SEMESTER I

CC I - INTRODUCTION TO INFORMATION TECHNOLOGY

Internal Marks : 25

External Marks : 75 **Subject Code : UIA**

Total Marks : 100 **Exam Hrs : 3**

UNIT-I

Introduction to Computers Generation of Modern Computers-Classification of Digital Computer Systems Anatomy of a Digital Computer Input Devices**:** Keyboard-Mouse-Track Ball- Joystick- Digital camera-MICR- OCR- Barcode Reader- Touch Screen-Light Pen. Output Devices**:** Monitor- Printer- Sound Card- and Speaker.

UNIT-II

Memory Units: RAM-ROM- PROM- EPROM- and EEPROM Auxiliary Storage Devices: Magnetic Storage Devices Floppy Diskettes- Hard Disks- Removable Hard Disks- Magnetic Tapes- Optical Storage CD-ROM.

UNIT-III

Programming Languages: Machine Language, Assembly Language, High Level Language, Types of High Level Language, Compiler and Interpreter. .

UNIT-IV

Overview of Network: Communication Processors, Communication Media, Types of Network, Network Topologies, Network Protocols, Network Architecture, Introduction to Internet & WWW, E-Mail, Intranet.

UNIT V

Introduction to Multimedia - Multimedia Applications - Computers at Home, Education, Entertainment, Science, Medicine and Engineering - Introduction to Computer Security - Computer Viruses, Bombs, Worms.

TEXT BOOKS

1. Alexis Leon and Mathews Leon, Fundamentals of Information Technology, Leon TECH World, 1999.

2. Alexis Leon and Mathews Leon, Introduction to Computers , Leon TECH World, 1999.

REFERENCE BOOK

Peter Norton, Introduction to Computers , TMH 6th Edition 1998 (for Units IV,V Chapters 13,14).

SEMESTER I

CC II - PROGRAMMING IN C

Internal Marks : 25

External Marks : 75 **Subject Code: UIB**

Total Marks : 100 **Exam Hrs : 3**

UNIT-I

Introduction to Programming: Algorithms, Flowchart, Source Program, Object Program, Compilers, Interpreters, Assemblers, Modular Programming: Structured Programming, Top-Down Approach, Stages of Program Development.

UNIT II

Introduction: C character set, Identifiers and Keywords. Data Type, Declarations, Expressions, Statements and symbolic constants. **Input-Output:** getchar, putchar, scanf, printf, gets, puts, functions, Pre-processor commands, #include, define, preparing and running a complete C program. **Operators and Expressions:** Arithmetic, Unary, Logical, Bit-wise, assignments and conditional Operator, Library Functions.

UNIT III

Control Statements: While, do-while, statement, nested loops, If-else, switch, break, continue and Goto statement, comma operator. **Array:** Defining and processing. Multi Dimensional arrays. Strings and operations on strings.

UNIT IV

Functions: Defining and accessing, passing arguments, Function prototypes, Recursion. Use of library functions. **Storage Classes:** Automatic, external and static variables.

UNIT V

Pointers: Declarations, Passing to a function. Operations on pointers, pointer and arrays, Array of pointers. **Structure:** Defining and processing. Passing to a function, Union. **Data Files:** Open, Close, Create, Process unformatted data files.

TEXT BOOK

1. Programming in 'C' by Byson.S.Gottfied, Schaum's Outline Series, 2nd Edition, Tata McGraw Hill, 2008.

REFERENCE BOOKS

1. Programming in 'C' by Kris A.Jamsa, Galgotia Publications PVT. Ltd, 1998.
2. The C Programming Language by Kernighan B.W. & Ritchie.D.M., Prentice Hall of India, 2nd Edition 2002.
3. E. Balaguruswamy, Introduction to C.

SEMESTER I

PRACTICAL I

CC III - PROGRAMMING IN C LAB

Internal Marks : 40

External Marks : 60 **Subject Code: UICY**

Total Marks : 100 **Exam Hrs : 3**

1. Check for Prime Number, Armstrong Number, Fibonacci
2. Summation of the series: Sin(x), Cos(x), Exp(x)
3. String Manipulations
    a. Counting number of vowels, consonants, words, white spaces in a string.
    b. Reversing a string and check for palindrome
    c. Finding the number of occurrences of a sub string in a given string.
    d. Sub string replace and removal
4. Recursion
    a. Factorial
    b. Reversing a string
    c. Fibonacci sequence
    d. Tower of Hanoi
5. Matrix Manipulation using functions and Case structure
    a. Addition and subtraction
    b. Multiplication
    c. Transpose
    d. Check if the given matrix is a magic square
6. Searching
7. Sorting
8. Structures
9. Pointers
10. Files

SEMESTER II

CC IV - PROGRAMMING IN C++

Internal Marks : 25

External Marks : 75 **Subject Code: UID**

Total Marks : 100 **Exam Hrs : 3**

Objectives

To give the concepts of Object Oriented Programming, the syntax of statements in C++ language and to impart the programming skills in C++.

