

SEMESTER - I

CC I - PRINCIPLES OF PROBLEM SOLVING USING C

Internal Marks : 25

External Marks :75

Total Marks :100

Subject Code : UXA

Exam Hrs :3

Objective:

To obtain knowledge about the structure of the programming language C and to develop the program writing and logical thinking skill.

UNIT I

Introduction to Problem Solving: Problem solving strategies, Problem identification, Problem understanding, Algorithm development, Solution planning (flowcharts, pseudo code, etc.), Modular programming design. Overview of C: History of C – Importance of C – Basic structure of C programs. Constants, variables and data types: Character set – C Tokens – Keywords and identifiers – Constants – Variables – Declaration of storage classes – Assigning values to variables- Defining symbolic constants.

UNIT II

Operators and expression: Evaluation of expressions – Precedence of arithmetic operators – Type conversions in expressions – Operator precedence and associativity – Mathematical functions - Managing input and output operations: Reading and writing a character – Formatted input and output. Decision making and branching: Simple IF, IF-ELSE, Nesting of IF-ELSE, ELSE-IF ladder, Switch statements – GOTO statements. Decision making and looping: WHILE statement – DO statement – FOR statement – Jumps in loops.

UNIT III

Arrays: Definition & Declaration – One dimensional – Two dimensional – Multi dimensional arrays - Dynamic arrays. Character arrays and strings: Introduction – Declaring and initializing string variables – Reading strings from terminal – Writing strings to screen – String handling functions – Table of strings. User – Defined functions: Introduction – Need for user – Defined function – A Multi- function program – Elements of user – Defined function – Definition of functions – Return values and their types –

Function calls – Function declaration – All category of functions – Nesting of functions – Recursion – Passing arrays to functions – Passing strings to function.

UNIT IV

Structures and Unions: Introduction – Defining a structure – Declaring structure variables – Accessing structure members – Structure initialization – Copying and comparing structure variables – Arrays of structures – Arrays within structures – Structures within structures – Structures and functions – Unions – Size of structures – Bit fields. Pointers: Introduction – Understanding pointers – Accessing the address of a variable – Initializing of pointer variables. Chain of pointers – Pointer expressions – Pointers and arrays – Pointers and character strings – Arrays of pointers – Pointers as function arguments – Functions returning pointers – Pointers to functions – Pointer and structures.

UNIT V

File Management: Introduction – Defining and opening a file –Closing a file – Input/Output operation on files – Error handling during I/O operations – Random access files – Command line arguments. The Pre-processor: Introduction – Macro substitution – File inclusion – Compiler control directives.

TEXT BOOK

1. Programming in ANSI C, E. Balagurusamy Tata McGraw Hill, New Delhi, 5th Edition.

REFERENCE BOOK

1. "C: The complete Reference —, Herbert Schildt,Mc Graw Hill,New Delhi, 4Th Edition 2. PROGRAMMING IN C, B.L.JUNEJA, Cengage Learning India

SEMESTER I
CC II - PROGRAMMING IN C LAB

Internal Marks :40

External Marks :60

Total Marks :100

Subject Code : UXBY

Exam Hrs :3

Objective

To develop skills in implementing algorithms through the programming Language C and to explore the features of C by applying sample problems.

1. Simple problems using Operators
2. Problems using Branching structures (If, switch, goto)
3. Problems using looping structures (for, while, do-while)
4. Problems on operations on single dimensional array
5. Problems using Matrix operations
6. Problems using String manipulations (Using array)
7. Problems on Working with functions
8. Problems on Working with Pointers
9. Problems on Working with Structures
10. Problems using File Handling Techniques (Text files, Sequence files)
11. Problems using Sequential file
12. Problems using Random access file

SEMESTER I
CC III - OFFICE AUTOMATION LAB

Internal Marks : 40

External Marks :60

Total Marks :100

Subject Code : UXCY

Exam Hrs :3

MS-WORD

1. Text Manipulation – Change the font size and type, Aligning and Justification of text, Underlining the text, indenting the text
 - a) Prepare a Bio-data
 - b) Prepare a letter
2. Using Bullets and Numbering in Paragraphs, Footer and Header, Finding and Replacing Text and Checking Spelling
 - a) Prepare any document
 - b) Prepare any document in newspaper format
3. Tables and Manipulations – Creation, Insertion and Deletion (Rows and Columns) and Usage of Auto Format
 - a) Create a Mark sheet and find total mark, average and result
 - b) Create a calendar and Auto Format it.
4. Picture Insertion and Alignment - Prepare a handout
5. Using Mail Merge
 - a) Prepare a business letter
 - b) Prepare an invitation

