- L24 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 27- L25 | Manipulation of Strings using operators |
| 28- L26 | Rules for overloading operators |

| 29- L27 | Type Conversions. Inheritance |
|--------------|---------------------------------------------------------|
| 30- P2 | College level meeting/Cell function |
| 31-L28 | Defining derived classes |
| 32-L29 | single inheritance – Multilevel Inheritance |
| 33-L30 | Multiple Inheritance – Hierarchical Inheritance |
| 34- L31 | Virtual base classes – |
| 35- L32 | Abstract Classes |
| 36- L33 | Constructors in Derived classes |
| 37- L34 | Nesting of classes. |
| 38-L35 | Pointers, Virtual Functions and Polymorphism |
| 39- L36 | Pointers – Pointers to Objects |
| 40- L37 | this Pointer – Pointers to Derived Classes – |
| 41- L38 | Virtual functions – Pure virtual functions |
| 42-P3 | Department Seminar |
| 43- L39 | Managing Console I/O Operations : |
| 44- L40 | C++ streams |
| 45- L41 | C++ Stream Classes |
| 46- L42 | Unformatted I/O Operations |
| 47- L43 | Allotting portion for Internal Test-II |
| | Internal Test II begins(30.08.17) |
| 48- L44 | Formatted Console I/O Operations |
| 49-IT-II | Internal Test-II |
| 50-L45 | Managing Output with Manipulators |
| 51- L46 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 52- L47 | Working with Files |
| 53- L48 | opening and closing a File |
| 54- L49 | Updating a file |
| 55- L50 | Command-line arguments |
| 56- L51 | Templates |
| 57- L52 | Class templates |
| 58- L53 | Class templates with Multiple Parameters |
| 59-P4 | College level meeting/ function |
| 60- L54 | Function Templates |
| 61- L55 | templates with Multiple Parameters |
| 62- L56 | Function Templates with |
| 63- L57 | multiple parameters- |
| 64- L58 | Allotting portion for Internal Test-III |
| | Internal Test III begins(01.04.17) |
| 65- L59 | Overloading |
| 66- L60 | Overloading of Template functions |
| 67-IT-III | Internal Test-III |
| 68- L61 | Member function Template- |
| 69- L62 | Exception handling Mechanisms |
| 70- L63 | Test Paper distribution and result analysis |
| 74.35 | Entering Internal Test-III Marks into University portal |
| 71-MT | Model Test begins(19.10.2017) |
| 72-MT | Model Test |

| 73-MT | Model Test |
|--------|---------------------------------------------------------------------------|
| | |
| 74-L64 | Model test paper distribution and previous year university question paper |
| | discussion |
| 75-L65 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 06.11.2017 |

| Learning Outcomes OBJECT ORIENTED PROGRAMMING C++ | |
|---------------------------------------------------|------------------------------------------|
| | |
| CO1 | Working with Files |
| CO2 | opening and closing a File |
| CO3 | Updating a file |
| CO4 | Command-line arguments |
| CO5 | Templates |
| CO6 | Class templates |
| CO7 | Class templates with Multiple Parameters |
| CO8 | Function Templates |
| CO9 | templates with Multiple Parameters |
| Experimental | |
| Learning | |
| EL1 | Program for classes and objects |
| EL2 | Overloading |
| EL3 | Decision and looping |
| EL4 | Working with files |
| Integrated Activity | |
| IA1 | Developing inheritance program |
| IA2 | Developing Template program |

Blended Learning : using PPT, video, library resources, ICT techniques,

E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|---------------------|---------------------------|
| Course Name | ADVANCED JAVA PROGRAMMING |
| Course Code | KNTM21 |
| Class | I year (2017-2018) |
| Semester | EVEN |
| Staff Name | Mr.I.THOMAS JEBASINGH |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |
| Total 75 Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |
| 1 | |

Model Test-3 Hrs
Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 65 Hrs (5 units; 5×13=65; 13Hrs /unit)

Course Objectives

- > To understand about introducing java
- > To understand about the evolution of java
- ➤ To understand about The logical evolution of C to C++
- > To understand aboutFundamentals of Java language
- > To understand aboutUsing data types
- > To understand aboutExpressions

Syllabus

Unit-I

Introducing Java-The Evolution of Java-The logical evolution of C to C++ and Java-Object oriented programming concepts and java programming with java. Getting started with Java Developer's kit(JDK)- The Java developer's environment. The Java browser and the world wide web –Navigating the world wide web –using URL"s- web surfing with Java enchanced browsers –Web-Hot spots for Java developers-Java tools-Java language. (12L)

Unit-II

Fundamentals of Java language-Token-Using data types-Expressions-Declarations-control flowBuilding objects-An introduction to classes- working with objects-packages-InheritanceInterfaces-threads-exceptions-streams. (10L)

Unit-III

Java API packages, The structure of API Packages. Using the Java API, API web reference Structure. The Java Applet class, Java language- packages and its classes. The AWT class library-Introduction to the AWT-Using the frame class to implement application windows-Implementing dialog boxes with dialog class –organizing the components using the panel and layout classes-using common GUI controls-using Fonts - image related classes-using scroll bars. The java I/O and utility class libraries. The Net and debug class libraries (13L)

Unit-IV

Defining the applet structure- building the applet- The Java extensions to HTML – Adding animation to web documents. The reducing animation flickers- Publishing a Java-presentation on the web. Applets reuse-adding functionality to existing applets –when to reuse –when to rewrite-extending an applet-Testing the extended applet.

JDBC: Java Database Connectivity, Types of JDBC drivers, Writing JDBC applications, Types of Statement objects, Types of resultset, Inserting an updating records, using transactions. (13L)

Unit-V:

Java Servlets: Java Servlets and CGI Programming –A Simple Java Servlet –Anatomy of a Java Servlet Reading Data from a Client –Sending Data to a Client – Working with Cookies Java Server Pages: JSP-JSP tags-Tomcat-Request String –User sessions-Cookies-Session Object. (12L)

| Hour allotment | Class Schedule |
|-------------------|----------------------------------------------------------------------------------------|
| | Odd Semester Begin on 07.12.2017 |
| 1-L1 | The Evolution of Java |
| 2-L2 | The logical evolution of C to C++ and Java |
| 3- L3 | Object oriented programming concepts and java programming with java |
| 4-L4 | Getting started with Java Developer's kit(JDK) |
| 5-L5 | The Java developer's environment |
| 6-L6 | The Java browser and the world wide web |
| 7-L7 | Navigating the world wide web |
| 8- P1 | Welcoming of First year and Inauguration of BCA Association |
| 9- L8 | Using URL"s- web surfing with Java enchanced browsers |
| 10- L9 | Web |
| 11-L10 | Hot spots for Java developers |
| 12-L11 | Java tools |
| 13-L12 14-L13 | Java language Evandomentals of Java language |
| | Fundamentals of Java language |
| 15-L14 | Token-Using data types |
| 16-L15 17- L16 | Expressions Declarations |
| 18- L17 | Control flow Building objects |
| 19- L17 | An introduction to classes |
| 20- L19 | working with objects |
| 21- L20 | Allotting portion for Internal Test-I |
| 21 L20 | Internal Test I begins(22.01.17) |
| 22- L21 | Packages |
| 23- IT-1 | Internal Test-I |
| 24- L22 | Inheritance Interfaces |
| 25- L23 | Threads |
| 26- L24 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 27- L25 | Exceptions |
| 28- L26 | Streams |
| 29- L27 | Java API packages |
| 30- P2 | College level meeting/Cell function |
| 31-L28 | The structure of API Packages |
| 32-L29 | Using the Java API, API web reference Structure |
| 33-L30 | The Java Applet class |
| 34- L31 | Java language |
| 35- L32 | packages and its classes |
| 36- L33 | The AWT class library |
| 37- L34 | Introduction to the AWT |
| 38-L35 | Using the frame class to implement application windows |
| 39- L36 | Implementing dialog boxes with dialog class |
| 40- L37 | Organizing the components using the panel and layout classes-using common GUI controls |
| 41- L38 | image related classes |

| 42-P3 | Department Seminar | |
|-----------|---------------------------------------------------------------------------|--|
| 43- L39 | using scroll bars | |
| 44- L40 | The java I/O and utility class libraries | |
| 45- L41 | The Net and debug class libraries | |
| 46- L42 | using Fonts | |
| 47- L43 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(26.02.18) | |
| 48- L44 | Java Database Connectivity, , , , , | |
| 49-IT-II | Internal Test-II | |
| 50-L45 | Types of JDBC drivers | |
| 51- L46 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 52- L47 | Writing JDBC applications | |
| 53- L48 | Types of Statement objects | |
| 54- L49 | Types of result set | |
| 55- L50 | Inserting an updating records | |
| 56- L51 | using transactions | |
| 57- L52 | Java Servlets and CGI Programming | |
| 58- L53 | A Simple Java Servlet | |
| 59-P4 | College level meeting/ function | |
| 60- L54 | Anatomy of a Java Servlet Reading Data from a Client | |
| 61- L55 | Sending Data to a Client | |
| 62- L56 | Working with Cookies Java Server Pages | |
| 63- L57 | JSP- JSP tags | |
| 64- L58 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(01.04.18) | |
| 65- L59 | JGP Sample Program | |
| 66- L60 | Tomcat- Request String | |
| 67-IT-III | Internal Test-III | |
| 68- L61 | Cookies-Session Object | |
| 69- L62 | User sessions | |
| 70- L63 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 71-MT | Model Test begins(12.04.2018) | |
| 72-MT | Model Test | |
| 73-MT | Model Test | |
| 74-L64 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 75-L65 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 23.04.2018 | |

| Learning Outcomes ADVANCED JAVA PROGRAMMING | |
|---------------------------------------------|-----------------------------------|
| | |
| CO1 | Writing JDBC applications |
| CO2 | Types of Statement objects |
| CO3 | Types of result set |
| CO4 | Inserting an updating records |
| CO5 | using transactions |
| CO6 | Java Servlets and CGI Programming |
| CO7 | A Simple Java Servlet |
| CO8 | Java Servlets and CGI Programming |
| CO9 | A Simple Java Servlet |
| Experimental | |
| Learning | |
| EL1 | Package |
| EL2 | Interface |
| EL3 | Applet |
| EL4 | |
| Integrated Activity | |
| IA1 | JDBC |
| IA2 | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|--------------------|---------------------|
| Course Name | Web Designing |
| Course Code | KNTM31 |
| Class | II year (2017-2018) |
| Semester | Odd |
| Staff Name | I.Thomas Jebasingh |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | • |

Total 60Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- ➤ HTML basics- Putting your Server to work-Server side programming- XML Basics
- > The Building blocks of PHP- Flow Control Functions in PHP- Working with Functions- Working with Arrays- Working with Objects- Working with Strings, **Dates and Time**
- Managing a Simple Mailing List- Creating an Online Address Book- Creating a Simple Discussion Forum- Creating an Online Storefront and shopping Cart Mechanism
- > Understanding the Database Design- Process Learning Basic SQL Commands Using Transactions and Stored Procedures in MySQL

Syllabus

Unit-1

Web programming Basics and Installations:

Web Publishing: A Quick look-HTML 4.0: the web Publishing Foundation- HTML basics- Putting your Server to work-Server side programming- XML Basics. (12L)

Unit-II

Installation and Configuration:

Getting up and running: Installation Quick Start Guide- Installing and configuring MySql-Installing and configuring Apache-Installing and configuring PHP. (10L)

Unit-III

PHP Language Structure:

The Building blocks of PHP- Flow Control Functions in PHP- Working with Functions- Working with Arrays- Working with Objects- Working with Strings, Dates and Time- Working with Forms-Working with Cookies and User Sessions- Working with Files and Directories Working with Images (14L)

Unit-IV

PHP and MySQL Integration:

Understanding the Database Design- Process Learning Basic SQL Commands Using Transactions and Stored Procedures in MySQL- Interacting with MySQL Using PHP. (12L)

Unit-V

Basic Projects:

Managing a Simple Mailing List- Creating an Online Address Book- Creating a Simple Discussion Forum- Creating an Online Storefront and shopping Cart Mechanism- Creating a Simple Calendar- Restricting Access to Your Applications- Logging and Monitoring Web Page 4 of 18 MSU / 2017-18 / PG —Colleges / M.Sc. (Networking and Information Technology) / Semester — III / Ppr.no.15 / Core-14

Server Activity- Application Localization- Working with XML- Connecting to Web Services Apache Performance Tuning and Virtual Hosting- Setting Up a Secure Web Server- Optimizing and Tuning MySQL. (12L)

| Hour allotment | Class Schedule |
|----------------|----------------------------------------------------------------------|
| | Odd Semester Begin on 16.06.2017 |
| 1-L1 | Web programming Basics and Installations: |
| 2-L2 | Web Publishing |
| 3- L3 | A Quick look |
| 4-L4 | HTML 4.0 |
| 5-L5 | web Publishing Foundation |
| 6-L6 | HTML basics |
| 7-L7 | Putting your Server to work |
| 8- P1 | Welcoming of First year and Inauguration of M.Sc(NT & IT)Association |
| 9- L8 | Server side programming |
| 10- L9 | XML Basics. |
| 11-L10 | Working with xml |
| 12-L11 | Xml program installation |
| 13-L12 | Installation and Configuration: |
| 14-L13 | Getting up and running |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins(31.07.17) |
| 16-L15 | Installation Quick Start Guide |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Installing and configuring MySql |
| 19-L17 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | Installing and configuring MySql |
| 21- L19 | Installing and configuring PHP |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | Quick Start |
| 24-L21 | Appache configuration |
| 25-L22 | Configuration of php |
| 26-L23 | PHP Language Structure: |
| 27-L24 | The Building blocks of PHP |
| 28-L25 | Control Functions in PHP |
| 29-L26 | Working with Functions |
| 30-L27 | Working with Arrays |
| 31-L28 | Working with Objects |
| 32-L29 | Working with Strings |
| 33-L30 | Dates and Time |
| 34- P3 | Department Seminar |
| 35-L31 | Working with Forms |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(30.08.17) |
| 37- L33 | Working with Cookies |
| 38- IT-II | Internal Test-II |

| 39-L34 | User Sessions |
|-----------|----------------------------------------------------------------------------------|
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Working with Files and Directories |
| 42- L37 | Working with Images |
| 43- L38 | Flow Control functions |
| 44- P4 | College level meeting/ function |
| 45-L39 | PHP and MySQL Integration: |
| 46-L40 | Understanding the Database Design |
| 47-L41 | Learning Basic SQL Commands |
| 48-L42 | Using Transactions and Stored Procedures in MySQL |
| 49-L43 | Interacting with MySQL Using PHP. |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(03.10.17) |
| 51 L45 | Basic Projects: |
| | Managing a Simple Mailing List- Creating an Online Address Book- Creating a |
| | Simple Discussion Forum- Creating an Online Storefront and shopping Cart |
| | Mechanism |
| 52- L46 | Creating a Simple Calendar- Restricting Access to Your Applications- Logging and |
| | Monitoring Server Activity- Application Localization |
| 53-IT-III | Internal Test-III |
| 54-L47 | Working with XML- Connecting to Web Services Apache Performance Tuning and |
| | Virtual Hosting- Setting Up a Secure Web Server- Optimizing and Tuning MySQL |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(12.04.2018) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 06.11.2017 |

| Learning Outcomes | Web Designing |
|--------------------------|----------------------------------|
| | |
| CO1 | HTML 4.0 |
| CO2 | web Publishing Foundation |
| CO3 | Server side programming |
| CO4 | XML Basics |
| CO5 | Xml program installation |
| CO6 | Installation Quick Start Guide |
| CO7 | Installing and configuring MySql |
| CO8 | Installing and configuring PHP |
| CO9 | Working with Strings |
| Experimental | |

| Learning | |
|----------------------------|------------------------------------|
| EL1 | Working with Cookies |
| EL2 | Working with Files and Directories |
| EL3 | Working with Images |
| EL4 | Flow Control functions |
| Integrated Activity | |
| IA1 | Interacting with MySQL Using PHP |
| IA2 | Application Localization |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

St. John's College, Palayamkottai

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | B.C.A. |
|--------------------|--------------------------------|
| Course Name | MANAGEMENT INFORMATION SYSTEMS |
| Course Code | PNTE21 |
| Class | I year (2018-2019) |
| Semester | Even |
| Staff Name | Mr.K.APPASAMY |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |

Internal Test-3 Hrs Model Test-3 Hrs Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- ✓ To understand Process of Management
- ✓ To understand Electronic Business Technology
- ✓ To understand Enterprise Management System

Syllabus

Unit-I Introduction to Management of Information Systems-Introduction - Role and Importance of Management-Process of Management —Organization structure and theory —Strategic Management of Business.