UNIT I

Object Oriented Programming – Software Evolution – Basic Concepts – Benefits – Applications – Structure of C++ program – tokens – keywords – Identifiers and Constants – Basic Data Types – User Defined Data Types – Derived Data Types – Variables – Manipulators – Expressions and their types – Control Structures.

UNIT II

Functions – Main Function – Function Prototyping – Call by Reference – Return by Reference – Inline Functions – Default Arguments – Function Overloading.Classes and Objects – Specifying a Class – Defining Member Functions – A C++ program with Class – Static Members – Arrays of Objects – Objects as Function Arguments – Friendly Functions – Returning Objects.

UNIT III

Constructors and Destructors – Parameterized Constructors – Multiple Constructors in a Class – Copy Constructors – Destructors – Defining Operator Overloading – Overloading Unary Operators – Overloading Binary Operators – Using Friend Function – Rules for Overloading Operators.

UNIT IV

Inheritance – Defining Derived Classes – Single Inheritance – Multilevel Inheritance – Multiple Inheritance – Virtual Base Classes – Pointers to Objects – this pointer – Pointer to Derived Classes – Virtual Functions and Polymorphism – Pure Virtual Function.

UNIT V

Managing Console I/O Operations – C++ Streams – C++ Stream Classes – Unformatted I/O Operations – Formatted Console I/O Operations – Working with Files –

Classes for File Stream Operations – Opening and Closing a File – Detecting End-of File – File Modes.

Text Book

E. Balagurusamy, Object-Oriented Programming with C++, Tata McGraw-Hill Publishing Company Limited, New Delhi, Third Edition.

SEMESTER II

CC V - PROGRAMMING IN C++ LAB

Internal Marks : 40

External Marks : 60 **Subject Code: UIEY**

Total Marks : 100 **Exam Hrs : 3**

1. Functions using:
   i) Call by value
   ii) Call by reference
   iii) Recursive call
   iv) Returning different data types.
2. In-line function, Overloaded function and Default arguments.
3. Operator overloading (Unary and Binary).
4. Class and All types of Constructors.
5. Static function and Array of objects with static data.
6. Friend function and Friend class.
7. i) Simple and Multilevel inheritance
   ii) Implementing derived class constructors.
8. i) Function overriding
   ii) Creating objects using Pointers.
9. Virtual functions, pure virtual functions and Abstract class.
10. Dynamic polymorphism.
11. Function Template and Class Template.
12. I/O Streams with text file and data file.

SEMESTER III

CC VI - DATA STRUCTURES

Internal Marks : 25

External Marks : 75 **Subject Code: UIF**

Total Marks : 100 **Exam Hrs : 3**

Objectives

To understand the concepts of data structures.

UNIT I

Introduction and Overview: Introduction – Basic Terminology; Elementary Data Organization – Data Structures – Data Structure Operations – **Arrays:** Introduction – Linear Arrays – Representation – Traversing Insertion and Deletion – **Searching:** Linear Search – Binary Search.

UNIT II

Linked lists: Introduction – Linked Lists – Representation of Linked List in Memory – Traversing a Linked List – Searching a Linked List– Memory Allocation; Garbage Collection – Insertion into a Linked List – Deletion from a Linked List.

UNIT III

Stacks, Queues and Recursion: Introduction – Stacks – Array and Linked Representations of Stacks – Arithmetic Expressions; Polish Notation – **Recursion:** Towers of Hanoi – Implementation of Recursive Procedures by Stacks – **Queues:** Linked Representation of Queues.

UNIT IV

Trees: Introduction – Binary Trees – Representing Binary Tress in Memory – Traversal Algorithms using Stacks – Binary Search Trees – Searching and Inserting in Binary Search Tress – Deleting in Binary Search Trees.

UNIT V

Graphs: Introduction – Graph Theory Terminology – Sequential Representation of Graphs; **Adjacency Matrix:** Path Matrix – Warshall's Algorithm – Shortest Paths – Traversing a Graph – **Sorting and Searching:** Introduction – Bubble Sort – Insertion Sort – Selection Sort – Quick Sort – Heap Sort.