MS-EXCEL

1. Usage of Formulae and Built-in Functions.
2. Editing Cells and Using Commands and Functions
3. Moving and Copying, Inserting and Deleting Rows and Columns
4. Paybill Preparation

MS-POWERPOINT

Preparation and Manipulation of Slides

SEMESTER II

CC IV - OBJECT ORIENTED PROGRAMMING USING C++

Internal Marks : 25

External Marks :75

Total Marks :100

Subject Code : UXD

Exam Hrs : 3

Objective

To give the concepts of object oriented programming and to impart the programming skills in C++.

UNIT I

Object Oriented Programming: Characteristics of Object Oriented languages.
C++ Programming Basics: Basic Program Construction – Integer Variables – Character Variables. **Function:** Simple Function – Passing Arguments of functions – Returning values from function – Reference Arguments – Overloading Function – Recursion-Inline Function – Default Argument.

UNIT II

Object and Classes: Simple Class – C++ Objects as Physical objects – Constructors – Objects as function Arguments – Default copy constructor – Returning objects from function – Structures and Class – Static Class Data. **Arrays and Strings:** Array fundamentals – Array of objects.

UNIT III

Operator Overloading: Overloading unary operator –Overloading Binary Operator. **Pointer:** Addresses and Pointers – Address of Operator & - Pointers and Arrays – Pointer and Functions – Pointers to Objects – Pointers to Pointers. **Template:** Function Templates – Class Templates – Exception.

UNIT IV

Inheritance: Derived Class and Base Class – Derived Class Constructor – Overriding Member function – Class Hierarchies – Public and Private Inheritance – Levels of Inheritances – Multiple Inheritance. **Virtual Function:** Virtual function-Friend Function-Static Function – This pointer.

UNIT V

Stream and Files: Stream Classes – Stream Error – Disk File I/O with Streams – File Pointers – File I/O with member function.

Text Book

Robert Lafore, "Object-Oriented Programming in Microsoft C++", Galgotia Publications, New Delhi, 2000.

Reference Books

1. E.Balagurusamy, "Object-Oriented Programming with C++", Second Edition, 2002.
2. Bjarne Stroustrup, "The C++ Programming Language", Addison-Wesley, New York, 1999.

SEMESTER II
CC V - PROGRAMMING IN C++ LAB

Internal Marks : 40

External Marks :60

Total Marks :100

Subject Code : UXEY

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 AND ALGORITHMS

Internal Marks : 25

External Marks :75

Total Marks :100

Subject Code : UXF

Exam Hrs :3

Objectives

To give a fundamental knowledge on data structures and exposure to development of algorithms related to data structures.

UNIT I

Introduction and Preliminaries: Basic terminology, Elementary data organization, Data structures – Data structure operations, Algorithms: complexity, time-space Tradeoff – Mathematical Notations and Functions – Control Structures – Complexity of Algorithms.

UNIT II

Arrays and Stacks: Arrays – Introduction – Linear Array, Representation of Linear Array in Memory, Traversing Linear Arrays, Inserting and Deleting, Multidimensional Arrays – Stacks – Array Representation of Stack, Arithmetic Expressions: Polish Notation – Recursion.

UNIT III

Queues and Linked Lists: Queues – De queues – Array Representation of Queues – Insertion and Deletion – Linked List: Representation of Linked Lists in memory - Traversing a Linked List - Insertion into a Linked List - Deletion from a Linked List - Two-Way Linked Lists.

UNIT IV

Trees and Graphs: Binary Trees, Representing Binary Trees in Memory - Traversing binary tree - Binary Search Tree - Searching and Inserting in Binary Search Tree - Deleting in Binary Search tree – Graph Theory – Terminology - Sequential Representation of Graph: Adjacency Matrix - Path Matrix.

UNIT V

Sorting and Searching: Sorting - Bubble Sort - Insertion Sort - Selection Sort – Merge Sort - Quick sort - Heap Sort – Radix Sort – Searching: Linear Search - Binary Search.