Unit-II Basics of Management Information Systems-Basics of Management Information Systems-Decision making —Information Systems-Systems analysis and design —development of MIS-Choice of information Technology. Nature of it decision, Information Technology to implementation plan, choice of the information Technology and the Management Information System.

Unit -III Application of Management Information Systems - Application in Manufacturing Sector - Applications in Service Sector - Decision Support Systems - Enterprise Management Systems.

Unit-IV Technology in Management Information Systems – Technology of Implementation Systems- Database Management Systems – Object Oriented Technology: Conceptual presentation. Client- Server architecture – Networks.

Unit -V Business Reprocess Engineering, Data Warehouse: Architecture of Implementation, Electronic Business Technology, WEB: A tool for Business Management. Case study: A Comprehensive case study on MIS, Information Management. System Development Cycle, Enterprise Management System, MIS in Research environment, Role of MIS in Consumer Goods Industry, Role of MIS in Capital Goods Industry, Comparison of Internet and Intranet Applications, knowledge of Management.

| Hour | Class Schedule | |
|-----------|---------------------------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 03.12.2018 | |
| 1-L1 | Introduction to Management of Information Systems | |
| 2-L2 | Introduction | |
| 3- L3 | Role and Importance of Management | |
| 4-L4 | Process of Management | |

| 5-L5 | Organization structure and theory |
|------------------|----------------------------------------------------------------------------------------|
| 6-L6 | Organization structure and theory |
| 7-L7 | Strategic Management of Business. |
| 8- P1 | Welcoming of First year and Inauguration of M.Sc[IT]Association |
| 9- L8 | Strategic Management of Business. |
| 10- L9 | Basics of Management Information Systems |
| 10- L9 11-L10 | Basics of Management Information Systems Basics of Management Information Systems |
| 12-L11 | Decision making |
| 13-L12 | <u> </u> |
| 13-L12 14-L13 | Decision making |
| 15-L14 | Information Systems-Systems analysis and design Allotting portion for Internal Test-I |
| 13-L14 | Internal Test I begins(18.01.19) |
| 16-L15 | Information Systems-Systems analysis and design |
| 17-IT-1 | Internal Test-I |
| 18-L16 | development of MIS |
| 19-L17 | Test Paper distribution and result analysis |
| 19-L17 | Entering Internal Test-I Marks into University portal |
| 20-L18 | Choice of information Technology. |
| 21- L19 | Nature of it decision, Information Technology to implementation plan |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | choice of the information Technology and the Management Information System. |
| 24-L21 | Application of Management Information Systems |
| 25-L22 | Application of Management Information Systems |
| 26-L23 | Application in Manufacturing Sector |
| 27-L24 | Applications in Service Sector |
| 28-L25 | Decision Support Systems |
| 29-L26 | Decision Support Systems |
| 30-L27 | Enterprise Management Systems |
| 31-L28 | Technology in Management Information Systems |
| 32-L29 | Technology of Implementation Systems |
| 33-L30 | Database Management Systems |
| 34- P3 | Department Seminar |
| 35-L31 | Database Management Systems |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(25.02.19) |
| 37- L33 | Object Oriented Technology : Conceptual presentation. Client |
| 38- IT-II | Internal Test-II |
| 39-L34 | Server architecture |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Server architecture |
| 42- L37 | Networks. |
| 43- L38 | |
| 44- P4 | College level meeting/ function |
| 45-L39 | Business Reprocess Engineering |
| 46-L40 | Data Warehouse: Architecture of Implementation |
| 47-L41 | Electronic Business Technology |
| 48-L42 | WEB: A tool for Business Management. Case study: A Comprehensive case study |

| on MIS |
|--------------------------------------------------------------------------------|
| Information Management. System Development Cycle |
| Allotting portion for Internal Test-III |
| Internal Test III begins(22.03.19) |
| Enterprise Management System- MIS in Research environment |
| Role of MIS in Consumer Goods Industry - Role of MIS in Capital Goods Industry |
| Internal Test-III |
| Comparison of Internet and Intranet Applications - knowledge of Management. |
| Test Paper distribution and result analysis |
| Entering Internal Test-III Marks into University portal |
| Model Test begins(08 |
| |
| .04.2019) |
| Model Test |
| Model Test |
| Model test paper distribution and previous year university question paper |
| discussion |
| Feedback of the Course, analysis and report preparation |
| Last Working day on 23.04.2019 |
| |

| Learning Outcomes | MANAGEMENT INFORMATION SYSTEMS |
|--------------------------|-----------------------------------|
| CO1 | Organization structure and theory |
| CO2 | Decision Support Systems |
| CO3 | Server architecture |
| CO4 | Enterprise Management Systems |
| CO5 | Applications in Service Sector |
| CO6 | Database Management Systems |
| CO7 | Client- Server architecture |
| CO8 | System Development Cycle |
| CO9 | MIS in Research environment |
| | |
| Experimental | |
| Learning | |
| EL1 | Introduction |
| EL2 | Role and Importance of Management |
| EL3 | Process of Management |
| EL4 | Organization structure and theory |
| Integrated Activity | |
| IA1 | Enterprise Management Systems |
| IA2 | Applications in Service Sector |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT | |
|---------------------|--------------------------|--|
| Course Name | RDBMS | |
| Course Code | PNTM22 | |
| Class | I year (2018-2019) | |
| Semester | EVEN | |
| Staff Name | MRS.A.BATHSHEBA PARIMALA | |
| Credits | 5 | |
| L. Hours /P. Hours | 5 / WK | |
| Total 75 Hrs/Sem | | |
| Internal Tost 2 Has | | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 65Hrs (5 units; 5×13=65; 13Hrs /unit)

Course Objectives

- > To understand about Relational Algebra
- > To understand about Combining logic
- > To understand about Third and Fourth normal forms

Syllabus

RDBMS CONCEPTS AND ORACLE

Unit-I Introduction – Purpose of data base systems – Data Models – Data Languages-Transaction management- storage Management-DBA –Database Users – System Structures – E-R Models- Entity and Entity Relationships – Mapping constraints and E-R Diagrams. **(10L)**

Unit-II Structure of Relational databases—Relational Algebra — Tuple Relational calculus — Domain Relational Calculus—Relational commercial languages (SQL, QBE, QUEL)—Integrity constraints—Normalization—Boyce—Codd—Third and Fourth normal forms—domain—Key normal form. (**13L**)

Unit-III Basic SQL Operations – creating a table – Insert- Rollback-Commit – AutoCommit-Delete-Update- Select, From, where and Order by -Single value tests – Like – simple tests against a list of values – Combining logic – Combining tables -Dropping tables - Dropping a column- creating a table from a table – Date functions – Conversion functions- Translate-

Decode-Creating a view – Advanced sub queries-Outer joins-Natural & Inner joins-Union, Intersect & Minus – synonyms- indexes- Tablespaces -Clusters- Sequences. (12L)

Unit-IV Basics of Object – Relational databases: Objects – Abstract Data types – Nested tables - Varying arrays – Large objects –References - Object Views – Naming conventions for objects- Structure of an Object. Users, Roles and Privilege: Creating a user – password management - Three Standard roles – Format for Grant command – Revoking privileges – what users can Grant: Moving to another user- Create synonym – Create a role – Granting privileges to a role – Granting a role to another role – Adding password to a role – Removing a password from a role – Enabling & Disabling roles – Revoking privileges from a role – dropping roles. **(13L)**

Unit-V An Introduction to PL/SQL: Pl/SQL overview- Declarations section - Executable commands section - Exception handling section - Triggers: Syntax - Types of Triggers: Row Level - statement - level - before & after - instead of - Schema - Database - Level triggers - Enabling & Disabling triggers - Replacing & Dropping triggers - Procedures, functions & Packages: syntax - Compile - Replace - Drop procedure, Functions & Packages - Cursor Management. **(12L)**

| Hour | Class Schedule |
|-----------|------------------------------------------------------------------------|
| allotment | |
| | EVEN Semester Begin on 13.12.2018 |
| 1-L1 | Unit-I Introduction – Purpose of data base systems |
| 2-L2 | Data Models , Data Languages |
| 3- L3 | Transaction management, storage Management-DBA |
| 4-L4 | Database Users |
| 5-L5 | System Structures , E-R Models |
| 6-L6 | Entity and Entity Relationships |
| 7-L7 | Mapping constraints and E-R Diagrams |
| 8- P1 | BCA&MSC IT Association |
| 9- L8 | Unit-II Structure of Relational databases |
| 10- L9 | Relational Algebra ,Tuple Relational calculus |
| 11-L10 | Domain Relational Calculus- Relational commercial languages (SQL, QBE, |
| | QUEL) |
| 12-L11 | Integrity constraints |
| 13-L12 | Normalization ,Boyce ,Codd |
| 14-L13 | Third and Fourth normal forms |
| 15-L14 | domain,Key normal form. |
| 16-L15 | Unit-III Basic SQL Operations |
| 17- L16 | creating a table |
| 18- L17 | Insert- Rollback-Commit |
| 19- L18 | AutoCommit-Delete-Update- |
| 20- L19 | Select, From, where and Order by - |
| 21- L20 | Allotting portion for Internal Test-I |
| | Internal Test I begins |
| 22- L21 | Single value tests |

| 23- IT-1 | Internal Test-I |
|--------------------|--------------------------------------------------------------------------------------------|
| 24- L22 | Like ,simple tests against a list of values |
| 25- L23 | Combining logic |
| 26- L24 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 27- L25 | Combining tables |
| 28- L26 | Dropping tables |
| 29- L27 | Dropping a column- creating a table from a table |
| 30- P2 | College level meeting/Cell function |
| 31-L28 | Date functions |
| 32-L29 | Conversion functions |
| 33-L30 | Translate, Decode, Creating a view |
| 34- L31 | Advanced sub queries |
| 35- L32 | Outer joins, Natural & Inner joins- |
| 36- L33 | Union, Intersect & Minus |
| 37- L34 | Synonyms, indexes |
| 38- L35 | Tablespaces, Clusters- Sequences. |
| 39- L36 | Unit-IV Basics of Object, Relational databases: Objects |
| 40- L37 | Abstract Data types, Nested tables - Varying arrays |
| 41- L38 | Large objects ,References |
| 42-P3 | Department Seminar |
| 43- L39 | Object Views |
| 44- L40 | Naming conventions for objects |
| 45- L41 | Structure of an Object. Users, Roles and Privilege: Creating a user |
| 46- L42 | password management ,Three Standard roles |
| 47- L43 | Allotting portion for Internal Test-II |
| | Internal Test II begins |
| 48- L44 | Format for Grant command, Revoking privileges |
| 49-IT-II | Internal Test-II |
| 50-L45 | what users can Grant: Moving to another user |
| 51- L46 | Test Paper distribution and result analysis |
| 50 I 47 | Entering Internal Test-II Marks into University portal |
| 52- L47 | Create synonym ,Create a role |
| 53- L48 | Granting privileges to a role |
| 54- L49 | Granting a role to another role |
| 55- L50 | Adding password to a role, Removing a password from a role, Enabling & |
| 56 T 51 | Disabling roles |
| 56- L51 | Revoking privileges from a role ,dropping roles |
| 57- L52 | Unit-V An Introduction to PL/SQL: Pl/SQL overview, Declarations section |
| 58- L53 | Executable commands section, Exception handling section |
| 59-P4 | College level meeting/ function Triggers: Syntax, Types of Triggers: Pow Level, statement |
| 60- L54 | Triggers: Syntax, Types of Triggers: Row Level, statement |
| 61- L55 | level ,before & after ,instead of |
| 62- L56 63- L57 | Schema, Database ,Level triggers Enobling & Disobling triggers |
| 64- L58 | Enabling & Disabling triggers Allotting portion for Internal Test III |
| 04- LJ8 | Allotting portion for Internal Test-III Internal Test III begins |
| 65- L59 | Replacing & Dropping triggers |
| 03- L39 | Lechacing & Drobbing miggers |

| 66- L60 | Procedures, functions & Packages: syntax |
|-----------|---------------------------------------------------------------------------|
| 67-IT-III | Internal Test-III |
| 68- L61 | Compile ,Replace |
| 69- L62 | Drop procedure, Functions & Packages, Cursor Management. |
| 70- L63 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 71-MT | Model Test begins(08.04.2019 |
| | |
| | |
| 72-MT | Model Test |
| 73-MT | Model Test |
| 74-L64 | Model test paper distribution and previous year university question paper |
| | discussion |
| 75-L65 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23.04.2019 |

| Learning Outcomes | RDBMS | | |
|--------------------------|-----------------------------------------------------------|--|--|
| | | | |
| CO1 | Object Views | | |
| CO2 | Granting privileges to a role | | |
| CO3 | Granting a role to another role | | |
| CO4 | Triggers: Syntax ,Types of Triggers: Row Level, statement | | |
| CO5 | Replacing & Dropping triggers | | |
| CO6 | Procedures, functions & Packages: syntax | | |
| CO7 | Abstract Data types, Nested tables | | |
| CO8 | Large objects ,References | | |
| CO9 | Varying arrays | | |
| Experimental | | | |
| Learning | | | |
| EL1 | Data Languages | | |
| EL2 | Users, Roles and Privilege | | |
| EL3 | Adding password to a role | | |
| EL4 | Removing a password from a role | | |
| Integrated Activity | | | |
| IA1 | Purpose of data base systems | | |
| IA2 | Basic SQL Operations | | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|--------------------|--------------------------------------|
| Course Name | Principles of Information Technology |
| Course Code | PNTM23 |
| Class | I year (2018-2019) |
| Semester | Even |
| Staff Name | Mr.S. IMMANUEL |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |

Total 60Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To understand Database Management System.
- > To understand Analog and Digital signals.
- > To understand Communication processors.