Text Book

Seymour Lipschutz, Data Structures, Tata McGraw – Hill Publishing Company Limited, New Delhi, 2006.

SEMESTER III

CC VII - MULTIMEDIA LAB

Internal Marks : 40

External Marks : 60 **Subject Code : UIGY**

Total Marks : 100 **Exam Hrs : 3**

Macromedia Flash

1. Create an animation to represent the growing Moon.
2. Create an animation to indicate a ball bouncing on steps.
3. To Simulate Movement Of A Cloud
4. Display the background given (filename: Tulip.jpg) through your name.
5. Create an animation with the following features.

   WELCOME

   a) Letters should appear one by one

   b) The fill color of the text should change to a different color after the

   Display of the full word.

6. To simulate a ball hitting another ball.
7. To Change A Circle Into a Square Using Flash.

Photoshop

1. Cropping, Rotating and Feathering in image.
2. Creation of a single image from selected portions of many
3. Developing a commercial brochure with background tints
4. Applying masks and filtering on images

Corel Draw

1. Create a Logo for a company using Contour Tool.
2. Create an Invitation card using the appropriate tools.
3. Create an Visiting Card using the appropriate tools.
4. Applying masks and filtering on images

SEMESTER III

NME I - WEB DESIGNING LAB

Internal Marks : 40

External Marks : 60 **Subject Code: UIE1Y**

Total Marks : 100 **Exam Hrs : 3**

1. Design a Bio-Data Form.
2. Create a Web Page With Four Frame (Picture, Table, List, Hyperlink).
3. Write a Program to show all Character Entities.
4. To Create a Web Page in HTML to Show the Block Level Elements and Text Level Elements.
5. Create your own page with your favourite hobbies.
6. A Web Page in HTML to show books in inventory in different tables using Row Span and Column Span.
7. Create a Web Page in HTML to show Admission form.
8. A Web Page in HTML to show your resume using appropriate Formatting Elements.
9. A Web Page in HTML to show all the Text, Color, Background and Font Elements.
10. Write a Program to Create a Nested List.

SEMESTER IV

CC VIII –PROGRAMMING IN JAVA

Internal Marks : 25

External Marks : 75 **Subject Code: UIH**

Total Marks : 100 **Exam Hrs : 3**

Objectives:

1. To understand the basic programming constructs of Java Language.
2. To develop programs for window application or Web application.

UNIT I

Introduction to classes: Class Fundamentals-Declaring Objects- -Introducing Methods- Constructors –This Keyword-Garbage Collection-Finalize() Method-Overloading Methods-using objects as parameters -Returning Objects-Recursion-Inner classes- Inheritance: Inheritance Basics-Using Super-Method Overriding-Dynamic Method Dispatch-Abstract Classes -using final with inheritance-Packages and Interfaces: Packages- Access Protection- Importing Packages-Interfaces

UNIT II

Exception handling: Fundamentals-Types of exception-try and catch-Nested Try-throw and throws –finally- Multithreaded Programming: Main thread- Creating a Thread. Input/Output:Exploring java.io: F ile-Stream classess-The Byte streams- the Character streams.

UNIT III

Applet Class: - Applet Architecture-Applet Skeleton- Applet Display Methods-Simple Banner Applet-Status Window-The HTML Applet Tag- Passing Parameters in Applets-getDocumentBase() and getCodeBase()-AppletContext and showDocument().Event Handling: Delegation Event Model-Event Classes-Event Listener Interfaces.

UNIT IV

AWT Controls,Layout Managers and Menus: Control Fundamentals-AWT controls-Understanding Layout Managers-Menu bars and Menus-Dialog Boxes-File Dialog

UNIT V

JDBC Objects: The concept of JDBC-JDBC Driver Types-JDBC Packages-Overview of JDBC Process-Database Connection-JDBC/ODBC Bridge with the Database-Statement Objects-ResultSet-Transaction Processing-Metadata

Text Book

1. **"Java Complete reference"** Herbert schildt, Tata MCGraw Hill, Seventh Edition 2012
2. **"J2EE Complete reference"** Jim Keogh, Tata MCGraw Hill,2002

Reference Book

Dr.C.Muthu,"Programming in Java"

SEMESTER IV

CC IX - PROGRAMMING IN JAVA LAB

Internal Marks : 40

External Marks : 60 **Subject Code: UIIY**

Total Marks : 100 **Exam Hrs : 3**

I Application

1. Finding area and Perimeter of a circle. Use buffered reader class
2. Substring removal from a string. Use StringBuffer class
3. Determining the order of numbers generated randomly using random class
4. Implementation of Point class for image manipulation
5. String manipulation using char array
6. Usage of vector classes
7. Implementing thread based applications and exception handling
8. Implementing Packages

II Applets

1. Working with frames and various controls
2. Dialogues and Menus
3. Graphics
4. Color and Font

SEMESTER IV

SBE I - WEB PROGRAMMING WITH PHP AND MYSQL - LAB

Internal Marks : 40

External Marks : 60 **Subject Code: UIS1Y**

Total Marks : 100 **Exam Hrs : 3**

Objectives

1. To acquire practical knowledge of the Server Side Scripting and database basics.
2. To develop applications using PHP and MySQL.