TEXT BOOK

1. Seymour Lipschutz and G.A. Vijayalakshmi Pai (Schaum's Series), Data Structures, Tata McGraw Hill Publishing Company Ltd., New Delhi, Indian Adopted Edition, 2006

REFERENCE BOOK

1. Ashok N. Kamthane, Introduction to Data Structures in C, Pearson Edition, 2007.

SEMESTER III

CC VII - DATA STRUCTURES AND ALGORITHMS USING C++ LAB

Internal Marks : 40

External Marks :60

Total Marks :100

Subject Code : UXGY

Exam Hrs :3

1. Create a class Array
2. Create a class Stack
3. Convert Infix to Postfix and evaluate Postfix using Stack class
4. Create classes for Queue and Circular Queue.
5. Insert and Delete operations on Single Linked List
6. Insert and Delete operations on Double Linked List
7. Binary Tree Creation and Traversals

SEMESTER III
NME I - WEB DESIGNING LAB

Internal Marks :40

External Marks :60

Total Marks :100

Subject Code : UXE1Y

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 - JAVA PROGRAMMING

Internal Marks : 25

External Marks : 75

Total Marks :100

Subject Code : UXH

Exam Hrs :3

Objective

To give basic knowledge of Object Oriented Programming paradigm and to impart the programming skills in JAVA.

UNIT I

Basic Concepts of OOPS: Benefits of OOPS- Java History-Java Features- Java Environment- Java Tokens- Constants- Variables- Data Types - Operators and Expressions- Decision Making and Branching- Decision Making and Looping.

UNIT II

Classes, Objects and Methods:Classes and Objects- Constructors- 'Method Overloading- Static Members- Inheritance- Overriding Methods- Final Variables, Final Methods and Final Classes - Finalizer Method- Abstract Methods and Abstract Classes - Visibility Control - Arrays - Strings.

UNIT III

Interfaces: Defining Interface- Extending Interfaces- Implementing Interfaces- Packages- Multithreaded Programming: Thread Life Cycle - Thread Exceptions – Thread Priority-Synchronization.

UNIT IV

Managing Errors and Exceptions: Types of Errors- Exceptions- Syntax of Exception Handling Code-Multiple Catch Statements- Using Finally Statements- Managing Input / Output Files in Java: Concept of Streams- Stream Classes- Character Stream Classes- Reading / Writing Characters- Reading / Writing Bytes- Handling Primitive Data Types- Random Access files.

UNIT V

AWT : Event Handling Methods- Labels- Button Control- Check Box Control- Radio Button Control- Choice Control- List Control-Flow Layout- Border Layout- Grid Layout- Menus- Mouse Events-Applets: Life cycle of an Applet- Development and Execution of a Simple Applet.

TEXT BOOKS

1. E.Balagurusamy, "Programming with JAVA", Tata McGraw Hill, New Delhi, 4th edition.

(UNIT I,II,III,IV)

2.C. Muthu, "Programming with JAVA", Vijay Nicole Imprints Private Limited, Chennai, Second Edition, 2011. (UNIT V)

REFERENCE BOOK

Herbert Schildt, Complete Reference Java 2, Tata McGraw-Hill Publishing Company Limited, Fifth Edition, 2009.

SEMESTER IV
CC IX - JAVA PROGRAMMING LAB

Internal Marks : 40

External Marks : 60

Subject Code : UXIY

Total Marks :100

1. Write simple programs to demonstrate
 - a) the various forms of inputs in Java
 - b) Operators and expressions
 - c) Control statements
2. Write a Java Program to define a class, describe its constructor, and instantiate its Object
3. Write a Java Program to demonstrate method overloading
4. Write a Java Program to demonstrate single and two Dimensional arrays.
5. Write a Java program to demonstrate various methods in the String and StringBuffer class.
6. Write a Java Program to demonstrate methods in the Vector class.
7. Write a Java Program to implement single inheritance
8. Write a Java Program to implement multiple inheritance
9. Write a Java program to implement the concept of importing classes from user defined package and creating packages.
10. Write a Java program to implement the concept of threading by using Thread class and Runnable interface.
11. Write a Java program to implement the concept of Exception Handling.
12. Write a Java program using Applet
 - a) to display a message.
 - b) for passing parameters.
13. Write a Java programs for using Graphics class to display basic shapes and fill them and set background and foreground colors.
14. Write a Java program to demonstrate use of I/O streams.