Syllabus

PRINCIPLES OF INFORMATION TECHNOLOGY

Unit-I INTRODUCTION TO COMPUTERS – Generations of modern computers – Classification of digital computer systems - Anatomy of a digital computer - computer software -Hardware/software interaction - Classification of software - Operating systems (functions & classification of Os) - Introduction to Database Management system (DBMS - benefits functions - DB users). (12L)

Unit-II Telecommunications - Introduction to Telecommunications: Analog and Digital Signals - Modulations - Types of modulations - Pulse modulation techniques - digital modulation - modems Computer Networks: Overview of networks - Communication processors - Communication media - Telecommunication Software - Types of network network topology. Communication System: Radio- TV - Microwave systems - Communication satellites – Radar – Fiber optics – ISDN – ADSL – T1 & T3 line connection. **(12L)**

Unit-III Introduction to Multimedia – Multimedia Applications: Multimedia in education and training – Multimedia in entertainment – multimedia in marketing – **Introduction to Virtual reality**: History of VR – present uses of VR – Future of VR. **(10L)**

Unit-IV New Technologies in Information Technologies- Introduction to Hypermedia – Artificial Intelligence & Business Intelligence – Knowledge Discovery in Databases (KDD) – Data mining and On_Line Analytical Processing (OLAP)- Geographical Information System(GIS) (13L)

Unit-V Application of Information Technology -Computers in business and Industry – Computers at Home – Computers in education and training- Computers in Entertainment Science, Media & Engineering- Mobile computing. **(13L)**

| Hour | Class Schedule | | | | | |
|-----------|---------------------------------------------------------------------------|--|--|--|--|--|
| allotment | | | | | | |
| | Odd Semester Begin on 03.12.2018 | | | | | |
| 1-L1 | Unit-I INTRODUCTION TO COMPUTERS – Generations of modern | | | | | |
| | computers | | | | | |
| 2-L2 | Classification of digital computer systems | | | | | |
| 3- L3 | Anatomy of a digital computer | | | | | |
| 4-L4 | computer software – Hardware/software interaction | | | | | |
| 5-L5 | Classification of software | | | | | |
| 6-L6 | Operating systems (functions & classification of Os) | | | | | |
| 7-L7 | Introduction to Database Management system (DBMS – benefits – functions – | | | | | |
| | DB users). | | | | | |
| 8- P1 | BCA &M.Sc(IT)Association | | | | | |
| 9- L8 | Unit-II Telecommunications - Introduction to Telecommunications: Analog | | | | | |
| | and Digital Signals | | | | | |
| 10- L9 | Modulations | | | | | |
| 11-L10 | Types of modulations | | | | | |
| 12-L11 | Pulse modulation techniques | | | | | |
| 13-L12 | digital modulation | | | | | |
| 14-L13 | modems Computer Networks: Overview of networks | | | | | |
| 15-L14 | Allotting portion for Internal Test-I | | | | | |
| | Internal Test I begins(30.07.18) | | | | | |
| 16-L15 | Communication processors | | | | | |
| 17-IT-1 | Internal Test-I | | | | | |
| 18-L16 | Communication media | | | | | |
| 19-L17 | Test Paper distribution and result analysis | | | | | |
| | Entering Internal Test-I Marks into University portal | | | | | |
| 20-L18 | Telecommunication Software | | | | | |
| 21- L19 | Types of network, network topology | | | | | |

| 22- P2 | College level meeting/Cell function | | |
|-----------|----------------------------------------------------------------------------------|--|--|
| 23-L20 | Communication System : Radio- TV | | |
| 24-L21 | Microwave systems | | |
| 25-L22 | Communication satellites – Radar | | |
| 26-L23 | Fiber optics – ISDN – ADSL | | |
| 27-L24 | T1 & T3 line connection | | |
| 28-L25 | Unit-III Introduction to Multimedia | | |
| 29-L26 | Multimedia Applications:- Multimedia in education and training | | |
| 30-L27 | Multimedia in entertainment | | |
| 31-L28 | multimedia in marketing | | |
| 32-L29 | Introduction to Virtual reality: History of VR | | |
| 33-L30 | present uses of VR | | |
| 34- P3 | Department Seminar | | |
| 35-L31 | Future of VR. | | |
| 36-L32 | Allotting portion for Internal Test-II | | |
| | Internal Test II begins(03.09.18) | | |
| 37- L33 | Unit-IV New Technologies in Information Technologies- Introduction to Hypermedia | | |
| 38- IT-II | Internal Test-II | | |
| 39-L34 | Artificial Intelligence | | |
| 40-L35 | Test Paper distribution and result analysis | | |
| | Entering Internal Test-II Marks into University portal | | |
| 41-L36 | Knowledge Discovery in Databases (KDD) | | |
| 42- L37 | Data mining and On_Line Analytical Processing (OLAP) | | |
| 43- L38 | Geographical Information System(GIS) | | |
| 44- P4 | College level meeting/ function | | |
| 45-L39 | Business Intelligence | | |
| 46-L40 | Unit-V Application of Information Technology | | |
| 47-L41 | IndustryComputers in business and | | |
| 48-L42 | Computers at Home | | |
| 49-L43 | Computers in education and training | | |
| 50-L44 | Allotting portion for Internal Test-III | | |
| | Internal Test III begins(08.10.18) | | |
| 51 L45 | Computers in Entertainment Science, | | |
| 52- L46 | Media & Engineering- | | |
| 53-IT-III | Internal Test-III | | |
| 54-L47 | Mobile Computing | | |
| 55-L48 | Test Paper distribution and result analysis | | |
| | Entering Internal Test-III Marks into University portal | | |
| 56- MT | Model Test begins(22.10.2018) | | |
| 57-MT | Model Test | | |
| 58-MT | Model Test | | |
| 59- L49 | Model test paper distribution and previous year university question paper | | |
| -0.70 | discussion | | |
| 60-L50 | Feedback of the Course, analysis and report preparation | | |
| | Last Working day on 23.04.2019 | | |

| Learning Outcomes | Principles of Information Technology | | |
|--------------------------|----------------------------------------|--|--|
| | | | |
| CO1 | Artificial Intelligence | | |
| CO2 | Knowledge Discovery in Databases (KDD) | | |
| CO3 | Business Intelligence | | |
| CO4 | IndustryComputers in business and | | |
| CO5 | Computers at Home | | |
| CO6 | Computers in education and training | | |
| CO7 | Computers in Entertainment Science, | | |
| CO8 Media & Engineering- | | | |
| CO9 | CO9 Mobile Computing | | |
| Experimental | | | |
| Learning | | | |
| EL1 | Multimedia in education and training | | |
| EL2 | Multimedia in entertainment | | |
| EL3 | Multimedia in marketing | | |
| EL4 | present uses of VR | | |
| Integrated Activity | | | |
| IA1 | Computers in business and Industry | | |
| IA2 | 2 Computers in education and training | | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

Department of Computer Application

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | MSc(NT&IT) |
|---------------------|---------------------------------|
| Course Name | Visual Basic |
| Course Code | PNTM31 |
| Class | I year (2018-209) |
| Semester | ODD |
| Staff Name | Mr. B.Edward Daniel Christopher |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60 Hrs/Sem | |
| Internal Test-3 Hrs | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- ➤ To understand the benefits of using Visual Basic for windows as an application tool.
- ➤ To understand the Visual Basic event-driven programming concepts, terminology and available tools
- ➤ Learn the fundamentals of designing, implementing and distributing a vb application.
- ➤ Learn to use the Visual Basic toolbox
- > To study connectivity between VB and databases.

VISUAL BASIC

UNIT I GETTING STARTED WITH VISUAL BASIC 6.0 Introduction to Visual Basic, Visual Basic 6.0 Programming Environment, Working with Forms, Developing an Application, Variables, Data types and Modules, Procedure and Control Structures, Array in Visual Basic, Additional examples. Working with Controls: Introduction, Creating and Using Controls, Working with Control Arrays, Additional examples.

UNIT II MENUS & GRAPHICS Menus, Mouse Events and Dialog Boxes: Introduction, Mouse Events, Dialog Boxes, Additional examples. Graphics, MDI and Flex Grid: Introduction, Graphics

for Applications, Multiple Document Interface (MDI), Using the flex Grid Control, Additional examples.

UNIT III OPEN DATABASE CONNECTIVITY ODBC and Data Access Objects: Evolution of Computer Architecture, Data Options, Additional examples. ODBC Using Data Access Objects and Remote Data objects: Open Database Connectivity (ODBC), Remote Data objects, Additional examples.

UNIT IV REPORT CREATION Data Environment and Data Report: Introduction, Data Environment Designer, Data Report, Additional examples. Object Linking and Embedding: Introduction, OLE Fundamentals, Using OLE Container Controls, Using OLE Automation Objects, OLE Drag and Drop, Additional examples.

UNIT V ACTIVE X CONTROLS Built – in Active X Controls: Working with Built – In ActiveXControls, Additional examples. Working with Active X Data objects; An Overview of ADO and OLE DB, ADO Object Model, Additional examples. Files, and File System Controls: Introduction, File System Controls, Accessing Files, Interface with Windows, Additional examples.

| Hour allotment | Class Schedule | | |
|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|--|--|
| anountent | odd Semester Begin on 18.06.2018 | | |
| 1-L1 | UNIT I GETTING STARTED WITH VISUAL BASIC 6.0 Introduction to Visual Basic, | | |
| | Visual Basic 6.0 Programming Environment. | | |
| 2-L2 | Working with Forms, Developing an Application, Variables, Data types | | |
| 3- L3 | Modules, Procedure and Control Structures | | |
| 4-L4 | Array in Visual Basic,1-D array, 2-D array- Additional examples. | | |
| 5-L5 | Working with Controls: Introduction-tool box – available controls | | |
| 6-L6 | Creating and Using Controls-command button, textbox control, dropdown listbox | | |
| 7-L7 | Picture box, option button, check box – scroll bars | | |
| 8-L8 | Common dialog control with examples | | |
| 9-L9 | Working with Control Arrays, Additional examples. | | |
| 10-L10 | Explanation for calculator programme | | |
| | | | |
| 11-L11 | UNIT II MENUS & GRAPHICS Menus, popup menu-introduction- sample | | |
| | programme | | |
| 13-L12 | Mouse Events | | |
| 14-L13 | Dialog Boxes: Introduction – Input box- Additional examples. | | |
| 15-L14 | Graphics – Image box- picturebox-pixel manipulation | | |
| | -Allotting portion for Internal Test-I | | |
| | Internal test I begins(30.07.18) | | |
| 16-L15 | MDI-Multiple document interface- creating MDI form and child form- sample | | |
| | programme and output | | |
| 17-IT-1 | Internal Test-I | | |
| 18-L16 | Flex Grid - Using the flex Grid Control | | |
| 19-L17 | Test Paper distribution and result analysis - sample programme for flex grid control design a form with flex grid – setting properties . | | |

| | Entering Internal Test-I Marks into University portal |
|-----------|------------------------------------------------------------------------------------------------------|
| 20-L18 | Programme for matrix addition using flex grid. |
| 21-P2 | College level meeting |
| 22-L19 | Dir listbox, drive listbox – sample programme to explain Dir and drive list boxes |
| 23-L20 | Exlaining the calculator programme. – Designing form – using contol arrays. |
| 24-L21 | UNIT III OPEN DATABASE CONNECTIVITYODBC - introduction |
| 25-L22 | Data Access Objects: Evolution of Computer Architecture, |
| 26-L23 | Data Options, Additional examples. ODBC Using Data Access Objects |
| 27-L24 | Remote Data objects |
| 28-L25 | Creating DSN using Open Database Connectivity (ODBC) |
| 29-L26 | Remote Data objects using ODBC - Additional examples. |
| 30-L27 | Insert – Delete – Update- coding using DAO |
| 31-L28 | Creating a student database in MS Access – connecting the database – Manipulating the data using RDO |
| 32-L29 | Linking database with data grid – Bound data with grid. |
| 33-L30 | Seminar By Students – Topic: Open database connectivity and RDO |
| | Allotting portion for Internal Test-II |
| | Internal test II begins(03.09.18) |
| 34- P3 | Unit IV:Report CreationData Environment and Data Report: Introduction |
| 35-L31 | Data Environment Designer, Data Report, Additional Examples |
| 36-L32 | Object Linking and Embedding: Introduction |
| 37-IT-II | OLE Fundamentals |
| 38-L33 | Using OLE Container Controls |
| 39-L34 | Using OLE Automation Objects |
| 40-L35 | OLE Drag and Drop |
| 41-L36 | Additional examples. |
| 42-P4 | UNIT - V ACTIVE X CONTROLS Built – in Active X Controls: |
| 43-L37 | Working with Built in controls |
| 44-L38 | ActiveX Controls- using and creating controls |
| 45-L39 | Additional examples. |
| 46-L40 | Working with Active X Data objects |
| 47-L41 | An Overview of ADO and OLE DB |
| 48-L42 | ADO Object Model. |
| 49-L43 | Additional examples |
| | Internal test III begins(08.10.18) |
| 50-L44 | Files, and File System Controls: Introduction |
| 51-IT-III | File System Controls |
| 52-L45 | Accessing Files |
| 53-L46 | Interface with Windows |
| 54-L47 | Additional Examples |
| 55-L48 | Entering Internal Test-III Marks into University portal |
| 56-L49 | Model Test begins(22.10.2018) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59-MT | Model test paper distribution and previous year university question paper discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |

| Learning Outcomes | Visual Basic |
|-------------------------------------------------------------------|-------------------------------------------------------|
| | |
| CO1 | Gain knowledge about GUI |
| CO2 | Skilled in form design and event driven programming |
| CO3 | Usage of various tools in visual basic |
| CO4 | Able to connect and access database |
| CO5 | Able to connect external data base using ODBC |
| CO6 How to prepare data report | |
| Experimental | |
| Learning | |
| EL1 | To do working models to explain Database connectiviy |
| EL2 | Getting resources about Visual basic through Internet |
| EL3 | GD on merit and demerit GUI |
| EL4 Discussion about Facebook and its database maintenance | |
| Integrated Activity | |
| IA1 Designing a billing software for grocery shop | |
| IA2 | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

Forslow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

Department of Computer Application & Networking

1. Questionnaires for Course Feedback from Students

| Name of the student | |
|---------------------|--|
| Programme Name | |
| Course Name | |
| Course code | |
| Year of Joining | |
| Semester | |
| Date | |

Put a tick in the best represents your response to each statement.

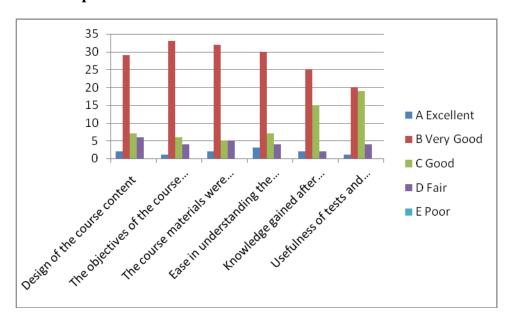
| No. | Parameters | A | В | С | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | The objectives of the course | A | В | C | D | Е |
| | were clearly stated. | | | | | |
| 3 | The course materials were | A | В | C | D | Е |
| | clearly explained. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | E |
| | course content. | | | | | |
| 5 | Knowledge gained after | A | В | C | D | Е |
| | completion of the course. | | | | | |
| 6 | Usefulness of tests and | A | В | C | D | Е |
| | assignments | | | | | |
| 7 | Extent of efforts required by | A | В | C | D | Е |
| | students. | | | | | |

Course Feedback Analysis and Report Preparation

Number of responses: 44

| No. | Parameters | A | В | С | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 2 | 29 | 7 | 6 | 0 |
| 2 | The objectives of the course | 1 | 33 | 6 | 4 | 0 |
| | were clearly stated. | 1 | 33 | U | 4 | U |
| 3 | The course materials were | 2 | 32 | 5 | 5 | 0 |
| | clearly explained. | 2 | 32 | 3 | 3 | U |
| 4 | Ease in understanding the | 3 | 30 | 7 | 4 | 0 |
| | course content. | 3 | 30 | , | 4 | U |
| 5 | Knowledge gained after | 2 | 25 | 15 | 2 | 0 |
| | completion of the course. | 2 | 23 | 13 | 2 | U |
| 6 | Usefulness of tests and | 1 | 20 | 19 | 4 | 0 |
| | assignments | 1 | 20 | 17 | 4 | U |
| 7 | Extent of efforts required by | 2 | 25 | 10 | 7 | 0 |
| | students. | 2 | 23 | 10 | / | U |

Chart Preparation



Report Preparation

Department of Computer Application & Networking

2. Questionnaires for Course Feedback from Teachers

| Name of the Teacher | |
|---------------------|--|
| Programme Name | |
| Course Name | |
| Course code | |
| Semester/Year | |
| Date | |

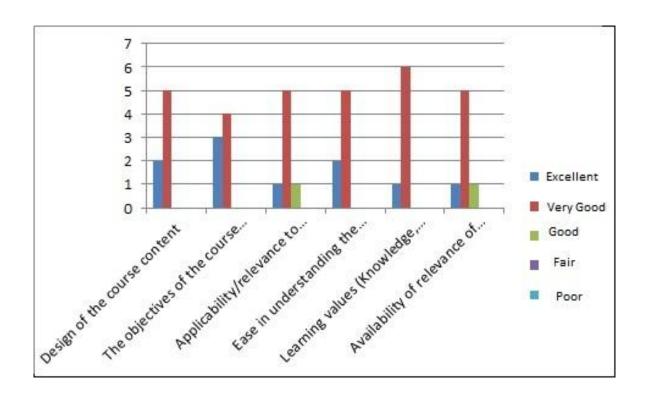
Put a tick in the best represents your response to each statement.

| No. | Parameters | A | В | C | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | The objectives of the course | A | В | C | D | Е |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | A | В | C | D | Е |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | Е |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | A | В | C | D | Е |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | A | В | C | D | Е |
| | additional source materials | | | | | |

Number of Responses: 7

| No. | Parameters | A | В | С | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 2 | 5 | 0 | 0 | 0 |
| 2 | The objectives of the course | 3 | 4 | 0 | 0 | 0 |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | 1 | 5 | 1 | 0 | 0 |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | 2 | 5 | 0 | 0 | 0 |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | 1 | 6 | 0 | 0 | 0 |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | 1 | 5 | 1 | 0 | 0 |
| | additional source materials | | | | | |

Chart preparation



Department of Application & Networking

3. Questionnaires for Course Feedback from Alumni

| Name of the Alumni | |
|--------------------|--|
| Programme Name | |
| Course Name | |
| Contact No/Mail id | |
| Semester and year | |
| Date | |