Exercises

1. Working with PHP operators
2. Working with different types of looping statements using php
3. Working with different types of array using php
4. Working with PHP functions
5. Working with PHP forms
6. PHP form validation
7. Working with PHP math/date function
8. Executing DML and DDL commands using MySQL
9. Joining tables
10. Retrieving data from table using PHP
11. Inserting data into table using PHP
12. Create an application using PHP and MySQL.

SEMESTER IV

NME II - ANIMATION LAB

Internal Marks : 40

External Marks : 60 **Subject Code: UIE2Y**

Total Marks : 100 **Exam Hrs : 3**

Flash

1. Basic Drawing and Painting.
2. Working with Strokes and Fills
3. Creating Custom Colors, Gradients, and Line Styles Transforming and Grouping Objects
4. Creating and Managing Multiple Layers
5. Converting Text into Shapes
6. Animate using motion, shape, Tweening , and actions

Photoshop

1. Illustrate the use of Blur tool using an Image.
2. Create a new layer and load an image on to it. Add a text object using Horizontal type mask tool and vertical mask tool.
3. Illustrate the use of Crop tool using an image.

SEMESTER V

CC X - COMPUTER NETWORKS

Internal Marks : 25

External Marks : 75 **Subject Code: UIJ**

Total Marks : 100 **Exam Hrs : 3**

Objectives: To learn the concepts of data communication technologies and computer networks. To understand the security aspects in computer networks.

UNIT I

Introduction: Data Communications – Components-Networks - Protocol and Standards – **Basic Concept:** Line Configuration – Topology – Transmission mode – Categories of Networks – The OSI model: The model – Function of the Layers.

UNIT II

Signals: Analog and Digital – Periodic and Non Periodic signals – Composite Signals - Digital Signals – Transmission of Digital Data: Digital Data Transmission – DTE – DCE Interface – MODEMS – **Transmission Media:** Guided Media – Multiplexing: FDM, WDM, TDM – Multiplexing Applications.

UNIT III

Error Detection and Correction: Types of Errors – Types of Redundancy Check – Error Correction – Data Link Control: Line Discipline – Flow control – Error control – **Data link protocols:** Asynchronous protocols – Synchronous protocols – Character Oriented Protocol – Bit Oriented Protocol.

UNIT IV

Switching: Circuit switching – Packet switching – Message switching – **Network and Interface Devices:** Repeaters – Bridges – Routers – Gateway – other devices – Routing Algorithms – Distance Vector Algorithm – Link state Algorithms. **Transport layer:** Duties of the transport layer – Connection – OSI transport Protocol.

UNIT V

LAN: Ethernet Technologies - Wireless LAN – Applications - Requirements – Planning –Arcchitecture-IEEE802.11 – WAP Services – Network Management – Goal of Network Management-Standards-Network Management Model - Simple Network Management Protocol.

Text Book

Behrouz A.Forouzan, Data Communications and Networking, Tata McGraw Hill, Second Edition.

SEMESTER V

CC XI - OPERATING SYSTEMS

Internal Marks : 25

External Marks : 75 **Subject Code: UIK**

Total Marks : 100 **Exam Hrs : 3**

Objectives

To provide fundamental concepts of all managements in an operating system.

UNIT I

Operating System Introduction Basic Concepts and Terminology An OS Resource Manager OS process view point OS hierarchical and extended machine view Memory Management: Single Contiguous Allocation Introduction to Multiprogramming.

UNIT II

Memory Management: Relocatable Partitioned Memory Management Paged Memory Management Demand Memory Management Segmented Memory Management Segmented and Demand-Paged Memory Management Swapping and Overlays.

UNIT III

Job and Processor scheduling: Process Control Block Scheduling Policies Scheduling Algorithms : In non multiprogramming environment In multiprogramming environment.

UNIT IV

Process Synchronization: Race Conditions Hardware solution to mutual exclusion problem, Test and set instruction Wait and signal mechanism semaphores, Dead Lock conditions Prevention Banker s Algorithm Detection and Recovery.