SEMESTER IV
SBE I - MULTIMEDIA LAB

Internal Marks : 40

External Marks : 60

Total Marks :100

Subject Code : UXS1Y

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. 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 IV
NME II - ANIMATION LAB

Internal Marks :40

External Marks :60

Total Marks :100

Subject Code: UXE2Y

Exam Hrs :3

Flash

Develop an image(s) and do the following.

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 ORGANIZATION AND ARCHITECTURE

Internal Marks : 25

External Marks :75

Total Marks :100

Subject Code: UXJ

Exam Hrs : 3

Objectives

To understand the principles of digital logic circuits & their design. To understand the working of a central processing unit architecture of a computer.

UNIT - I

Basic Computer and Design: Instruction codes – Computer Instructions – Timing and control – execution of instruction – input / output and interrupt.

UNIT - II

Central Processor Organization: Processor – bus organization – ALU – Stack Organization – instruction format – Addressing modes – data transfer and manipulation –program control – microprocessor organization – parallel processing. Micro program control organization – control - memory – address – sequencing – micro – program sequence – micro instruction formats.

UNIT - III

Arithmetic Processor Design: Comparison and subtraction of unsigned binary number – Addition and subtraction algorithm – multiplication algorithm –division algorithm – processor configuration.

UNIT - IV

Input – output organization: Peripheral device – I/o interface – asynchronous data transfer – direct memory access input output processor – priority interrupt – multiprocessor system organization.

UNIT - V

Memory : Volatile and non volatile memory – RAM – ROM – digital recording – techniques – auxiliary memory – microcomputer memory – hierarchy – associative memory – virtual memory cache memory.

TEXT BOOKS

."Computer System Architecture", M.Morris Mano "Digital Computer Fundamentals",
Thomas C.Bartee.

REFERENCE BOOK

Computer Organization and Programming – C.W. Gean.

SEMESTER V
CC XI - OPERATING SYSTEMS

Internal Marks : 25

External Marks :75

Total Marks :100

Subject Code : UXK

Exam Hrs : 3

Objective

To gain the basic knowledge about the operating systems and its various schemes and services.

UNIT I

Operating system Overview -Basic concepts and terminologies operating system resource manager - process view point - Hierarchical and extended machine view - I/O programming and interrupt programming - I/O programming - Interrupt structure and processing.

UNIT II

Memory Management -Single Contiguous allocation - multiprogramming - partitioned allocation - relocatable partitioned memory management -paged memory management - page removal algorithms - thrashing - segmented memory management - segmented and demand paged memory management.

UNIT III

Processor management - Process State Model - job scheduling - Process scheduling - Multiprocessor systems - Process synchronization - resolving deadlocks.

UNIT IV

Device management - Techniques - Device characteristics - I/O traffic controller - I/O scheduler and device handlers - virtual devices - spooling.

UNIT V

Information Management: File system model - Symbolic, basic file system - Access Control verification - Logical, Physical file system -Allocation strategy, Device Strategy Modules.

Text Book

S.E Madnick and J J Donovan "Operating Systems" McGraw Hill International Book Co, New Delhi, 2013.

Reference Books

1. Harvey M Deitel, "An Introduction to operating system" Addison - Wesley Publishing Co. New York, 1984.
2. James L. Peterson & Abraham Silbertschatz, "An Introduction to operating system" Addison - Wesley Publishing Co. New York, 2014.

SEMESTER V
CORE COURSE (CC) XII
CC XII - DATABASE SYSTEMS

Internal Marks : 25

External Marks :75

Total Marks :100

Subject Code : UXL

Exam Hrs : 3

Objective

To understand the basic concepts and organization of a database and to impart basic knowledge on relational database.

UNIT I

Introduction: Database System Applications –Database Languages – Transaction Management – Database Architecture – Database users and Administrators - Relational Model: Structure of Relational Databases – Database Design – ER Model – The Entity-relationship Model – Constraints – Entity Relationship Diagrams.

UNIT II

Relational Algebra Operations – Relational Languages: The Tuple Relational Calculus – The Domain Relational Calculus – SQL: Background – Data Definition – Basic Structure of SQL Queries – Set Operations – Aggregate Functions – Null Values – Nested Sub-Queries – Views – Modification of the Database.