Put a tick in the best represents your response to each statement.

| No. | Parameters | A | В | C | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | Е |
| 2 | The objectives of the course | A | В | C | D | Е |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | A | В | C | D | Е |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | A | В | C | D | Е |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | A | В | C | D | Е |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | A | В | C | D | Е |
| | additional source materials | | | | | |

Number of Responses: 10

| No. | Parameters | A | В | С | D | Е |
|-----|---------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | 5 | 1 | 5 | 3 | 0 |
| 2 | The objectives of the course | 2 | 7 | 4 | 4 | 0 |
| | were clearly stated. | | | | | |
| 3 | Applicability/relevance to real | 2 | 5 | 2 | 1 | 0 |
| | life or job related. | | | | | |
| 4 | Ease in understanding the | 1 | 4 | 1 | 8 | 0 |
| | course content. | | | | | |
| 5 | Learning values (Knowledge, | 5 | 2 | 1 | 5 | 0 |
| | concepts, analytical abilities, | | | | | |
| | practical knowledge and | | | | | |
| | broadening skills) | | | | | |
| 6 | Availability of relevance of | 4 | 2 | 8 | 5 | 0 |
| | additional source materials | | | | | |

4. Questionnaires for Course Feedback from Parents

| Name of the Parent | |
|--------------------------|--|
| Name of the Student | |
| Programme Name | |
| Course Name | |
| Contact Number/Mail id | |
| Year of Joining/Semester | |
| Date | |

Put a tick in the best represents your response to each statement. 15

| No. | Parameters | A | В | С | D | Е |
|-----|-------------------------------|-----------|------|------|------|------|
| | | Excellent | Very | Good | Fair | Poor |
| | | | Good | | | |
| 1 | Design of the course content | A | В | C | D | E |
| 2 | Course materials available in | A | В | C | D | Е |
| | Library. | | | | | |
| 3 | The course materials were | A | В | C | D | Е |
| | clearly explained. | | | | | |
| 4 | Improvement in soft skills, | A | В | C | D | Е |
| | knowledge, observed by you in | | | | | |
| | your ward. | | | | | |
| 5 | Usefulness of the course for | A | В | C | D | E |
| | getting job. | | | | | |
| 6 | Extent of efforts required by | A | В | C | D | E |
| | students. | | | | | |

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|--------------------|--------------------------------------|
| Course Name | Principles of Information Technology |
| Course Code | KNTM23 |
| Class | I year (2018-2019) |
| Semester | Odd |
| Staff Name | Mr.L.ABRAHAM DAVID |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |

Total 60Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To understand Database Management System.
- > To understand Analog and Digital signals.
- > To understand Communication processors.

Syllabus

PRINCIPLES OF INFORMATION TECHNOLOGY

Unit-I INTRODUCTION TO COMPUTERS – Generations of modern computers – Classification of digital computer systems – Anatomy of a digital computer – computer software – Hardware/software interaction – Classification of software – Operating systems (functions & classification of Os) – Introduction to Database Management system (DBMS – benefits – functions – DB users). **(12L)**

Unit-II Telecommunications - Introduction to Telecommunications: Analog and Digital Signals - Modulations - Types of modulations - Pulse modulation techniques – digital modulation – modems **Computer Networks**: Overview of networks - Communication processors - Communication media - Telecommunication Software – Types of network – network topology. **Communication System**: Radio- TV – Microwave systems – Communication satellites – Radar – Fiber optics – ISDN – ADSL – T1 & T3 line connection. **(12L)**

Unit-III Introduction to Multimedia – Multimedia Applications:- Multimedia in education and training – Multimedia in entertainment – multimedia in marketing – **Introduction to Virtual reality**: History of VR – present uses of VR – Future of VR. **(10L)**

Unit-IV New Technologies in Information Technologies- Introduction to Hypermedia – Artificial Intelligence & Business Intelligence – Knowledge Discovery in Databases (KDD) – Data mining and OnLine Analytical Processing (OLAP)- Geographical Information System(GIS) (13L)

Unit-V Application of Information Technology -Computers in business and Industry – Computers at Home – Computers in education and training- Computers in Entertainment Science, Media & Engineering- Mobile computing. **(13L)**

REFERENCE BOOKS 1. Fundamental of Information Technology (second edition), Alexis Leon and Mathew Leon- Leon Vikas publication. 2. Information Technology – Dennis P.Curtin, Kim Foley, Kunalson, TATA McGRAW – Hill edition.

| Hour allotment | Class Schedule | | | |
|-------------------|---------------------------------------------------------------------------------------------|--|--|--|
| | Odd Semester Begin on 18.06.2017 | | | |
| 1-L1 | Unit-I INTRODUCTION TO COMPUTERS – Generations of modern computers | | | |
| 2-L2 | Classification of digital computer systems | | | |
| 3- L3 | Anatomy of a digital computer | | | |
| 4-L4 | computer software – Hardware/software interaction | | | |
| 5-L5 | Classification of software | | | |
| 6-L6 | Operating systems (functions & classification of Os) | | | |
| 7-L7 | Introduction to Database Management system (DBMS – benefits – functions – DB users). | | | |
| 8- P1 | BCA & M.Sc(IT)Association | | | |
| 9- L8 | Unit-II Telecommunications - Introduction to Telecommunications: Analog and Digital Signals | | | |
| 10- L9 | Modulations | | | |
| 11-L10 | Types of modulations | | | |
| 12-L11 | Pulse modulation techniques | | | |
| 13-L12 | digital modulation | | | |
| 14-L13 | modems Computer Networks: Overview of networks | | | |
| 15-L14 | Allotting portion for Internal Test-I | | | |
| | Internal Test I begins(30.07.18) | | | |
| 16-L15 | Communication processors | | | |
| 17-IT-1 | Internal Test-I | | | |
| 18-L16 | Communication media | | | |
| 19-L17 | Test Paper distribution and result analysis | | | |
| | Entering Internal Test-I Marks into University portal | | | |
| 20-L18 | Telecommunication Software | | | |

| 21- L19 | Types of network, network topology |
|-----------|----------------------------------------------------------------------------------|
| 22- P2 | College level meeting/Cell function |
| 23-L20 | Communication System : Radio- TV |
| 24-L21 | Microwave systems |
| 25-L22 | Communication satellites – Radar |
| 26-L23 | Fiber optics – ISDN – ADSL |
| 27-L24 | T1 & T3 line connection |
| 28-L25 | Unit-III Introduction to Multimedia |
| 29-L26 | Multimedia Applications:- Multimedia in education and training |
| 30-L27 | Multimedia in entertainment |
| 31-L28 | multimedia in marketing |
| 32-L29 | Introduction to Virtual reality: History of VR |
| 33-L30 | present uses of VR |
| 34- P3 | Department Seminar |
| 35-L31 | Future of VR. |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(03.09.18) |
| 37- L33 | Unit-IV New Technologies in Information Technologies- Introduction to Hypermedia |
| 38- IT-II | Internal Test-II |
| 39-L34 | Artificial Intelligence |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Knowledge Discovery in Databases (KDD) |
| 42- L37 | Data mining and On_Line Analytical Processing (OLAP) |
| 43- L38 | Geographical Information System(GIS) |
| 44- P4 | College level meeting/ function |
| 45-L39 | Business Intelligence |
| L | ı |

| 46-L40 | Unit-V Application of Information Technology |
|-----------|--------------------------------------------------------------------------------------|
| 47-L41 | IndustryComputers in business and |
| 48-L42 | Computers at Home |
| 49-L43 | Computers in education and training |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(8.10.18) |
| 51 L45 | Computers in Entertainment Science, |
| 52- L46 | Media & Engineering- |
| 53-IT-III | Internal Test-III |
| 54-L47 | Mobile Computing |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 06.11.2017 |

| Learning Outcomes | COs of the course " <course name="">"</course> |
|--------------------------|-------------------------------------------------------|
| | |
| CO1 | Artificial Intelligence |

| CO2 | Knowledge Discovery in Databases (KDD) |
|--------------------------|-------------------------------------------------------------------------------------------|
| CO3 | Business Intelligence |
| CO4 | IndustryComputers in business and |
| CO5 | Computers at Home |
| CO6 | Computers in education and training |
| CO7 | Computers in Entertainment Science, |
| CO8 | Media & Engineering- |
| CO9 | Mobile Computing |
| Experimental Learning | |
| EL1 | |
| | Analog and Digital Signals |
| EL2 | Multimedia in education and training |
| | |
| EL2 | Multimedia in education and training |
| EL2 EL3 | Multimedia in education and training Data mining and OnLine Analytical Processing (OLAP) |
| EL2 EL3 EL4 | Multimedia in education and training Data mining and OnLine Analytical Processing (OLAP) |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|----------------------|--------------------|
| Course Name | EMBEDDED SYSTEMS |
| Course Code | KNTM24 |
| Class | I year (2018-2019) |
| Semester | Odd |
| Staff Name | Mr.B.EDWARD DANIEL |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| Internal Test 2 IIms | |

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To understand programmable logic device.
- > To understand development environment.
- > To understand advanced communication principles.

Syllabus

Unit-I

Embedded systems Overview - Design Challenge - Optimizing Design Metrics, Processor Technology, IC Technology - Introduction- Full Custom (VLSI) IC Technology - Semi Custom (ASIC) IC Technology, Programmable Logic Device (PLD) IC Technology.-Design Technology, Trade - Offs- Custom Single - Purpose Processors: Hardware - Combinational Logic, Sequential Logic, Custom Single - Purpose Processors Design, Optimizing Custom Single - Purpose Processors.

Unit-II

General Purpose Processors: Software – Introduction- Basic Architecture-Operation Programmers View - Development Environment - Application – Specific Instruction – Set

Processors, Selecting a Microprocessor, General Purpose Processor Design - Standard Single -Purpose Processors: Peripherals – Introduction - Timers - Counters and watchdog Timers - UART - Pulse width modulators - LCD Controllers - Keypad Controllers.

Unit-III

Memory - Introduction, Memory write ability and storage permanence - Common MemoryTypes - Composing Memory, Memory Hierarchy and cache - Advanced RAM. Interfacing -Introduction Communication Basics - Microprocessor Interfacing: I/O Addressing -Microprocessor Interfacing: Interrupts - Microprocessor Interfacing: Direct Memory Access -Arbitration, Multilevel Bus Architectures - Advanced Communication Principles - serialProtocols - Parallel Protocols-wireless protocols. (10L)

Unit-IV

State Machine and Concurrent Process Models - Introduction, Model vs Languages, Text vsGraphics, An Introductory example- A Basic State Machine Model: Finite - state machinesFinite - state machine with data path Model: FSMD - Using state machines-HCFSM and theState charts Language- Program - state machine model- process model Concurrent processes-Communication among Processes - Synchronization among processes - Implementation, Dataflow model- Real time systems. (13L)

Unit-V

Advanced Embedded Systems: ATmega Processors-Introduction-architecture-instruction setSREG-general purpose registers-stack-interrupt vectors AT 8535 Processor-Serial PortsMemory map-Addressing modes-Operational features and programming aspects-control blockchoosing the prescalar-ATmega Analog to digital converters-Serial I/O-Programmable logic-Introduction to Xmega family-Infrared communication-Data encryption and decryption-DMA.

| Hour | Class Schedule |
|-----------|--------------------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 18.06.2018 |
| 1-L1 | Embedded systems Overview - Design Challenge – Optimizing Design Metrics |
| 2-L2 | Processor Technology, IC Technology |
| 3- L3 | Introduction Full Custom (VLSI) IC Technology Semi Custom (ASIC) IC |
| | Technology |
| 4-L4 | Programmable Logic Device (PLD) IC Technology |
| 5-L5 | Design Technology, Trade - Offs- Custom Single |
| 6-L6 | Purpose Processors: Hardware – Combinational Logic, Sequential Logic, |
| 7-L7 | Custom Single - Purpose Processors Design |
| 8- P1 | BCA &M.Sc(IT)Association |
| 9- L8 | Optimizing Custom Single - Purpose Processors |
| 10- L9 | General Purpose Processors: Software – Introduction- Basic Architecture |
| 11-L10 | Operation Programmers View - Development Environment |

| 12-L11 | Application – Specific Instruction |
|------------------|-------------------------------------------------------------------------------|
| 13-L12 | SetProcessors, Selecting a Microprocessor |
| 13-L12 14-L13 | General Purpose Processor Design - Standard Single -Purpose Processors: |
| 14-L13 | Peripherals – Introduction |
| 15-L14 | Allotting portion for Internal Test-I |
| 13 114 | Internal Test I begins(30.07.18) |
| 16-L15 | Timers - Counters and watchdog Timers –UART |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Pulse width modulators - LCD Controllers - Keypad Controllers |
| 19-L17 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | Memory - Introduction, Memory write ability and storage permanence |
| 21- L19 | Common MemoryTypes - Composing Memory, Memory Hierarchy and cache - |
| | Advanced RAM |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | Interfacing –Introduction Communication Basics |
| 24-L21 | Microprocessor Interfacing: I/O Addressing -Microprocessor Interfacing: |
| | Interrupts |
| 25-L22 | Microprocessor Interfacing: Direct Memory Access -Arbitration, Multilevel Bus |
| | Architectures |
| 26-L23 | Advanced Communication Principles - serialProtocols - Parallel Protocols- |
| | wireless protocols |
| 27-L24 | State Machine and Concurrent Process Models – Introduction |
| 28-L25 | Model vs Languages, Text vsGraphics |
| 29-L26 | An Introductory example- A Basic State Machine Model: Finite – state machines |
| 30-L27 | Finite - state machine with data path Model: FSMD - Using state machines |
| 31-L28 | HCFSM and theState charts Language- Program |
| 32-L29 | State machine model- process model Concurrent processes |
| 33-L30 | Communication among Processes - Synchronization among processes |
| 34- P3 | Department Seminar |
| 35-L31 | Implementation, Dataflow model- Real time systems |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(03.09.18) |
| 37- L33 | Advanced Embedded Systems: ATmega Processors- |
| 38- IT-II | Internal Test-II |
| 39-L34 | Introduction |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | architecture-instruction setSREG- |
| 42- L37 | general purpose registers |
| 43- L38 | stack-interrupt vectors AT 8535Processor |
| 44- P4 | College level meeting/ function |
| 45-L39 | Serial PortsMemory map-Addressing modes |
| 46-L40 | Operational features and programming aspects |
| 47-L41 | Control blockchoosing the prescalar |
| 48-L42 | ATmegaAnalog to digital converters |
| 49-L43 | Serial I/O |

| 50-L44 | Allotting portion for Internal Test-III |
|-----------|---------------------------------------------------------------------------|
| | Internal Test III begins(08.10.18) |
| 51 L45 | Programmable logic |
| 52- L46 | Introduction to Xmega family- Infrared communication |
| 53-IT-III | Internal Test-III |
| 54-L47 | Data encryption and decryption-DMA |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(22.10.2018) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23.11.2018 |

| Learning Outcomes | EMBEDDED SYSTEMS |
|----------------------------|---------------------------------------------------------|
| | |
| CO1 | general purpose registers |
| CO2 | stack-interrupt vectors AT 8535Processor |
| CO3 | Serial PortsMemory map-Addressing modes |
| CO4 | Operational features and programming aspects |
| CO5 | Control blockchoosing the prescalar |
| CO6 | ATmegaAnalog to digital converters |
| CO7 | Serial I/O |
| CO8 | Implementation, Dataflow model- Real time systems |
| CO9 | State machine model- process model Concurrent processes |
| Experimental | |
| Learning | |
| EL1 | |
| EL2 | |
| EL3 | |
| EL4 | |
| Integrated Activity | |
| IA1 | |
| IA2 | |

Blended Learning : using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|--------------------|----------------------|
| Course Name | Research Methodology |
| Course Code | KNTM34 |
| Class | I year (2018-2019) |
| Semester | Odd |
| Staff Name | Mr.B.JEFFERSON |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |
| | • |

Total 75 Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 65Hrs (5 units; 5×13=65; 13Hrs /unit)

Course Objectives

- > ToUnderstand about Meaning of Research
- > ToUnderstand about Objectives of Research
- > To Understand about Types of Research
- > To Understand about Motivation in Research
- ➤ To Understand about Research Approaches
- > To Understand about Research Methods Verses Methodology

Syllabus

Research Methodology

Unit-I Research Methodology: An Introduction - Meaning of Research - Objectives of Research - Types of Research, Motivation in Research - Research Approaches, Significance of Research - Research Methods Verses Methodology - Research and Scientific Method - Research Process - Criteria of Good Research - Problems Encountered by Researchers in India. Defining the Research Problem: What is a Research Problem? - Selecting the Problem - Technique Involved in Defining a Problem - Research Design: Meaning - Need for research Design - Features of a Good Design - Important Concept relating to Research Design - Different Research Designs - Basic Principles of Experimental Designs.