UNIT V

Device Management: I/O Devices Device Management Functions Serial and direct access storage devices Disk Scheduling File Management: Functions file organization allocation methods.

TEXT BOOKS

1. Operating System by Stuart E Madnick and John Donovan, Tata McGraw Hill.
2. Fundamentals of Operating System by Prof. R Sridhar, Dynaram Pub. Bangalore.

REFERENCE BOOK

1. **Operating System (Concepts and Design)** Milan Milenkovic McGraw Hill International Edition

SEMESTER V

CC XII - RDBMS LAB

Internal Marks : 40

External Marks : 60 **Subject Code: UILY**

Total Marks : 100 **Exam Hrs : 3**

1. SQL - Data Definition Language
    - Table creation
    - Table altering
    - Drop table
2. SQL - Data Manipulation Language
    - Data insertion
        - Built-in functions
    - Set operations
        - Join operation
        - Nested Sub queries
        - Views
3. PL/SQL Procedure
        - Cursor
        - Procedure
        - Functions
        - Triggers

SEMESTER V

SBE II - MOBILE COMPUTING

Internal Marks : 25

External Marks : 75 **Subject Code: UIS2**

Total Marks : 100 **Exam Hrs : 3**

Objective

To understand the Architectures, Sychronization Process and Operating Systems in Mobile Computing.

UNIT I

Mobile Communications - An Overview : Mobile Computing - Mobile Computing Architecture - Mobile Devices - Mobile System Networks - Data Dissemination - Mobility Management – Security.

UNIT II

Mobile Devices and Systems : Mobile Phones - Digital Music Players - Handheld Pocket Computers - Handheld Devices with Operating Systems - Smart Systems - Limitations of Mobile Devices - Automotive Systems.

UNIT III

GSM and Similar Architectures : GSM Services and System Architecture - Radio Interfaces - Protocols - Localization - Calling - Handover - Security - New Data Devices - General Packet Radio Service - High Speed Circuit Switched Data.

UNIT IV

Data Synchronization in Mobile Computing Systems : Synchronization - Synchronization Software for Mobile Devices - Synchronization Protocols - Mobile Devices Server and Management : Mobile Agent - Application Server - Gateways - Portals - Service Discovery - Device Management - Mobile File Systems – Security.

UNIT V

Mobile Operating Systems :Operating System-Palm OS-Windows CE-Symbian OS-Linux for Mobile Devices

Text Book

Mobile Computing, Rajkamal, Oxford University Press, 2011.

Reference Book

Mobile Computing, KumkumGarg, Pearson Education, 2010.

SEMESTER V

SBE III - ANDROID PROGRAMMING LAB

Internal Marks : 40

External Marks : 60 **Subject Code: UIS3Y**

Total Marks : 100 **Exam Hrs : 3**

1. Different Layout design including nested layout for a single biodata.

2. Arithmetic Operation for two numbers

3. Business Calculator

4. Animation: Bouncing of a ball

5. Intent

6. Database SQLite: Student Biodata

7. Fragments - Tablet Programming

8. Media Player

9. Repeated Alarm

10. Google Maps

SEMESTER V

MBE I - DATABASE SYSTEMS

Internal Marks : 25

External Marks : 75 **Subject Code : UIE3**

Total Marks : 100 **Exam Hrs : 3**

Objective

To provide the basic concepts of the Database Systems including Data Models, Storage Structure, Normalization and SQL .

UNIT I

Introduction: Database-System Applications- Purpose of Database Systems - View of Data --Database Languages - Relational Databases - Database Design -Object-Based and Semi structured Databases - Data Storage and Querying Transaction Management -Data Mining and Analysis - Database Architecture - Database Users and Administrators - History of Database Systems.

UNIT II

Relational Model: Structure of Relational Databases - Fundamental Relational-Algebra Operations Additional Relational-Algebra Operations- Extended Relational-Algebra Operations - Null Values - Modification of the Database.

UNIT III

SQL: Data Definition - Basic Structure of SQL Queries - Set Operations-Aggregate Functions - Null Values- Nested Subqueries - Complex Queries - Views -Modification of the Database - Joined Relations - SQL Data Types and Schemas - Integrity Constraints - Authorization - Embedded SQL

UNIT IV

Relational Languages: The Tuple Relational Calculus - The Domain Relational Calculus - Query-by- Example. Database Design and the E-R Model: Overview of the Design Process - The Entity-Relationship Model - 3 Constraints - Entity-Relationship Diagrams - Entity-Relationship Design Issues - Weak Entity Sets - Database Design for Banking Enterprise.