UNIT III

Data Normalization: Pitfalls in Relational Database Design – Decomposition – Functional Dependencies – Normalization – First Normal Form – Second Normal Form – Third Normal Form – Boyce- Codd Normal Form – Fourth Normal Form – Fifth Normal Form – Denormalization – Database Security: Data Security Requirements – Protecting the Data within the Database – Granting and Revoking Privileges – Data Encryption.

UNIT IV

PL/SQL: A Programming Language: History – Fundamentals – Block Structure – Comments – Data Types – Other Data Types – Declaration – Assignment operation – Bind variables – Substitution Variables – Printing – Arithmetic Operators. Control

Structures and Embedded SQL: Control Structures – Nested Blocks – SQ L in PL/SQL – Data Manipulation – Transaction Control statements

UNIT V

PL/SQL Cursors and Exceptions: Cursors – Implicit & Explicit Cursors and Attributes – Cursor FOR loops – SELECT...FOR UPDATE – WHERE CURRENT OF clause – Cursor with Parameters – Cursor Variables – Exceptions – Types of Exceptions.

TEXT BOOKS

1. “Database System Concepts”, Abraham Silberschatz, Henry F.Korth, .Sudarshan, TMH 5th Edition (Units - I, II,)
2. “Fundamentals of Database Management Systems”, Alexis Leon, Mathews Leon, Vijay Nicole Imprints Private Limited. (Unit – III)
3. “Database Systems Using Oracle” Nilesh Shah, 2nd edition, PHI.UNIT-IV: Chapters 10 & 11 UNIT-V: Chapters 12, 13 & 14)

REFERENCE BOOK

1. Text Book of RDBMS (Relational Database Management Systems)- By Mrs Vidya H. Bankar, Mrs DeepaShree K, Mehendale, Mrs Sujatha P. Patel

SEMESTER V
MBE I - .NET TECHNOLOGY

Internal Marks :25

External Marks :75

Total Marks :100

Subject Code : UXE3

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

SEMESTER V
MAJOR BASED ELECTIVE (MBE) I
SOFTWARE ENGINEERING

Internal Marks :25

External Marks :75

Total Marks :100

Subject Code

Exam Hrs :3

Objective

To provide knowledge of the various phases of software engineering process.

UNIT I

Introduction to Software Engineering: Definitions, Size factors- Quality and Productivity Factors – Managerial Issues – Planning a Software Project: Defining the Problem – Developing a Solution Strategy – Planning the Development Process – Planning an Organizational Structure.

UNIT II

Software Cost Estimation: Software Cost Factors – Software Cost Estimation Techniques – Staffing Level Estimation – Estimating Software Maintenance Costs – Software Requirements Definition: The Software Requirements Specification – Formal Specification Techniques – State Oriented Notations.

UNIT III

Software Design: Fundamental design concepts – Modules and Modularization criteria – Design Notations – Design Techniques.

UNIT IV

Implementation Issues: Structured coding techniques – Coding Style – Modern programming language Features: Type checking – User-defined data types – Data abstraction – Scoping Rules.

UNIT V

Verification and Validation Techniques: Quality Assurance – Walkthroughs and Inspections – Unit Testing and Debugging – System Testing – Formal Verification – Software Maintenance: Enhancing Maintainability during development – Managerial Aspects of Software maintenance.

Text Book

Richard Fairley, Software Engineering Concepts, TMH, 30th Reprint, 2008.

Reference Book

Roger S. Pressman, Software Engineering: A Practitioner's Approach, TMH, Fourth Edition.

UNIT I : Chapter 1 (1.1, 1.2, 1.3, 1.4), Chapter 2 (2.1 – 2.4)

UNIT II :Chapter-3(3.1–3.4),Chapter-4(4.1,4.2.2)

UNIT III :Chapter-5(5.1–5.4)

UNITIV:Chapter-6(6.1,6.2),Chapter7(7.1,7.3,7.4,7.5)

UNIT V : Chapter -8 (8.1, 8.2, 8.5, 8.6, 8.7), Chapter 9 (9.1, 9.2)

SEMESTER V
SBE II - RDBMS LAB

Internal Marks : 40

External Marks : 60

Total Marks :100

Subject Code : UXS2Y

Exam Hrs :3

Objectives

1. To acquire skills in SQL statements with various constructs
2. To acquire skills in PL/SQL Programming
3. To practice with stored Objects,functions,procedures,triggers

Exercises

1. Creating, modifying and dropping Tables.
2. Inserting, modifying and deleting rows.
3. Working with *Decode* and *case*.
4. Creating tables with Adding , Dropping ,disabling /enabling constraints.
5. Retrieving rows with Character functions.
6. Retrieving rows with Number and Date functions.
7. Retrieving rows with Group functions and HAVING.
8. Retrieving rows with Sub Queries.
9. PL/SQL programs with control structures.
10. PL/SQL programs with Cursors.
11. PL/SQL programs with Exception Handling.
12. PL/SQL programs with Triggers.