Unit-II Sampling Design: Census and sample survey - Implications of a sample design - Steps in sample design - Criteria of selecting a sampling procedure - Characteristics of a good sample design - Different types of sample designs - How to select a random sample? - Random sample from an infinite Universe - Complex random sampling designs - Measurement and scaling Techniques: measurement in research - Measurement scales - Sources of error in measurement - Tests of sound measurements - Technique of developing measurement tools - Scaling, meaning of scaling - Scale classification bases - Important scaling techniques - Scale construction techniques.

Unit-III Methods of Data Collection - Collection of Primary Data - Observation Method - Interview method - Collection of Data through Questionnaires - Collection of Data through Schedules - Some Other Methods of Data Collection - Collection of Secondary Data - Selection of Appropriate Method for Data Collection - Interpretation and Report writing - Meaning of Interpretation, Why Interpretation? - Technique of Interpretation, Precaution in Interpretation - Significance of Report Writing - Different Steps in Writing Report - Layout of the Research Report - Types of Reports - Mechanics of Writing a Research Report - Precautions for Writing Research Reports.

Unit-IV Chi-Square Test for large samples – Definition of Chi-Square – Limitations of Chi-Square test - Chi-Square test as a test of goodness of fit and as a test of independence – Yate "s correction and its applications – Analysis of variance(ANOVA): Concept – One way ANOVA – ANOVA in test in Latin Square Design

Unit - V Algorithmic Research – Introduction - Algorithmic Research Problems - Types of Solution procedure/Algorithm - Steps of Development of Algorithm - Steps of algorithmic Research - Design of Experiments and Comparison of Algorithms - Meta Heuristics for Combinatorial Problems - The Computer: Its Role in research - The computer and Computer Technology - The Computer System - Important Characteristics - Computer Applications- Computers and Researchers.

REFERENCE BOOKS:

- 1. C.R.Kothari, "Research Methodology Methods and Techniques", (Second Revised Edition), New Age International Publishers, New Delhi, 2010.
- 2. R.Panneerselvam, "Research Methodology", PHI Learning Private Limited, New Delhi, 2009.

| Hour | Class Schedule |
|-----------|--------------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 18.06.2018 |
| 1-L1 | Unit-I Research Methodology: An Introduction - Meaning of Research |
| 2-L2 | Objectives of Research - Types of Research, Motivation in Research |

| 1 4-1 4 | Algorithmic Research Problems |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3-L3 4-L4 | Types of Solution procedure/Algorithm |
| 5-L5 | Steps of Development of Algorithm |
| 6-L6 | The Computer: Its Role in research |
| 7-L7 | Research Approaches, Significance of Research |
| 8- P1 | BCA &M.Sc(IT)ASSOCIATION |
| 9- L8 | Features of a Good Design - Important Concept relating to Research Design |
| 10- L9 | Different Research Designs - Basic Principles of Experimental Designs. |
| 11-L10 | Unit-II Sampling Design: Census and sample survey - Implications of a |
| 11-L10 | sample design - Steps in sample design |
| 12-L11 | Criteria of selecting a sampling procedure - Characteristics of a good sample |
| 12 211 | design |
| 13-L12 | Different types of sample designs - How to select a random sample? |
| 14-L13 | Random sample from an infinite Universe |
| 15-L14 | Complex random sampling designs |
| 16-L15 | Measurement and scaling Techniques: measurement in research - |
| | Measurement scales |
| 17- L16 | Sources of error in measurement - Tests of sound measurements - |
| 18- L17 | Technique of developing measurement tools - Scaling, meaning of scaling |
| 19- L18 | Scale classification bases - Important scaling techniques |
| 20- L19 | Scale construction techniques. |
| 21- L20 | Allotting portion for Internal Test-I |
| | Internal Test I begins(30.07.18) |
| 22- L21 | Unit-III Methods of Data Collection - Collection of Primary Data |
| 23- IT-1 | Internal Test-I |
| 24- L22 | Observation Method - Interview method - |
| 25- L23 | Collection of Data through Questionnaires |
| 26- L24 | Test Paper distribution and result analysis |
| 20- L24 | |
| | Entering Internal Test-I Marks into University portal |
| 27- L25 | Entering Internal Test-I Marks into University portal Collection of Data through Schedules |
| 27- L25 28- L26 | Entering Internal Test-I Marks into University portal Collection of Data through Schedules Schedules |
| 27- L25 28- L26 29- L27 | Entering Internal Test-I Marks into University portal Collection of Data through Schedules Schedules Collection of Secondary Data |
| 27- L25 28- L26 29- L27 30- P2 | Entering Internal Test-I Marks into University portal Collection of Data through Schedules Schedules Collection of Secondary Data College level meeting/Cell function |
| 27- L25 28- L26 29- L27 30- P2 31-L28 | Entering Internal Test-I Marks into University portal Collection of Data through Schedules Schedules Collection of Secondary Data College level meeting/Cell function Selection of Appropriate Method for Data Collection |
| 27- L25 28- L26 29- L27 30- P2 31-L28 32-L29 | Entering Internal Test-I Marks into University portal Collection of Data through Schedules Schedules Collection of Secondary Data College level meeting/Cell function Selection of Appropriate Method for Data Collection Interpretation and Report writing |
| 27- L25 28- L26 29- L27 30- P2 31-L28 32-L29 33-L30 | Entering Internal Test-I Marks into University portal Collection of Data through Schedules Schedules Collection of Secondary Data College level meeting/Cell function Selection of Appropriate Method for Data Collection Interpretation and Report writing Meaning of Interpretation, Why Interpretation? |
| 27- L25 28- L26 29- L27 30- P2 31-L28 32-L29 33-L30 34- L31 | Entering Internal Test-I Marks into University portal Collection of Data through Schedules Schedules Collection of Secondary Data College level meeting/Cell function Selection of Appropriate Method for Data Collection Interpretation and Report writing Meaning of Interpretation, Why Interpretation? Technique of Interpretation, |
| 27- L25 28- L26 29- L27 30- P2 31-L28 32-L29 33-L30 34- L31 35- L32 | Entering Internal Test-I Marks into University portal Collection of Data through Schedules Schedules Collection of Secondary Data College level meeting/Cell function Selection of Appropriate Method for Data Collection Interpretation and Report writing Meaning of Interpretation, Why Interpretation? Technique of Interpretation, Precaution in Interpretation |
| 27- L25 28- L26 29- L27 30- P2 31-L28 32-L29 33-L30 34- L31 35- L32 36- L33 | Entering Internal Test-I Marks into University portal Collection of Data through Schedules Schedules Collection of Secondary Data College level meeting/Cell function Selection of Appropriate Method for Data Collection Interpretation and Report writing Meaning of Interpretation, Why Interpretation? Technique of Interpretation, Precaution in Interpretation Significance of Report Writing - |
| 27- L25 28- L26 29- L27 30- P2 31-L28 32-L29 33-L30 34- L31 35- L32 36- L33 37- L34 | Entering Internal Test-I Marks into University portal Collection of Data through Schedules Schedules Collection of Secondary Data College level meeting/Cell function Selection of Appropriate Method for Data Collection Interpretation and Report writing Meaning of Interpretation, Why Interpretation? Technique of Interpretation, Precaution in Interpretation Significance of Report Writing - Different Steps in Writing Report |
| 27- L25 28- L26 29- L27 30- P2 31-L28 32-L29 33-L30 34- L31 35- L32 36- L33 37- L34 38- L35 | Entering Internal Test-I Marks into University portal Collection of Data through Schedules Schedules Collection of Secondary Data College level meeting/Cell function Selection of Appropriate Method for Data Collection Interpretation and Report writing Meaning of Interpretation, Why Interpretation? Technique of Interpretation, Precaution in Interpretation Significance of Report Writing - Different Steps in Writing Report Layout of the Research Report |
| 27- L25 28- L26 29- L27 30- P2 31-L28 32-L29 33-L30 34- L31 35- L32 36- L33 37- L34 38- L35 39- L36 | Entering Internal Test-I Marks into University portal Collection of Data through Schedules Schedules Collection of Secondary Data College level meeting/Cell function Selection of Appropriate Method for Data Collection Interpretation and Report writing Meaning of Interpretation, Why Interpretation? Technique of Interpretation, Precaution in Interpretation Significance of Report Writing - Different Steps in Writing Report Layout of the Research Report Types of Reports |
| 27- L25 28- L26 29- L27 30- P2 31-L28 32-L29 33-L30 34- L31 35- L32 36- L33 37- L34 38- L35 39- L36 40- L37 | Entering Internal Test-I Marks into University portal Collection of Data through Schedules Schedules Collection of Secondary Data College level meeting/Cell function Selection of Appropriate Method for Data Collection Interpretation and Report writing Meaning of Interpretation, Why Interpretation? Technique of Interpretation, Precaution in Interpretation Significance of Report Writing - Different Steps in Writing Report Layout of the Research Report Types of Reports Mechanics of Writing a Research Report |
| 27- L25 28- L26 29- L27 30- P2 31-L28 32-L29 33-L30 34- L31 35- L32 36- L33 37- L34 38- L35 39- L36 40- L37 41- L38 | Entering Internal Test-I Marks into University portal Collection of Data through Schedules Schedules Collection of Secondary Data College level meeting/Cell function Selection of Appropriate Method for Data Collection Interpretation and Report writing Meaning of Interpretation, Why Interpretation? Technique of Interpretation, Precaution in Interpretation Significance of Report Writing - Different Steps in Writing Report Layout of the Research Report Types of Reports Mechanics of Writing a Research Report Precautions for Writing Research Reports. |
| 27- L25 28- L26 29- L27 30- P2 31-L28 32-L29 33-L30 34- L31 35- L32 36- L33 37- L34 38- L35 39- L36 40- L37 41- L38 42-P3 | Entering Internal Test-I Marks into University portal Collection of Data through Schedules Schedules Collection of Secondary Data College level meeting/Cell function Selection of Appropriate Method for Data Collection Interpretation and Report writing Meaning of Interpretation, Why Interpretation? Technique of Interpretation, Precaution in Interpretation Significance of Report Writing - Different Steps in Writing Report Layout of the Research Report Types of Reports Mechanics of Writing a Research Report Precautions for Writing Research Reports. Department Seminar |
| 27- L25 28- L26 29- L27 30- P2 31-L28 32-L29 33-L30 34- L31 35- L32 36- L33 37- L34 38- L35 39- L36 40- L37 41- L38 42-P3 43- L39 | Entering Internal Test-I Marks into University portal Collection of Data through Schedules Schedules Collection of Secondary Data College level meeting/Cell function Selection of Appropriate Method for Data Collection Interpretation and Report writing Meaning of Interpretation, Why Interpretation? Technique of Interpretation, Precaution in Interpretation Significance of Report Writing - Different Steps in Writing Report Layout of the Research Report Types of Reports Mechanics of Writing a Research Report Precautions for Writing Research Reports. Department Seminar Unit-IV Chi-Square Test for large samples |
| 27- L25 28- L26 29- L27 30- P2 31-L28 32-L29 33-L30 34- L31 35- L32 36- L33 37- L34 38- L35 39- L36 40- L37 41- L38 42-P3 | Entering Internal Test-I Marks into University portal Collection of Data through Schedules Schedules Collection of Secondary Data College level meeting/Cell function Selection of Appropriate Method for Data Collection Interpretation and Report writing Meaning of Interpretation, Why Interpretation? Technique of Interpretation, Precaution in Interpretation Significance of Report Writing - Different Steps in Writing Report Layout of the Research Report Types of Reports Mechanics of Writing a Research Report Precautions for Writing Research Reports. Department Seminar |

| 46- L42 | Chi-Square test as a test of goodness of fit and as a test of independence |
|-----------|----------------------------------------------------------------------------|
| 47- L43 | Allotting portion for Internal Test-II |
| | Internal Test II begins(03.09.18) |
| 48- L44 | Yate"s correction and its applications |
| 49-IT-II | Internal Test-II |
| 50-L45 | Analysis of variance(ANOVA): Concept |
| 51- L46 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 52- L47 | One way ANOVA |
| 53- L48 | ANOVA in test in Latin Square Design |
| 54- L49 | Unit - V Algorithmic Research – Introduction |
| 55- L50 | Algorithmic Research Problems |
| 56- L51 | Types of Solution procedure/Algorithm |
| 57- L52 | Steps of Development of Algorithm |
| 58- L53 | Steps of algorithmic Research - |
| 59-P4 | College level meeting/ function |
| 60- L54 | Design of Experiments and Comparison of Algorithms - |
| 61- L55 | Meta Heuristics for Combinatorial Problems |
| 62- L56 | The Computer: Its Role in research |
| 63- L57 | The computer and Computer Technology |
| 64- L58 | Allotting portion for Internal Test-III |
| | Internal Test III begins(08.10.18) |
| 65- L59 | The Computer System |
| 66- L60 | Important Characteristics |
| 67-IT-III | Internal Test-III |
| 68- L61 | Computer Applications |
| 69- L62 | Computers and Researchers. |
| 70- L63 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 71-MT | Model Test begins(22.10.2018) |
| 72-MT | Model Test |
| 73-MT | Model Test |
| 74-L64 | Model test paper distribution and previous year university question |
| | paper discussion |
| 75-L65 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23.11.2018 |

| Learning Outcomes | Research Methodology |
|--------------------------|-----------------------------------------------------------|
| CO1 | An Introduction - Meaning of Research |
| CO2 | Objectives of Research - Types of Research, Motivation in |
| | Research |
| CO3 | Algorithmic Research Problems |
| CO4 | Types of Solution procedure/Algorithm |
| CO5 | Steps of Development of Algorithm |

| CO6 | Different types of sample designs - How to select a random |
|----------------------------|------------------------------------------------------------|
| | sample? |
| CO7 | Random sample from an infinite Universe |
| CO8 | Complex random sampling designs |
| CO9 | Technique of Interpretation |
| Experimental | |
| Learning | |
| EL1 | Algorithmic Research Problems |
| EL2 | Layout of the Research Report |
| EL3 | Collection of Secondary Data |
| EL4 | Development of Algorithm |
| Integrated Activity | |
| IA1 | ANOVA in test in Latin Square Design |
| IA2 | Random sample from an infinite Universe |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|---------------------|-----------------------------------------|
| Course Name | DataCommunication and computer Networks |
| Course Code | PNTM11 |
| Class | I year (2018-2019) |
| Semester | Odd |
| Staff Name | A.BATHSHEBA PARIMALA |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |
| Total 75 Hrs/Sem | |
| Internal Test-3 Hrs | |
| Model Test-3 Hrs | |

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 65 Hrs (5 units; 5×13=65; 13Hrs /unit)

Course Objectives

- ➤ Data Communications Networks
- ➤ Data Link Layer : Error Detection and Correction
- ➤ Layers Virtual-Circuit Networks
- ➤ Network Layer : Internet Protocol Internetworking
- > Frame Relay and ATM
- ➤ Process-to-Process Delivery: UDP, TCP

Syllabus

Unit-I

Introduction: Data Communications - Networks - The Internet - Protocols and Standards. Network Models: The OSI Model - Layers in the OSI Model. Physical Layer and Media: Analog and Digital - Periodic Analog Signals - Digital Signals. Digital Transmission: Digital to Digital Conversion - Analog to Digital Conversion . Transmission Media : Guided Media - Unguided Media. Using Telephone and Cable Networks for Data Transmission: Telephone Network – Digital Subscriber Line.

Unit-II

Data Link Layer: Error Detection and Correction: Introduction – Block Coding – Cyclic Codes – Noisy Channels – HDLC. Multiple Access: Random Access. Wired LANs: Ethernet – Standard Ethernet – Fast Ethernet – Gigabit Ethernet.

Unit-III

SONET/SDH: Architecture – Sonet Layers Virtual-Circuit Networks: Frame Relay and ATM – . Network Layer: IPv4 Address – IPv6 Address.