UNIT V

Relational Database Design: Features of Good Relational Designs - Atomic Domains and First Normal Form - Decomposition Using Functional Dependencies - Functional-Dependency Theory - Decomposition Using Functional Dependencies - Decomposition Using Multivalued Dependencies-More Normal Forms - Database-Design Process.

Text Book

Database System Concepts, Sixth edition, Abraham Silberschatz , Henry F. Korth, S. Sudarshan, McGraw-Hill-2010.

Reference Book

Database Systems: Models, Languages, Design and Application, Ramez Elmasri, Pearson Education 2014 .

SEMESTER V

OBJECT ORIENTED SYSTEM DESIGN

MAJOR BASED ELECTIVE COURSE (MBE) - I

Internal Marks : 25

External Marks : 75 **Subject Code:**

Total Marks : 100 **Exam Hrs : 3**

Objective

To introduce various phases of a Object Oriented System Design and also to develop skills in designing a UML diagram.

UNIT I

Overview of Object-oriented systems development Need for object orientation - Overview of the unified approach -Object Basics -Object-Oriented Systems Development Life Cycle The software development process- building high-quality software- object-oriented systems development- reusability.

UNIT II

Object-Oriented Methodologies Unified Modeling Language Static and dynamic models- why modeling- introduction to the unified modeling language- UML diagrams- UML class diagram- Use-case diagram- UML dynamic modeling- model management- UML extensibility- UML meta-model.

UNIT III

Object-Oriented Analysis Process- identifying Use Cases Use-case driven object-oriented analysis- business process modeling- Use-case model- Object Analysis- Classification classifications theory- approaches for identifying classes-Identifying object relationships - identifying attributes and methods- defining attributes by analyzing use cases and other UML diagrams.

UNIT IV

The Object-Oriented Design Process and Design Axioms the object-oriented design process- object-oriented design axioms- corollaries- Design patterns and frameworks Describing Design patterns Façade Design pattern. Designing Classes - the object-oriented design philosophy- UML object constraint language- designing

classes- the process- class visibility- designing classes- refining attributes - designing methods and procedures.

UNIT V

Access Layer - designing access layer classes- case study -View Layer- Designing interface objects user interface design as a creative process- designing view layer classes User satisfaction and usability testing Case Study - Analyzing the Bank ATM - Use-case model- developing effective documentation- Relationship analysis - defining attributes - object responsibility - defining methods for - refining attributes - designing methods - Designing the access layer - designing user interface

TEXT BOOKS

1. Ali Bahrami, Object Oriented System Development, McGraw Hill International Edition, 1999.

2. Erich Gamma, Richard Helm, Ralph Johnson and John Vlissides, DESIGN PATTERNS Elements of reusable Object Oriented Software , Addison Wesley Professional Computing Series - Pearson Education -2003

SEMESTER VI

CC XIII - COMPUTER GRAPHICS AND MULTIMEDIA

Internal Marks : 25

External Marks : 75 **Subject Code: UIM**

Total Marks : 100 **Exam Hrs : 3**

Objective

To impart the basic principles of generating primitives, shapes, package development, interactive graphics, raster graphics, two and three dimensional graphics and their transformations.

UNIT I

Introduction: Overview of Graphics Systems - Video Display Devices - Refresh Cathode Ray Tubes - Raster Scan and Random Scan Displays - Raster Scan and Random Scan Display Processor - Colour CRT Monitors – DVST - 3D Viewing Devices - Input Devices - Hard Copy Devices.

UNIT II

Output primitives: Line drawing algorithms - DDA Line drawing algorithm - Bresenham's line drawing algorithm - Circle Drawing algorithms - Bresenham's circle drawing algorithm - Mid point circle drawing Algorithms - Area filling algorithms – Scan line algorithm – boundary fill algorithm – flood fill algorithm - character generation

UNIT III

Attributes of Output primitives: line attributes – Curve attributes - Area fill attributes - Character attributes - bundled attributes - Anti aliasing techniques - 2D Transformations – Basic transformation – Composite transformation – other transformation

UNIT IV

2D viewing: windowing concepts – clipping algorithms- window to viewport transformation - Graphical User interfaces - logical classification of input devices - Interactive Input Methods - Three dimensional display techniques

UNIT V

Multimedia hardware & software - Components of multimedia – Text – Image – Graphics – Audio – Video - Animation - Multimedia communication systems – Applications: Video conferencing - Virtual reality - Interactive video - video on demand

TEXT BOOKS

1. Donald Hearn and M. Pauline Baker, Computer Graphics , 3rd Edition, Prentice Hall of India.

2.Ralf Steinmetz, Klara steinmetz, "Multimedia Computing, Communications and Applications", Pearson education.