SEMESTER V
SBE III - .Net TECHNOLOGY LAB

Internal Marks : 40

External Marks : 60

Total Marks :100

Subject Code :SXS3Y

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 Adrota tor control.
5. Making use 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.

SEMESTER VI

CC XIII - DATA COMMUNICATIONS AND NETWORKING

Internal Marks : 25

External Marks :75

Total Marks :100

Subject Code : UXM

Exam Hrs : 3

Objective

To understand the Design and Organization of Computer Networks

UNIT I

Overview and Physical Layer: Introduction: Data Communications - Networks - Network Types, Network Models: TCP/IP Protocol Suite- The OSI Model, Bandwidth utilization : Multiplexing- Spread Spectrum, Transmission Media: Guided Media- Unguided Media, Switching: Circuit Switched Network-Packet Switching-Structure of a switch.

UNIT II

Data Link Layer: Error Deduction and Correction : Introduction- Cyclic codes- Forward error correction, Data link Control: Data link layer protocols- Media Access Control: Random Access- Controlled Access, Wireless Networks: IEEE 802.11- Bluetooth-Cellular Telephone- Satellite network- Connection devices.

UNIT III

Network Layer Services : Packet Switching- Network layer performance- IPV4 Addresses- Internet Protocol-Routing Algorithms - IPV6 Addressing.

UNIT IV

Transport Layer : Transport Layer Protocols- User Datagram Protocol - TCP:TCP Services TCP features - Windows in TCP - Flow Control - Error Control- TCP Congestion Control - TCP timers.

UNIT V

Application Layers : Client Server Programming - Word Wide Web & HTTP - FTP
- Email – DNS.

Text Book

Data Communications and Networking, Behrouz A Forouzan, Tata McGraw Hill, Fifth
Edison, 2013.

Reference Book

Data Communications and Networks, Achyut Godbole and Atul Kahate, McGraw Hill
Education, 2011.

SEMESTER VI

CC XIV - MICROPROCESSOR AND ASSEMBLY LANGUAGES

Internal Marks : 25

External Marks :75

Total Marks :100

Subject Code: UXN

Exam Hrs :3

Objectives

To understand the architecture and working principles of Microprocessors. To write simple assembly language programs and provide knowledge of various real time Microprocessor Applications.

UNIT I

Evolution of microprocessors- single chip- microcomputers- Memory- Semiconductor memory, cache memory, Associate and set associate memory, Real and virtual memory, magnetic memory, PCMCIA cards and slots- Buses- Memory address capacity of CPU- microcomputers- processing architecture-Intel 8085- Instruction cycle- timing diagram

UNIT II

Instruction set of Intel 8085- Instruction and data formats- Addressing modes- status flags- INTEL 8085 Instructions- Programming of Microprocessors- Assemblers- stack and subroutines- macros and microprogramming

UNIT III

Assembly language programming- simple examples- Addition and subtraction of binary and decimal numbers- complements- shift- masking- finding, Max and Min numbers in an array - arranging a series of numbers- Multiplication, division- Multibyte Addition and subtraction.

UNIT IV

Peripheral devices and interfacing- address space partitioning- Memory and I/O Interfacing- data transfer schemes- Interrupts of Intel 8085- interfacing devices and I/O devices- I/O ports- Programmable peripheral Interface.

UNIT V

Microprocessor Applications- Delay subroutines- Interfacing of 7 segment LED displays- Frequency measurements- Temperature measurements and control- water level indicator – Microprocessors based Traffic control

Text Book

“Fundamentals of microprocessors and microcomputers”- Badri Ram- Fifth revised and enlarged edition- dhunpat rai publications- 2001

Reference Book

“Microprocessor Architecture, programming and application with the 8085/8080A”- Romesh s. Gonakar- Pensam International publishers India-1997.