Unit-IV

Network Layer : Internet Protocol – Internetworking – IPv4 – IPv6. Network Layer : Address Mapping , Error Reporting and Multicasting – ICMP – IGMP. Network Layer : Delivery , Forwarding, and Routing – Unicast Routing Protocols – Multicast Routing Protocols.

Unit-V

Process-to-Process Delivery: UDP, TCP – Process-to-Process Delivery – User Datagram Protocol(UDP) – TCP. Congestion Control and Quality of Service – Data Traffic – Congestion – Congestion Control – Quality of Service – Techniques to Improve. Application Layer: Name space – Domain Name System – Distribution of Name Space.

| Hour | Class Schedule |
|-----------|---------------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 18.06.2018 |
| 1-L1 | Introduction : Data Communications |
| 2-L2 | Networks |
| 3- L3 | The Internet |
| 4-L4 | C Network Models |
| 5-L5 | The OSI Model |
| 6-L6 | Layers in the OSI Model |
| 7-L7 | Physical Layer and Media |
| 8- P1 | Welcoming of First year and Inauguration of BCA& MSC Association |
| 9- L8 | Analog and Digital |
| 10- L9 | Periodic Analog Signals |
| 11-L10 | Digital Signals. |
| 12-L11 | Digital Transmission : Digital to Digital Conversion |
| 13-L12 | Transmission Media : Guided Media – Unguided Media |
| 14-L13 | Using Telephone and Cable Networks for Data Transmission: Telephone |
| | Network – Digital Subscriber Line. |
| 15-L14 | Data Link Layer |
| 16-L15 | Error Detection and Correction |
| 17- L16 | Introduction – Block Coding |

| 18- L17 | Cyclic Codes |
|--------------------|--------------------------------------------------------|
| 19- L18 | Noisy Channels |
| 20- L19 | HDLC. |
| 20- L17 21- L20 | Allotting portion for Internal Test-I |
| 21- L20 | Internal Test I begins(30.07.18) |
| 22- L21 | Multiple Access: Random Access. |
| 23- IT-1 | Internal Test-I |
| 24- L22 | Wired LANs |
| 25- L23 | Ethernet |
| 26- L24 | Test Paper distribution and result analysis |
| 20 121 | Entering Internal Test-I Marks into University portal |
| 27- L25 | Standard Ethernet |
| 28- L26 | Fast Ethernet |
| 29- L27 | Gigabit Ethernet |
| 30- P2 | College level meeting/Cell function |
| 31-L28 | SONET/SDH |
| 32-L29 | Architecture |
| 33-L30 | Sonet Layers Virtual |
| 34- L31 | Circuit Networks |
| 35- L32 | Frame Relay |
| 36- L33 | ATM |
| 37- L34 | Network Layer |
| 38-L35 | IPv4 Address |
| 39- L36 | IPv6 Address |
| 40- L37 | Process-to-Process Delivery: |
| 41- L38 | UDP, TCP |
| 42-P3 | Department Seminar |
| 43- L39 | User Datagram Protocol(UDP) |
| 44- L40 | Congestion Control and Quality of Service |
| 45- L41 | Techniques to Improve. |
| 46- L42 | Application Layer |
| 47- L43 | Allotting portion for Internal Test-II |
| 10.7.11 | Internal Test II begins(03.09.18) |
| 48- L44 | Name space |
| 49-IT-II | Internal Test-II |
| 50-L45 | Domain Name System |
| 51- L46 | Test Paper distribution and result analysis |
| 50 T 47 | Entering Internal Test-II Marks into University portal |
| 52- L47 | Distribution of Name Space. |
| 53- L48 | Network Layer |
| 54- L49 | Internet Protocol |
| 55- L50 56- L51 | Internetworking IPv4 – IPv6 |
| 57- L52 | Network Layer |
| 57- L52 58- L53 | Address Mapping |
| 59-P4 | College level meeting/ function |
| 60- L54 | Error Reporting and Multicasting |
| 61- L55 | ICMP |
| 01- L33 | ICIVIT |

| 62- L56 | IGMP |
|-----------|---------------------------------------------------------------------------|
| 63- L57 | Forwarding, and Routing |
| 64- L58 | Allotting portion for Internal Test-III |
| | Internal Test III begins(08.10.18) |
| 65- L59 | Techniques to Improve. |
| 66- L60 | Application Layer |
| 67-IT-III | Internal Test-III |
| 68- L61 | TCP. Congestion Control and Quality of Service |
| 69- L62 | Data Traffic |
| 70- L63 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 71-MT | Model Test begins(22.10.2018 |
| | |
| 72-MT | Model Test |
| 73-MT | Model Test |
| 74-L64 | Model test paper distribution and previous year university question paper |
| | discussion |
| 75-L65 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23.11.2018 |

| Learning Outcomes | DataCommunication and computer Networks | |
|----------------------------|---------------------------------------------------------|--|
| CO1 | The OSI Model | |
| CO2 | | |
| CO2 | l | |
| G02 | Block Coding | |
| CO3 | Network Layer: IPv4 Address – IPv6 Address. | |
| CO4 | IGMP. Network Layer | |
| CO5 | Multicast Routing Protocols. | |
| CO6 | TCP – Process-to-Process Delivery | |
| CO7 | Techniques to Improve. | |
| CO8 | Data Traffic | |
| CO9 | Congestion | |
| Experimental | | |
| Learning | | |
| EL1 | Mapping, Error Reporting and Multicasting – ICMP – IGMP | |
| EL2 | Telephone Network – Digital Subscriber Line. | |
| EL3 | Congestion – Congestion Control – Quality of Service | |
| EL4 | EL4 Multicast Routing Protocols. | |
| Integrated Activity | | |
| IA1 | Application Layer: Name space – Domain Name System | |
| IA2 | Distribution of Name Space. | |

Blended Learning

: using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT | |
|---------------------------------------------------|-----------------------------|--|
| Course Name | OBJECT ORIENTED PROGRAMMING | |
| | C++ | |
| Course Code | PNTM12 | |
| Class | I YEAR (2018-2019) | |
| Semester | ODD | |
| Staff Name | Mr.K.APPASAMY | |
| Credits | 5 | |
| L. Hours /P. Hours | 5 / WK | |
| Total 75 Hrs/Sem | | |
| Internal Test-3 Hrs | | |
| Model Test-3 Hrs | | |
| Dept. Meetings-2 Hrs | | |
| College Meetings-2 Hrs | | |
| Remaining 65 Hrs (5 units; 5×13=65; 13Hrs /unit) | | |

Course Objectives

- To understand how C++ improves C with object-oriented features.
- > To learn how to write inline functions for efficiency and performance.
- ➤ To learn how to design C++ classes for code reuse

Syllabus

Unit-I Principles of Object Oriented Programming: Basic Concepts of Object Oriented Programming-Benefits of OOP —Applications of OOP — Tokens, Expressions and Control Structures: Tokens-Keywords- Identifiers and constants-Basic data types- User Defined Data Types — Derived Data types — Symbolic Constants —Type Compatibility — Declaration of Variables—Operators in C++ - Expressions and their types — Control Structures. **(12L)**

Unit- II Classes and Objects Specifying a class –Defining Member functions – Memory allocation for objects – Static Member functions –Arrays of Objects –Objects as Function Arguments – Friendly functions –Returning Objects – Pointers to Members . Constructors and Destructors – Parameterized Constructors –Multiple Constructors – Constructors with Default Arguments – Copy Constructor – Destructors. **(12L)**

Unit-III

Operator Overloading and Type conversions: Defining Operator Overloading – Overloading Unary Operators –Overloading binary Operators – Overloading binary operators using friends – Manipulation of Strings using operators – Rules for overloading operators – Type Conversions. Inheritance: Defining derived classes – single inheritance – Multilevel

Inheritance – Multiple Inheritance – Hierarchical Inheritance – Virtual base classes – Abstract Classes – Constructors in Derived classes – Nesting of classes. (10L)

Unit- IV Pointers, Virtual Functions and Polymorphism - Pointers - Pointers to Objects - this Pointer - Pointers to Derived Classes - Virtual functions - Pure virtual functions Managing Console I/O Operations : C++ streams - C++ Stream Classes - Unformatted I/O Operations - Formatted Console I/O Operations - Managing Output with Manipulators . **(13L)**

Unit-V Working with Files – Opening and closing a File – Updating a file – Command-line arguments – Templates – Class templates – Class templates with Multiple Parameters – Function Templates - Function Templates with multiple parameters- Overloading of Template functions – Member function Template-Exception handling Mechanisms. **(13L)**

| Hour | Class Schedule | |
|-----------|------------------------------------------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 18.06.2018 | |
| 1-L1 | Principles of Object Oriented Programming : | |
| 2-L2 | Basic Concepts of Object Oriented Programming-Benefits of OOP | |
| 3- L3 | Applications of OOP – Tokens, Expressions and Control Structures | |
| 4-L4 | Tokens-Keywords- Identifiers and constants | |
| 5-L5 | Basic data types- User Defined Data Types | |
| 6-L6 | Derived Data types – Symbolic Constants – Type Compatibility – | |
| 7-L7 | Declaration of Variables –Operators in C++ | |
| 8- P1 | BCA &M.Sc(IT)Association | |
| 9- L8 | Expressions and their types | |
| 10- L9 | Control Structures. | |
| 11-L10 | Classes and Objects Specifying a class | |
| 12-L11 | Defining Member functions | |
| 13-L12 | Memory allocation for objects – Static Member functions | |
| 14-L13 | Arrays of Objects –Objects as Function Arguments | |
| 15-L14 | Friendly functions –Returning Objects | |
| 16-L15 | Pointers to Members. Constructors and Destructors – | |
| 17- L16 | Parameterized Constructors –Multiple Constructors | |
| 18- L17 | Constructors with Default Arguments – | |
| 19- L18 | Copy Constructor – Destructors. | |
| 20- L19 | Operator Overloading and Type conversions | |
| 21- L20 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(30.07.18) | |
| 22- L21 | Defining Operator Overloading – Overloading Unary Operators – | |
| 23- IT-1 | Internal Test-I | |
| 24- L22 | Overloading binary Operators | |
| 25- L23 | Overloading binary operators using friends | |
| 26- L24 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 27- L25 | Manipulation of Strings using operators | |
| 28- L26 | Rules for overloading operators | |

| 29- L27 | Type Conversions. Inheritance | |
|-----------|---------------------------------------------------------|--|
| 30- P2 | College level meeting/Cell function | |
| 31-L28 | Defining derived classes | |
| 32-L29 | single inheritance – Multilevel Inheritance | |
| 33-L30 | Multiple Inheritance – Hierarchical Inheritance | |
| 34- L31 | Virtual base classes – | |
| 35- L32 | Abstract Classes | |
| 36- L33 | Constructors in Derived classes | |
| 37- L34 | Nesting of classes. | |
| 38-L35 | Pointers, Virtual Functions and Polymorphism | |
| 39- L36 | Pointers – Pointers to Objects | |
| 40- L37 | this Pointer – Pointers to Derived Classes – | |
| 41- L38 | Virtual functions – Pure virtual functions | |
| 42-P3 | Department Seminar | |
| 43- L39 | Managing Console I/O Operations : | |
| 44- L40 | : C++ streams – | |
| 45- L41 | C++ Stream Classes | |
| 46- L42 | Unformatted I/O Operations | |
| 47- L43 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(03.09.18) | |
| 48- L44 | Formatted Console I/O Operations | |
| 49-IT-II | Internal Test-II | |
| 50-L45 | Managing Output with Manipulators | |
| 51- L46 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 52- L47 | Working with Files | |
| 53- L48 | opening and closing a File | |
| 54- L49 | Updating a file | |
| 55- L50 | Command-line arguments | |
| 56- L51 | Templates | |
| 57- L52 | Class templates | |
| 58- L53 | - Class templates with Multiple Parameters | |
| 59-P4 | College level meeting/ function | |
| 60- L54 | Function Templates | |
| 61- L55 | templates with Multiple Parameters | |
| 62- L56 | Function Templates with | |
| 63- L57 | multiple parameters- | |
| 64- L58 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(08.10.18) | |
| 65- L59 | Overloading | |
| 66- L60 | Overloading of Template functions | |
| 67-IT-III | Internal Test-III | |
| 68- L61 | Member function Template- | |
| 69- L62 | Exception handling Mechanisms | |
| 70- L63 | Test Paper distribution and result analysis | |
| 71 1/0 | Entering Internal Test-III Marks into University portal | |
| 71-MT | Model Test begins(22.10.2018) | |
| 72-MT | Model Test | |

| 73-MT | Model Test |
|--------|---------------------------------------------------------------------------|
| | |
| 74-L64 | Model test paper distribution and previous year university question paper |
| | discussion |
| 75-L65 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23.11.2018 |

| Learning Outcomes | OBJECT ORIENTED PROGRAMMING C++ |
|----------------------------|------------------------------------------|
| | |
| CO1 | Working with Files |
| CO2 | opening and closing a File |
| CO3 | Updating a file |
| CO4 | Command-line arguments |
| CO5 | Templates |
| CO6 | Class templates |
| CO7 | Class templates with Multiple Parameters |
| CO8 | Function Templates |
| CO9 | templates with Multiple Parameters |
| Experimental | |
| Learning | |
| EL1 | Program for classes and objects |
| EL2 | Overloading |
| EL3 | Decision and looping |
| EL4 | Working with files |
| Integrated Activity | |
| IA1 | Developing inheritance program |
| IA2 | Developing Constructor program |

Blended Learning : using PPT, video, library resources, ICT techniques,

E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|--------------------|--------------------|
| Course Name | E-commerce |
| Course Code | PNTM15 |
| Class | I year (2018-2019) |
| Semester | Odd |
| Staff Name | S. IMMANUEL |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total COLLys/Com | |

Total 60Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- definition of electronic commerce
- > internet associated risk
- open system interconnect (OSI)
- > capabilities of intelligent agent

Syllabus

Unit-I

Overview of electronic commerce: introduction-definition of electronic commerce-potential benefits of electronic commerce-internet and www as enablers of electronic commerce-impact of electronic commerce on business models-electronic commerce security-organization of topics-implications for the accounting. Electronic commerce and the role of independent third parties: introduction-consulting practices and accountants-independence-cpa vision problemnew assurance services identified by the aicpa-impact of Electronic commerce on the traditional assurance function-third party Assurance of web based electronic commerce-implications for the accounting. Regulatory environment: introduction-cryptography issues-privacy issues-web linking-domain name disputes-internet] sales tax-electronic agreement and digital signature — Internet service providers and international libel laws-implications for the accounting. (12L) Unit-

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Edi electronic commerce and the internet: introduction-traditional Edi system-data transfer and standards-financial Edi-Edi systems and the internet-impact of Edi internet applications on the

accounting profession. Risks of insecure system: introduction-overview of risks associated with internet transactions-internet associated risk- intranet associated risk-social engineering-risks associated with business transactions- risks associated with confidentially maintained archival-Master file and reference data- risks associated with virus and malicious-implications of the accounting. Risks management: introduction- control weakness vs control risks – Risk management paradigm – disaster recovery plans- Implications of the accounting. (13L)

Internet security standards:-introductions- standard setting issues and Committees - security committees and organization - security protocols and languages-messaging protocols – secure electronic payments and protocols-the role of accountants in internet related standard setting process. Cryptography and authentication: introduction-message security issues- Encryption techniques-key management-additional authentication methods-additional non repudiation techniques. (11L)

Unit-IV

Firewalls: introduction – firewall defined – TCP/IP-open system interconnect (OSI)-components of firewall-typical functionality of firewalls- network topology-securing the firewall-factors to consider in firewall design – in-house solutions Vs commercial fire wall software-limitations of security prevention provided by firewall. Introduction-the *set* protocol – magnetic strip cards-smart cards-electronic check-electronic cash.(12L)