REFERENCES

1. Steven Harringhton, Computer Graphics Programming Approach , 2nd Edition McGraw Hill.

2.Roy A. Plastock and Gorden Kelley, Theory and Problems of Computer Graphics, Schaum s Outline Series, McGraw Hill.

SEMESTER VI

CC XIV - .NET TECHNOLOGY

Internal Marks : 25

External Marks : 75 **Subject Code: UIN**

Total Marks : 100 **Exam Hrs : 3**

Objective

To understand the concepts of .NET technology

UNIT I

Introduction: Integrated Development Environment - IDE Components -Setting Environment Options - Building a Console application -Variable-Variable as Objects - Constants-Arrays.

UNIT II

Programming Fundamentals: Flow Control Statement-Writing & using procedures - Argument-Built-in Functions -The Textbox control -The List box, Checked List Box and Combo Box Controls-The Scrollbar or Track bar controls.

UNIT III

Working with Forms: Appearance of Forms - Loading or showing Forms - Dynamic Forms -Designing Menus - Common Dialog controls - Rich Text box Control – List view, Tree view, or Image List Controls - Handling Strings or Characters - Handling Dates or Times - Manipulating Folders or Files -Accessing Files.

UNIT IV

ADO .Net: The Basic Data - Access Classes-storing Data in datasets - Update Operations -Working with Typed Datasets - Data Binding - Designing Data Driven Interfaces.

UNIT V

Building Web Applications: Understanding HTML or DHTML- working with HTML - Cascading Style Sheets - Server Side Technologies – Controls - ASP.Net Objects - Understanding Web Services.

TEXT BOOK

Evangelos Petroutsos, *Mastering Microsoft Visual Basic 2008,* Wiley India Edition, Wiley Reprint, 2009.

SEMESTER VI

CC XV - SHELL PROGRAMMING LAB

Internal Marks : 40

External Marks : 60 **Subject Code: UIOY**

Total Marks : 100 **Exam Hrs : 3**

1. Write a Shell program, which accepts the name of a file from the standard input and performs the following tests on it:

   (i) File existence
   (ii) File readable
   (iii) File writeable
   (iv) Both readable and writeable

2. Write a Shell program using three arguments to take the pattern as well as input and output file names. If the pattern is found display "Pattern found", else display "Error message". Also check if right number of arguments is entered.

3. Write a Shell program, which accepts the name of the file from the standard input and then performs the following tests on it:

   (i) Enter five names in a file
   (ii) Sort the names in existing file
   (iii) List unsorted and sorted file
   (iv) Quit

4. Write a menu driven Shell program to copy, edit, rename, and delete a file.

5. Write a menu driven Shell program to perform the following tasks

   (i) Enter the sentence in file
   (ii) Search a given whole word in an existing file
   (iii) Quit

6. Write a Shell script to display the result "PASS" or "FAIL" using the information given below:

   Student Name, Student Register Number, Mark1, Mark2, Mark3, Mark4. The minimum pass for each subject is 50.

7. Write a menu driven Shell script for converting all the capital letters in a file to small case letters and vice versa.

8. Write a Shell script to merge the contents of three given files, sort them and display the sorted output on the screen page by page.
9. Write a Shell script to check whether a given string is Palindrome or not.
10. Write a Shell script to find factorial of a given number.
11. Write a Shell program to prepare the electricity bill based on the following rules :

    For first 100 units - Rs. 1.00/unit

    For next 100 units - Rs. 2.00/unit

    Above 200 units - Rs. 3.00/unit

SEMESTER VI

MBE II - LINUX ADMINISTRATION

Internal Marks : 25

External Marks : 75 **Subject Code : UIE4**

Total Marks : 100 **Exam Hrs : 3**

Objectives

To understand the concepts of Linux, its distribution, file system and administration.

UNIT-I

Introduction to Linux – Understanding Linux – Why use Linux – An Overview of Linux features – A brief History of Linux – Basic Features – Advantages of Using Linux Disadvantages of Using Linux – Installing Linux – Getting Started – Hardware – Understanding System Hardware - Understanding Peripheral Hardware – Choosing the Right Hardware for Linux.

UNIT-II

Understanding Linux Distributions – The Slack ware Packages - Installing Linux – What you need to install Linux – The Preparations – Preparing Floppies and Backups – Partitioning your Hard Drive – Preparing the Hard Drive for Linux – Installing the Linux System – Running Linux Applications – Maneuvering Through Linux – Managing Users – Basic Commands- Shutting Down Linux – Running Programs.