SEMESTER VI
CC XV - MICROPROCESSOR LAB

Internal Marks : 40

External Marks : 60

Total Marks :100

Subject Code : UXOY

Exam Hrs : 3

Microprocessors Experiments

1. 8-bit addition, subtraction, multiplication and division
2. Multibyte addition and subtraction
3. Sum of series (8-bit)
4. Data transfer from one part of the memory to another
5. Maximum and minimum values
6. Sorting (Ascending and Descending order)
7. Hexadecimal to decimal and decimal to hexadecimal conversion (simple logic only)

SEMESTER VI
MBE II - COMPUTER GRAPHICS

Internal Marks :25

External Marks :75

Total Marks :100

Subject Code: UXE4

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 Processo - 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

UNIT V

3D Concepts: Three dimensional display techniques - Three dimensional representation - Three dimensional Transformations

TEXT BOOK

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

REFERENCES

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

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

SEMESTER VI
MAJOR BASED ELECTIVE COURSE (MBE) II
CELLULAR AND MOBILE COMPUTING

Internal Marks :25

External Marks :75

Total Marks :100

Subject Code :

Exam Hrs :3

Objectives

1. To understand the basic concepts of wireless transmission, networks and wireless LANs.
2. To gain the knowledge about message services.

UNIT I

Introduction to Wireless Networks, Mobile Computing and Mobile development frameworks. Wireless Transmission: Cellular System: Cells – Clusters – Frequency Reuse – Cell Splitting – Handoff – Cellular Radio-Medium Access Control: Introduction – Hidden/Exposed Terminals – The Basic Access Method – Near/Far Terminals – SDMA, FDMA, TDMA, CDMA.

UNIT II

Wireless LANs: Wireless LAN and Communication – Infrared – Radio Frequency – IR Advantages & Disadvantages - RF Advantages & Disadvantages – Wireless Network Architecture: Logical Types of WLAN-IEEE 802.11: MAC layer – Security – Synchronization – Power Management – Roaming-Bluetooth Overview. Ubiquitous Wireless Communication: Introduction – Scenario of Mobile Communication – Mobile Communication Generations: 1G to 4G – 4th Generation Mobile Communication Network-Universal Mobile Telecommunication System (UMTS).

UNIT III

Mobile IP: Overview – Working with Mobile IP – Mobile IP Entities – Mobile Agents – Components of Mobile IP – Mobile IPv6 Features - Mobile IPv6 Address Types - Mobile IPv6 Address Scope - Mobile IP Operation – Mobile Transport Layer: Traditional TCP and implications on mobility – Indirect TCP – Snooping TCP – Mobile TCP – Selective Retransmission – Transaction oriented TCP.

UNIT IV

Mobile Computing: WWW architecture for mobile computing-Need for WAP- Benefits of WAP-Examples of WAP-WAP architecture-WAP protocol-WAP push architecture-Push and pull based data acquisition-I-mode-WAP 2.x.Wireless Telecomm Networks :GSM-GPRS-IS-95-CDMA-2000 – W- CDMA – Wireless Sensor Networks. Messaging Services: Short Message Services (SMS)-Multimedia Message Services (MMS)-Multimedia transmission over wireless.

UNIT V

Pervasive Computing and Information Access : Introduction – Pervasive Computing History – Pervasion Computing Technology – Pervasive Computing Characteristics – Application Framework – Issues. Web Services and Mobile Web: Introduction to web services-SOAP-UDDI-WSDL-EDGE-WiFi- WiMax-Introduction to mobile web-mobile web browser. Introduction to developing mobile application with J2ME and SMART PHONE.

TEXT BOOK

. Dr. Jani N. N, Lakhtaria. I. Kamaljit, Dr. Jani .N. Ashish , Kanabar Neeta, “Mobile Computing” , First edition ,2009, S .Chand & company Ltd.

REFERENCE BOOKS

1. Pahlavan Kaveh and Krishnamurthy Prashant, “Principles of wireless Networks”, 2004,Pearson education,.
2. Schiller Jochen, “Mobile Communications”, Second Edition, Pearson Education

Web Resources

1. www.scribd.com.
2. www.slideshare.net

SEMESTER VI

MBE III - WEB PROGRAMMING WITH PHP AND MYSQL LAB

Internal Marks :40

External Marks :60

Total Marks :100

Subject Code : UXE5Y

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.