Unit-V

Intelligent agent: introduction-definition of intelligent agent-capabilities of intelligent agent-level of agent sophistication-agent societies- intelligent agents and electronic commerce-online information Chain - limitations of agents- implications of the accounting. Web based marketing: introduction-the scope of marketing-business marketing and information technology-strategy congruence-the four P"s applied to internet marketing – the fifth "P" personalization- internet marketing techniques-online advertisement mechanisms –web site design issues- Intelligent agent and their impacts on marketing techniques. (12L)

| Hour | Class Schedule | |
|-----------|----------------------------------------------------------------------------------|--|
| allotment | | |
| | Odd Semester Begin on 18.06.2018 | |
| 1-L1 | Overview of electronic commerce: introduction-definition of electronic commerce | |
| 2-L2 | potential benefits of electronic commerce-internet and www as enablers of | |
| | electronic commerce-impact of electronic commerce on business models | |
| 3- L3 | electronic commerce security-organization of topics-implications for the | |
| | accounting | |
| 4-L4 | Electronic commerce and the role of independent third parties: introduction- | |
| | consulting practices and accountants | |
| 5-L5 | independence-cpa vision problem- new assurance services identified by the aicpa- | |
| 6-L6 | impact of Electronic commerce on the traditional assurance function | |
| 7-L7 | third party Assurance of web based electronic commerce-implications for the | |
| | accounting. | |
| 8- P1 | Welcoming of First year and Inauguration of M.Sc (NT & IT)Association | |
| 9- L8 | Regulatory environment: introduction | |

| 10- L9 | cryptography issues-privacy issues-web linking-domain name disputes | |
|-----------|-------------------------------------------------------------------------------------------------|--|
| 11-L10 | internet sales tax-electronic agreement and digital signature | |
| 12-L11 | Internet service providers and international libel laws | |
| 13-L12 | implications for the accounting. | |
| 14-L13 | Edi electronic commerce and the internet: introduction | |
| 15-L14 | - Allotting portion for Internal Test-I | |
| 13 211 | Internal Test I begins(30.07.18) | |
| 16-L15 | traditional Edi system-data transfer and standards | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | financial Edi-Edi systems and the internet | |
| 19-L17 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | impact of Edi internet applications on the accounting profession | |
| 21- L19 | Risks of insecure system: introduction-overview of risks associated with internet | |
| | transactions | |
| 22- P2 | College level meeting/Cell function | |
| 23-L20 | internet associated risk- intranet associated risk | |
| 24-L21 | social engineering-risks associated with business transactions | |
| 25-L22 | risks associated with confidentially maintained archival | |
| 26-L23 | Master file and reference data- risks associated with virus and malicious | |
| 27-L24 | implications of the accounting | |
| 28-L25 | Risks management: introduction- control weakness vs control risks | |
| 29-L26 | Risk management paradigm—disasterrecovery plans- Implications of the accounting | |
| 30-L27 | Internet security standards:-introductions | |
| 31-L28 | standard setting issues and Committees- security committees and organization | |
| 32-L29 | security protocols and languages- messaging protocols- secure electronic payments and protocols | |
| 33-L30 | the role of accountants in internet related standard setting process- introduction- | |
| | message security issues- Encryption techniques-key management | |
| 34- P3 | Department Seminar | |
| 35-L31 | Firewalls: introduction — TCP/IP-open system interconnect (OSI) | |
| 36-L32 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(03.09.18) | |
| 37- L33 | components of firewall-typical functionality of firewalls- network topology | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | securing the firewall-factors to consider in firewall design – in-house solutions Vs | |
| | commercial fire wall software | |
| 40-L35 | Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 41-L36 | limitations of security prevention provided by firewall. Introduction-the set | |
| | protocol – magnetic strip cards-smart cards-electronic check-electronic cash | |
| 42- L37 | Intelligent agent: introduction-definition of intelligent agent | |
| 43- L38 | capabilities of intelligent agent-level of agent sophistication-agent societies | |
| 44- P4 | College level meeting/ function | |
| 45-L39 | intelligent agents and electronic commerce-online information Chain - limitations of | |
| | agents- implications of the accounting | |
| 46-L40 | Web based marketing: introduction-the scope of marketing | |

| 47-L41 | business marketing and information technology-strategy congruence | |
|-----------|---------------------------------------------------------------------------|--|
| 48-L42 | the four P"s applied to internet marketing | |
| 49-L43 | the fifth "P" personalization- internet marketing techniques | |
| 50-L44 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(08.10.18) | |
| 51 L45 | online advertisement mechanisms | |
| 52- L46 | web site design issues | |
| 53-IT-III | Internal Test-III | |
| 54-L47 | Intelligent agent and their impacts on marketing techniques | |
| 55-L48 | - Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 56- MT | Model Test begins | |
| | (22.10.2018) | |
| 57-MT | Model Test | |
| 58-MT | Model Test | |
| 59- L49 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 60-L50 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 23.11.2018 | |
| | | |

| Learning Outcomes | mes E-commerce | |
|----------------------------|--------------------------------------------|--|
| CO1 | | |
| CO1 | electronic commerce security | |
| CO2 | electronic agreement and digital signature | |
| CO3 | web linking-domain name disputes | |
| CO4 | data transfer and standards | |
| CO5 | social engineering | |
| CO6 | disaster recovery plans | |
| CO7 | - security protocols and languages | |
| CO8 | - Encryption techniques | |
| CO9 | components of firewall | |
| Experimental | risks associated with virus and maliciou | |
| Learning | | |
| EL1 | Introduction-the set protocol | |
| EL2 | additional non repudiation techniques | |
| EL3 | definition of intelligent agent | |
| EL4 | internet marketing | |
| Integrated Activity | strategy congruence | |
| IA1 | online advertisement mechanisms | |
| IA2 | web site design issues | |

Blended Learning

: using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Principal

St. John's College, Palayamkottai

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | MSc (NT&IT) |
|--------------------|--------------------------|
| Course Name | Operating system |
| Course Code | PNTM32 |
| Class | III year (2018-2019) |
| Semester | ODD |
| Staff Name | Mrs.A.BATHSHEBA PARIMALA |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |

Total 60Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- ➤ To understand design issues related to process management and various related algorithms.
- ➤ To understand design issues related to memory management and various related algorithms.

> To understand design issues related to File management and various related algorithms

Syllabus

CORE SUBJECT - I

OPERATING SYSTEMS

UNIT I INTRODUCTION What is an Operating System: Mainframe Systems – Desktop Systems – Multiprocessor Systems - Distributed Systems – Clustered Systems – Real – time Systems– Handheld Systems. (10 L)

UNIT II PROCESS CONCEPT Process Concept – Process Scheduling – Operations on Process – Co-operating processes – Inter Processes - Inter Process communication. CPU Scheduling: Basic Concepts –Scheduling Criteria - Scheduling algorithms – Multi processor Scheduling - Real time Scheduling – Algorithms evaluation. (12 L)

UNIT III PROCESS SYNCHRONIZATION & DEADLOCKS Process Synchronization: Background – the critical section problem – Synchronization hardware – Semaphores – Classical problems of Synchronization – critical regions – Monitors – Atomic transaction. Deadlocks: System model – Deadlock Characterization – methods for handling Deadlocks – Deadlock prevention – Deadlock Avoidance – Deadlock detection – recovery from Deadlock.(14 L)

UNIT IV MEMORY MANAGEMENT Memory management: Background – Swapping – Contiguous memory allocation – paging – segmentation – segmentation with paging. Virtual Memory: Background – Demand paging – Page replacement – Allocation of frames. (12 L)

UNIT V File System Interface: File concept – Access methods– File system structure – File system implementation – File system structure – Filesystem implementation – Directories structure – Directory implementation – Allocation methods – Free space management – Efficiency and performance – Recovery. Mass Storage Structure: Disk Structure – Disk Scheduling – Disk management – Swap space management – RAID structure – Disk attachment – Stable Storage. (12 L)

| Hour | Class Schedule |
|------|----------------|
| HUUH | Class Schedule |

| allotment | |
|-----------|--------------------------------------------------------------|
| | ODD Semester Begin on 18.06.2018 |
| 1-L1 | INTRODUCTION- What is an Operating System |
| 2-L2 | Mainframe Systems |
| 3- L3 | Batchsystem - multiprogrammed system-time sharing system |
| 4-L4 | Desktop Systems |
| 5-L5 | Multiprocessor Systems |
| 6-L6 | Distributed Systems |
| 7-L7 | Client-server system, peer-to-peer system |
| 8- P1 | BCA Association |
| 9- L8 | Real |
| 10- L9 | Time Systems |
| 11-L10 | Handheld Systems. |
| 12-L11 | PROCESS CONCEPT Process Concept |
| 13-L12 | Process Scheduling |
| 14-L13 | Operations on Process |
| 15-L14 | Allotting portion for Internal Test-I |
| | Internal Test I begins(30.07.18) |
| 16-L15 | Inter Processes |
| 17-IT-1 | Internal Test-I |
| 18-L16 | Inter Process communication. CPU Scheduling |
| 19-L17 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 20-L18 | Basic Concepts |
| 21- L19 | Scheduling Criteria |
| 22- P2 | College level meeting/Cell function |
| 23-L20 | Scheduling algorithms |
| 24-L21 | Multi processor Scheduling |
| 25-L22 | Real time Scheduling |
| 26-L23 | Algorithms evaluation |
| 27-L24 | PROCESS SYNCHRONIZATION & DEADLOCKS Process Synchronization: |
| | Background |
| 28-L25 | the critical section problem |
| 29-L26 | Synchronization hardware |
| 30-L27 | Semaphores |
| 31-L28 | Classical problems of Synchronization |
| 32-L29 | critical regions |
| 33-L30 | Monitors |
| 34- P3 | Department Seminar |
| 35-L31 | Atomic transaction. Deadlocks: System model |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(03.09.18) |
| 37- L33 | Deadlock Characterization |
| 38- IT-II | Internal Test-II |
| 39-L34 | methods for handling Deadlocks |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Deadlock prevention |

| 10 7 0 7 | | |
|-----------|------------------------------------------------------------------------------|--|
| 42- L37 | Deadlock Avoidance | |
| 43- L38 | Deadlock detection, recovery from Deadlock. | |
| | | |
| 44- P4 | College level meeting/ function | |
| 45-L39 | File System Interface: File concept ,Access methods | |
| 46-L40 | File system structure, File system implementation | |
| 47-L41 | Directories structure ,Directory implementation | |
| 48-L42 | Allocation methods, Free space management | |
| 49-L43 | Efficiency and performance ,Recovery. Mass Storage Structure: Disk Structure | |
| 50-L44 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(08.10.18) | |
| 51 L45 | Disk Scheduling, Disk management | |
| 52- L46 | Swap space management, RAID structure | |
| 53-IT-III | Internal Test-III | |
| 54-L47 | Disk attachment, Stable Storage | |
| 55-L48 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 56- MT | Model Test begins(22.10.2018) | |
| 57-MT | Model Test | |
| 58-MT | Model Test | |
| 59- L49 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 60-L50 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 23.11.2018 | |
| | <u> </u> | |

| Learning Outcomes | Operating system | |
|----------------------------|---------------------------------------------------------------|--|
| | | |
| CO1 | Process Synchronization | |
| CO2 | Scheduling Algorithm | |
| CO3 | DeadLock | |
| CO4 | Dinning Philosopher Algorithm | |
| CO5 | Page Allocation Algorithm | |
| Experimental | | |
| Learning | | |
| EL1 | File System Interface: File concept ,Access methods | |
| EL2 | Directories structure ,Directory implementation | |
| EL3 | Efficiency and performance ,Recovery. Mass Storage Structure: | |
| | Disk Structure | |
| Integrated Activity | | |
| IA1 | Deadlock Characterization | |
| IA2 | Atomic transaction. Deadlocks: System model | |

Blended Learning

: using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|---------------------|-------------------------------|
| Course Name | Network Security&Cryptography |
| Course Code | PNTM33 |
| Class | II year (2018-2019) |
| Semester | Odd |
| Staff Name | Mr.K.Appasamy |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Sem | |
| Internal Test-3 Hrs | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- > To learn about Attacks, services and Mechanisms
- > To learn about Internet standards and RFCS.
- > To learn about Substitution Techniques
- > To learn about Steganography.

Syllabus

Unit-I

Introduction:

Attacks, services and Mechanisms - security attacks - security services - A model for internetwork security - Internet standards and RFCS. Classical Encryption Techniques: symmetric cipher Model - Substitution Techniques - Transportation Techniques Rotor Mechanism – Steganography. (12L)

Unit-II

Block ciphers and the data encryption standard simplified DES

Block Cipher Principles -The Data encryption standard -The strength of DES - Differentials and Linear Cryptanalysis -Block Cipher design principles -Block Cipher modes of operations. Public Key Cryptography and RSA: Principles of Public - Key Cryptosystems The RSA Algorithm. (13L)

Unit-III

Key Management:

Other Public-Key Cryptosystems: Key Managements- Diffie Hellman Key Exchange-Elliptic curve Arithmetic - Elliptic curve Cryptography Message Authentication & Hash functions: Authentication Requirements-Authentication functions-message Authentication Codes- Hash functions- Security of Hash functions & MACS. Digital Signatures - Authentication Protocols - Digital Signature Standard. (13L)

Unit-IV

Authentication applications:

Kerberos X 509 Authentication service. Electronic Mail security: Pretty good Privacy - S/MIME 445 IP Security: IP Security overview - IP Security Architecture -Authentication Header - Encapsulation security Payload. (10L)

Unit-V

Web Security:

Web Security Considerations - Secure Sockets Layer and Transport Layer Security - Secure Electronic Transactions System Security: Intruders - Intrusion detection - Password Management. Firewalls: Firewalls Design Principles - Trusted Systems (12L)

| Hour | Class Schedule | |
|-----------|-------------------------------------------------------|--|
| allotment | 0.110 / D / 10.0/4010 | |
| | Odd Semester Begin on 18.06.2018 | |
| 1-L1 | Attacks | |
| 2-L2 | Services | |
| 3- L3 | Mechanisms | |
| 4-L4 | security attacks | |
| 5-L5 | security services | |
| 6-L6 | A model for internetwork security | |
| 7-L7 | Internet standards and RFCS | |
| 8- P1 | BCA&MSC ITAssociation | |
| 9- L8 | Classical Encryption Techniques | |
| 10- L9 | symmetric cipher Model | |
| 11-L10 | Substitution Techniques | |
| 12-L11 | Transportation Techniques Rotor Mechanism | |
| 13-L12 | Steganography. | |
| 14-L13 | Block Cipher Principles | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins(30.07.18) | |
| 16-L15 | The Data encryption standard | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | The strength of DES | |
| 19-L17 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Differentials and Linear Cryptanalysis - | |
| 21- L19 | Block Cipher design principles | |

| 22- P2 | College level meeting/Cell function |
|-----------|---------------------------------------------------------------------------------|
| 23-L20 | Block Cipher modes of operations |
| 24-L21 | Public Key Cryptography and RSA: |
| 25-L22 | Principles of Public |
| 26-L23 | Key Cryptosystems |
| 27-L24 | The RSA Algorithm. |
| 28-L25 | Other Public-Key Cryptosystems |
| 29-L26 | Key Managements |
| 30-L27 | Hellman Key Exchange |
| 31-L28 | Elliptic curve Arithmetic - |
| 32-L29 | Elliptic curve Cryptography Message Authentication & Hash functions |
| 33-L30 | Authentication Requirements |
| 34- P3 | Department Seminar |
| 35-L31 | Authentication functions-message Authentication Codes |
| 36-L32 | Allotting portion for Internal Test-II |
| | Internal Test II begins(03.09.18) |
| 37- L33 | Hash functions- Security of Hash functions & MACS |
| 38- IT-II | Internal Test-II |
| 39-L34 | Digital Signatures -Authentication Protocols - Digital Signature Standard. |
| 40-L35 | Test Paper distribution and result analysis |
| | Entering Internal Test-II Marks into University portal |
| 41-L36 | Kerberos X 509 Authentication service. Electronic Mail security |
| 42- L37 | Pretty good Privacy |
| 43- L38 | S/MIME 445 IP Security: IP Security overview - |
| 44- P4 | College level meeting/ function |
| 45-L39 | IP Security overview - IP Security Architecture |
| 46-L40 | Authentication Header - Encapsulation security Payload. |
| 47-L41 | Web Security Considerations - Secure Sockets Layer and Transport Layer Security |
| 48-L42 | Secure Electronic Transactions System Security |
| 49-L43 | Intruders - Intrusion detection |
| 50-L44 | Allotting portion for Internal Test-III |
| | Internal Test III begins(08.10.18) |
| 51 L45 | Password Management. |
| 52- L46 | Firewalls: Firewalls Design Principles |
| 53-IT-III | Internal Test-III |
| 54-L47 | Trusted Systems |
| 55-L48 | Test Paper distribution and result analysis |
| | Entering Internal Test-III Marks into University portal |
| 56- MT | Model Test begins(22.10.2018) |
| 57-MT | Model Test |
| 58-MT | Model Test |
| 59- L49 | Model test paper distribution and previous year university question paper |
| | discussion |
| 60-L50 | Feedback of the Course, analysis and report preparation |
| | Last Working day on 23.11.2018 |

| Learning Outcomes | Network Security&Cryptography |
|--------------------------|------------------------------------------------------------------|
| CO1 | IP Security overview |
| CO2 | IP Security Architecture |
| CO3 | Web Security Considerations |
| CO4 | Password Management |
| CO5 | System Security |
| CO6 | Transport Layer Security |
| CO7 | Secure Electronic Transactions |
| CO8 | System Security |
| CO9 | Firewalls Design Principles |
| Experimental | |
| Learning | |
| EL1 | IP Security overview - IP Security Architecture |
| EL2 | Authentication Header - Encapsulation security Payload. |
| EL3 | Web Security Considerations - Secure Sockets Layer and Transport |
| | Layer Security |
| EL4 | Secure Electronic Transactions System Security |
| Integrated Activity | |
| IA1 | Web Security Considerations |
| IA2 | Password Management |

Blended Learning : using PPT, video, library resources, ICT techniques,

E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc(NT&IT) |
|--------------------|-----------------------|
| Course Name | Software Engineering |
| Course Code | PNTE11 |
| Class | I Msc (2018-2019) |
| Semester | odd |
| Staff Name | MR.I.THOMAS JEBASINGH |
| Credits | 4 |
| L. Hours /P. Hours | 4 / WK |
| Total 60Hrs/Som | |

Total 60Hrs/Sem

Internal Test-3 Hrs

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 50 Hrs (5 units; 5×10=50; 10Hrs /unit)

Course Objectives

- To study the need and nature of mobile applications.
- To learn the tools and platforms required for mobile applications.
- To understand the design issues in mobile applications.