UNIT-III

Managing the File System – Understanding the File and directory Systems – Understanding File Names – Looking at Types of Files – Looking at Linux Standard Directories – Managing Files and Directories – Listing Files – Organizing Files – Copying Files – Moving and Renaming Files - Removing Files or Directories – Viewing the Content of a File – Searching for Files – Changing File Time and Date Stamps – Compressing Files – Manipulating Files with the GUI. The X-Windows system – What is X-Windows – Installing X-Free86 System – Configuring Xfree86 – Using X-Windows – X-Windows Applications.

UNIT-IV

System Administration - Understanding System Administration – Looking at the Importance of Proper Administration – Understanding Multi-user Concepts – Understanding Centralized Processing Systems – Understanding Distributed Processing System – Understanding Client/Server Model – Administration in a Networked Environment – Defining the Role of the Network Administrator – Booting and Shutdown – Booting Linux – Shutting Down Linux – Managing User Accounts – Working with Users

– Working with Groups – Backing Up Data – Planning Backup Schedule – Performing Backups and Restoring Files – Improving System Security – Physical Security – Password Security – Logon Security – File Security.

UNIT-V

Networking Administration – Understanding the TCP/IP Protocol Suite – History of TCP/IP – Internet Terminology – Open Systems Interconnection Model – TCP/IP Protocol Stack – IP Addresses – Sub networks - Routing – Setting Up Internet Networks – Configuring TCP/IP Network – TCP/IP Configuration Files – Installing Ethernet Interfaces – TCP/IP Routing – Monitoring a TCP/IP Network netstat – Netconfig program – Configuring Domain Name Service – Introduction to DNS – The Resolver - The Named Dameon – The named.*hosts* File – The named.*rev* file – The named.*ca* File – Troubleshooting.

Text Book

The Most Complete Reference – Special Edition Using LINUX.

SEMESTER VI

CLOUD COMPUTING

MAJOR BASED ELECTIVE COURSE (MBE) – II

Internal Marks : 25

External Marks : 75 **Subject Code :**

Total Marks : 100 **Exam Hrs : 3**

Objectives

1. To learn the different types of cloud computing services.
2. To make a cloud computing application unique, managing and working with cloud security.

UNIT I

Defining Cloud Computing: Definition - Cloud Types - Characteristics of Cloud Computing - Role of Open standards - Cloud Architecture: Cloud Computing Stack: Composiblity.

UNIT II

Infrastructure - Platforms - Virtual Appliances - Communication protocols - Applications – Connecting to the cloud - Cloud Services: Infrastructure as a Service - Platform as a Service - Software as a Service.

UNIT III

Identity as a Service - Compliance as a Service - Platforms: Load balancing and visualization– Understanding Hypervisors - Cloud Security: Securing the Cloud.

UNIT IV

Securing the data - Moving applications to the cloud - Cloud Storage: Definition – Provisioning –Cloud storage - Cloud Backup solutions - Cloud storage Interoperability.

UNIT V

Moving applications to the Cloud - Case Study: Google Web Services, Amazon Web Services - Microsoft Cloud Services.

Text Book

Barrie Sosinsky, Cloud Computing Bible, Wiley India Pvt. Ltd., 2011.

Reference Book

1. Roger Jennings, Cloud Computing with Windows Azure Platform, Wiley India Pvt. Ltd, 2009.
2. Miller Michael, Cloud Computing: Web-Based Applications That Change the Way You Work and Collaborate Online, Que Publishing, 2008.

Web Resources

1. http://www.mb.net/resources/cloud-computing-resources.aspx
2. http://www.mastertheboss.com/cloud-computing/in-the-cloud-computing-a-beginners-tutorial
3. http://www.south.cattelecom.com/technologies/cloudcomputing/indes.aspx

SEMESTER VI

MBE III - .NET TECHNOLOGY LAB

Internal Marks : 40

External Marks : 60 **Subject Code: UIE5Y**

Total Marks : 100 **Exam Hrs : 3**

1. Placing Textboxes dealing with its properties.

2. Making use of placeholders, literals and controls.

3. Making use of list box, check box and radio button controls.

4. Setting up and using Ad Rotator control.

5. Making use of Required field Validator and Compare Validator controls.

6. Using Range Validator, Regular Expression Validator and validation summary.

7. Database connectivity through connected approach.

8. Data view with the help of grid view control.

9. Formatting data with a help of data list control.