UNIT I SOFTWARE AND SOFTWARE ENGINEERING The Nature of Software – The Nature of Software? The Nature of Software – Stack holders in Software engineering – Stack holders in Software engineering – Activities common to Software projects – Difficult and risk in software engineering as a whole. Review of Object Orientation: What is object orientation/ - Classes and objects – Instance variables – Methods, Operations and Polymorphism – Concepts best define object orientation – Difficulties and risks in programming language choice and object – oriented programming. **(12 L)**

UNIT II DEVELOPING REQUIREMENTS Domain analysis – The starting point for software projects – Defining the problem and the scope – What is a requirement? – Types of requirements – Some techniques for gathering and analyzing requirements – Managing changing requirements – Difficulties and risks in domain and requirements analysis. **(12 L)**

UNIT III MODELING WITH CLASSES What is UML? – Essentials of UML class diagrams – Associations and Multiplicity – Generalization – Instance diagrams – More advanced features of class diagrams. Modeling Interactions and Behavior: Interaction diagram – State diagrams – Activity diagrams. (12 L) **UNIT IV ARCHITECTING AND DESIGNING SOFTWARE** The process of design – Principles leading to good design – Techniques for making good design decisions – Software architecture – Architectural patterns – Writing a good designing document. (12 L)

UNIT V TESTING AND INSPECTING TO ENSURE HIGH QUALITY Basic definitions – Effective and efficient testing – Defects in ordinary Algorithms – Defects in numerical algorithms – Defects in timing and co-ordination. Managing the Software Process: What is project management? – Software process models – Cost estimation – building software engineering teams – Project scheduling and tracking.

| Hour allotment | Class Schedule |
|-------------------|----------------------------------|
| | Odd Semester Begin on 18.06.2018 |

| 4.14 | HAUT I COSTIMADE AND COSTIMADE ENGINEEDING. The New or Co. Co. | |
|--------------------|-------------------------------------------------------------------------------------|--|
| 1-L1 | UNIT I SOFTWARE AND SOFTWARE ENGINEERING : The Nature of Software | |
| 2-L2 | Stack holders in Software engineering | |
| 3- L3 | Activities common to Software projects | |
| 4-L4 | Difficult and risk in software engineering as a whole. Review of Object Orientation | |
| 5-L5 | What is object orientation? | |
| 6-L6 | Classes and objects | |
| 7-L7 | Instance variables. | |
| 8- P1 | Methods, Operations and | |
| 9- L8 | Concepts best define object orientation. | |
| 10- L9 | Difficulties and risks in programming language choice and object | |
| 11-L10 | Polymorphism. | |
| 12-L11 | oriented programming. | |
| 13-L12 | UNIT II DEVELOPING REQUIREMENTS Domain analysis | |
| 14-L13 | The starting point for software projects ,Defining the problem and the scope | |
| 15-L14 | Allotting portion for Internal Test-I | |
| | Internal Test I begins (30.07.18) | |
| 16-L15 | What is a requirement | |
| 17-IT-1 | Internal Test-I | |
| 18-L16 | Some techniques for gathering | |
| 19-L17 | Test Paper distribution and result analysis | |
| | Entering Internal Test-I Marks into University portal | |
| 20-L18 | Types of requirements | |
| 21- L19 | and analyzing requirements | |
| 22- P2 | College level meeting/ | |
| 23-L20 | Managing changing requirements | |
| 24-L21 | Difficulties and risks in domain | |
| 25-L22 | Cell function | |
| 26-L23 | analysis and requirements | |
| 27-L24 | UNIT III MODELING WITH CLASSES What is UML | |
| 28-L25 | Essentials of UML class diagrams. | |
| 29-L26 | Associations and Multiplicity | |
| 30-L27 | Generalization | |
| 31-L28 | Instance diagrams | |
| 32-L29 | More advanced features of class diagrams. | |
| 33-L30 | Modeling Interactions and Behavior | |
| 34- P3 | Interaction diagram | |
| 35-L31 | State diagrams ,Activity diagrams. | |
| 36-L32 | Allotting portion for Internal Test-II | |
| 33 132 | Internal Test II begins(03.09.18) | |
| 37- L33 | UNIT IV ARCHITECTING AND DESIGNING SOFTWARE The process of design: | |
| 38- IT-II | Internal Test-II | |
| 39-L34 | Principles leading to good design | |
| 40-L35 | Test Paper distribution and result analysis | |
| TO LOO | Entering Internal Test-II Marks into University portal | |
| 41-L36 | Techniques for making good design decisions | |
| 41-L30 42- L37 | Software architecture | |
| 42- L37 43- L38 | Architectural patterns. | |
| 43- L36 44- P4 | Writing a good designing document | |
| 45-L39 | UNIT V TESTING AND INSPECTING TO ENSURE HIGH QUALITY Basic definitions. | |
| | | |
| 46-L40 | Effective and efficient testing | |

| 47-L41 | Defects in ordinary Algorithms | |
|-----------|--------------------------------------------------------------------------------------|--|
| 48-L42 | Defects in numerical algorithms | |
| 49-L43 | Managing the Software Process | |
| 50-L44 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(08.10.18) | |
| 51 L45 | Software process models | |
| 52- L46 | Cost estimation ,building software engineering teams | |
| 53-IT-III | Internal Test-III | |
| 54-L47 | Project scheduling and tracking. | |
| 55-L48 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 56- MT | Model Test begins(22.10.2018) | |
| 57-MT | Model Test | |
| 58-MT | Model Test | |
| 59- L49 | Model test paper distribution and previous year university question paper discussion | |
| 60-L50 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 23.11.2018 | |

| Learning Outcomes | Software Engineering |
|-----------------------|---------------------------------------------|
| | |
| CO1 | Defects in ordinary Algorithms |
| CO2 | Software process models |
| CO3 | Techniques for making good design decisions |
| CO4 | Concepts best define object orientation |
| Experimental Learning | |
| EL1 | Instance diagrams |
| EL2 | Classes and objects |
| Integrated Activity | |
| IA1 | Software process models |
| IA2 | Techniques for making good design decisions |

Blended Learning : using PPT, video, library resources, ICT techniques, E-learning resources, Google classroom, study tour, etc.,

For Advanced Learner: use library books, E- books, motivate student to prepare for higher study.

For slow learner : special care taken, motivate the advanced learner to support the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature

Department of Computer Applications and NT&IT

COURSE ACADEMIC PLAN

(Prepared by staff member handling the course)

| Programme Name | M.Sc. NT&IT |
|---------------------|---------------------------|
| Course Name | ADVANCED JAVA PROGRAMMING |
| Course Code | KNTM21 |
| Class | I year (2018-2019) |
| Semester | Even |
| Staff Name | Mr.I.THOMAS JEBASINGH |
| Credits | 5 |
| L. Hours /P. Hours | 5 / WK |
| Total 75 Hrs/Sem | |
| Internal Test-3 Hrs | |
| M 11T / 2H | |

Model Test-3 Hrs

Dept. Meetings-2 Hrs

College Meetings-2 Hrs

Remaining 65 Hrs (5 units; 5×13=65; 13Hrs /unit)

Course Objectives

- > To understand about introducing java
- > To understand about the evolution of java
- ➤ To understand about The logical evolution of C to C++
- > To understand aboutFundamentals of Java language
- > To understand aboutUsing data types
- > To understand aboutExpressions

Syllabus

Unit-I

Introducing Java-The Evolution of Java-The logical evolution of C to C++ and Java-Object oriented programming concepts and java programming with java. Getting started with Java Developer's kit(JDK)- The Java developer's environment. The Java browser and the world wide web –Navigating the world wide web –using URL"s- web surfing with Java enchanced browsers –Web-Hot spots for Java developers-Java tools-Java language. (12L)

Unit-II

Fundamentals of Java language-Token-Using data types-Expressions-Declarations-control flowBuilding objects-An introduction to classes- working with objects-packages-InheritanceInterfaces-threads-exceptions-streams. (10L)

Unit-III

Java API packages, The structure of API Packages. Using the Java API, API web reference Structure. The Java Applet class, Java language- packages and its classes. The AWT class library-Introduction to the AWT-Using the frame class to implement application windows-Implementing dialog boxes with dialog class –organizing the components using the panel and layout classes-using common GUI controls-using Fonts - image related classes-using scroll bars. The java I/O and utility class libraries. The Net and debug class libraries (13L)

Unit-IV

Defining the applet structure- building the applet- The Java extensions to HTML – Adding animation to web documents. The reducing animation flickers- Publishing a Java-presentation on the web. Applets reuse-adding functionality to existing applets –when to reuse –when to rewrite-extending an applet-Testing the extended applet.

JDBC: Java Database Connectivity, Types of JDBC drivers, Writing JDBC applications, Types of Statement objects, Types of resultset, Inserting an updating records, using transactions. (13L)

Unit-V:

Java Servlets: Java Servlets and CGI Programming –A Simple Java Servlet –Anatomy of a Java Servlet Reading Data from a Client –Sending Data to a Client – Working with Cookies Java Server Pages: JSP-JSP tags-Tomcat-Request String –User sessions-Cookies-Session Object. (12L)

| Hour | Class Schedule |
|-----------|---------------------------------------------------------------------|
| allotment | |
| | Odd Semester Begin on 03.12.2018 |
| 1-L1 | The Evolution of Java |
| 2-L2 | The logical evolution of C to C++ and Java |
| 3- L3 | Object oriented programming concepts and java programming with java |
| 4-L4 | Getting started with Java Developer's kit(JDK) |
| 5-L5 | The Java developer's environment |
| 6-L6 | The Java browser and the world wide web |
| 7-L7 | Navigating the world wide web |
| 8- P1 | Welcoming of First year and Inauguration of BCA Association |
| 9- L8 | Using URL"s- web surfing with Java enchanced browsers |
| 10- L9 | Web |
| 11-L10 | Hot spots for Java developers |
| 12-L11 | Java tools |
| 13-L12 | Java language |
| 14-L13 | Fundamentals of Java language |
| 15-L14 | Token-Using data types |
| 16-L15 | Expressions |
| 17- L16 | Declarations |
| 18- L17 | Control flow Building objects |
| 19- L18 | An introduction to classes |
| 20- L19 | working with objects |
| 21- L20 | Allotting portion for Internal Test-I |
| | Internal Test I begins(18.01.19) |
| 22- L21 | Packages |
| 23- IT-1 | Internal Test-I |
| 24- L22 | Inheritance Interfaces |
| 25- L23 | Threads |
| 26- L24 | Test Paper distribution and result analysis |
| | Entering Internal Test-I Marks into University portal |
| 27- L25 | Exceptions |
| 28- L26 | Streams |
| 29- L27 | Java API packages |
| 30- P2 | College level meeting/Cell function |
| 31-L28 | The structure of API Packages |
| 32-L29 | Using the Java API, API web reference Structure |
| 33-L30 | The Java Applet class |
| 34- L31 | Java language |
| 35- L32 | packages and its classes |
| 36- L33 | The AWT class library |
| 37- L34 | Introduction to the AWT |
| 38-L35 | Using the frame class to implement application windows |
| 39- L36 | Implementing dialog boxes with dialog class |

| 40- L37 | Organizing the components using the panel and layout classes-using common | |
|-----------|---------------------------------------------------------------------------|--|
| | GUI controls | |
| 41- L38 | image related classes | |
| 42-P3 | Department Seminar | |
| 43- L39 | using scroll bars | |
| 44- L40 | The java I/O and utility class libraries | |
| 45- L41 | The Net and debug class libraries | |
| 46- L42 | using Fonts | |
| 47- L43 | Allotting portion for Internal Test-II | |
| | Internal Test II begins(25.02.19) | |
| 48- L44 | Java Database Connectivity, , , , | |
| 49-IT-II | Internal Test-II | |
| 50-L45 | Types of JDBC drivers | |
| 51- L46 | - Test Paper distribution and result analysis | |
| | Entering Internal Test-II Marks into University portal | |
| 52- L47 | Writing JDBC applications | |
| 53- L48 | Types of Statement objects | |
| 54- L49 | Types of result set | |
| 55- L50 | Inserting an updating records | |
| 56- L51 | using transactions | |
| 57- L52 | Java Servlets and CGI Programming | |
| 58- L53 | A Simple Java Servlet | |
| 59-P4 | College level meeting/ function | |
| 60- L54 | Anatomy of a Java Servlet Reading Data from a Client | |
| 61- L55 | Sending Data to a Client | |
| 62- L56 | Working with Cookies Java Server Pages | |
| 63- L57 | JSP- JSP tags | |
| 64- L58 | Allotting portion for Internal Test-III | |
| | Internal Test III begins(22.03.19) | |
| 65- L59 | Jsp Program | |
| 66- L60 | Tomcat- Request String | |
| 67-IT-III | Internal Test-III | |
| 68- L61 | Cookies-Session Object | |
| 69- L62 | User sessions | |
| 70- L63 | Test Paper distribution and result analysis | |
| | Entering Internal Test-III Marks into University portal | |
| 71-MT | Model Test begins(08.04.2019) | |
| 72-MT | Model Test | |
| 73-MT | Model Test | |
| 74-L64 | Model test paper distribution and previous year university question paper | |
| | discussion | |
| 75-L65 | Feedback of the Course, analysis and report preparation | |
| | Last Working day on 23.04.2019 | |

| Learning Outcomes ADVANCED JAVA PROGRAMMING |
|-----------------------------------------------|
|-----------------------------------------------|

| CO1 | Writing JDBC applications |
|---------------------|------------------------------------|
| CO2 | Types of Statement objects |
| CO3 | Types of result set |
| CO4 | Inserting an updating records |
| CO5 | using transactions |
| CO6 | Java Servlets and CGI Programming |
| CO7 | A Simple Java Servelet |
| CO8 | Java Servelets and CGI Programming |
| CO9 | A Simple Java Servlet |
| Experimental | |
| Learning | |
| EL1 | Packages |
| EL2 | Interface |
| EL3 | Applets |
| EL4 | |
| Integrated Activity | |
| IA1 | JDBC |
| IA2 | Session |

Blended Learning : using PPT, video, library resources, ICT techniques, E-

learning resources, Google classroom, study tour, etc.,

For Advanced Learner : use library books, E- books, motivate student to prepare for

higher study.

For slow learner : special care taken, motivate the advanced learner to support

the slow learner to study. To attend the remedial classes.

Extension activity : Motivate student to take classes for school students.

HOD Signature Staff Signature