MANONMANIAM SUNDARANAR UNIVERSITY
TIRUNELVELI

UG COURSES – AFFILIATED COLLEGES

B.Sc. Computer and Information Technology

(Choice Based Credit System)

(with effect from the academic year 2016-2017 onwards)

(45th SCAA meeting held on 09.02.2017)

Sem.	Pt I/II / III/ IV/ V	Sub No.	Subject status	Subject Title	Hrs/ week	Cre - dits	Marks				
							Maximum			Passing minimum	
							Int.	Ext.	Tot.	Ext.	Tot.
III	I	15	Core – 3	MANAGEMENT INFORMATION SYSTEM	6	4	25	75	100	30	40
		16	Core – 4	OBJECT ORIENTED PROGRAMMING WITH C++	6	4	25	75	100	30	40
		17	Major Practical – III	OBJECT ORIENTED PROGRAMMING WITH C++ LAB	6	4	50	50	100	20	40
		18	Allied III	DATA STRUCTURE	4	2	25	75	100	30	40
		19	Allied Practical – III	DATA STRUCTURE	2	2	50	50	100	20	40
	IV	20	Skilled Based subject –I	DTP	4	4	25	75	100	30	40
	IV	21	Non-Major Elective - I	INTRODUCTION TO INFORMATION TECHNOLOGY	2	2	25	75	100	30	40
	SUB- TOTAL				30	22					

Sem.	Pt I/II/ III/ IV/ V	Sub No.	Subject status	Subject Title	Hrs/ week	Cre - dits	Marks				
							Maximum			Passing minimum	
							Int.	Ext.	Tot.	Ext.	Tot.
IV	III	22	Core - 5	JAVA PROGRAMMING	6	4	25	75	100	30	40
		23	Major Practical - IV	JAVA PROGRAMMING LAB	6	4	50	50	100	20	40
		24	Major Elective-I	(A)E-COMMERCE (B) ARTIFICIAL INTELLIGENCE (C)INTERNET SECURITY	6	5	25	75	100	30	40
		25	Allied IV	OPERATIONS RESEARCH & NUMERICAL ANALYSIS	4	4	25	75	100	30	40
		26	Practical - IV	DATA STRUCTURE	2	2	50	50	100	20	40
	IV	27	Skilled Based subject - II	ANIMATION APPLICATION	4	4	25	75	100	30	40
	IV	28	Non Major Elective-II	BASIC PROGRAMMING DESIGN	6	2	25	75	100	30	40
	V		Extension Activity	NCC,NSS, YRC, YWF		1					
	SUB- TOTAL				30	26					

MSU/2016-17/UG-Colleges/Part-III (B.Sc. Computer and Information Technology)/ Semester - III/Ppr.no.15/Core-3

MANAGEMENT INFORMATION SYSTEMS

Unit – I

Definition of MIS – Systems approach – meaning and objectives of MIS – MIS and use of computer – limitations of MIS.

Unit – II

Computer Software for information systems – introduction – system software – Application software – Software Trends.

Unit – III

Information system in Business – introduction – Functional areas of Business – marketing information system – Human Resource Information System.

Unit – IV

Application of Information Technology in Business – Introduction of E-Commerce, Mobile Commerce, E-Governance, E-enterprises, From PC to the Web.

Unit – V

Information Security, Ethics and Society – Challenges of Securing Computer systems – Types of Security Breaches, Cyper Laws and IT Act 2000 – Ethical and Social Dimensions of Information Technology.

Text Books :

1. Management, Information System A.K. Gupta – S. Chand and Company.
2. Management Information system Dr. S.P. Rajagopalan – Margham Publications

Reference :

1. Management Information System P. Mohan – Himalaya Publishing House.
2. Management Information System, Managerial Perspectives – D.P. Goyal – Macmilan.

MSU/2016-17/UG-Colleges/Part-III (B.Sc. Computer and Information Technology)/ Semester-III/Ppr.no.16/Core-4

OBJECT ORIENTED PROGRAMMING WITH C++

Unit – I

Introduction to C++ : Evolution of C++ - ANSI Standard – Object Oriented Technology – Disadvantage of Conventional Programming – Programming Paradigms – Preface to Object – Oriented Programming – Key Concepts of Object – Oriented Programming – Advantages of OOP – Object Oriented Languages.

Input and Output in C++ : Streams in C++ - Pre-Defined Streams – Buffering – Stream Classes – Formatted and Unformatted Data – Unformatted Console I/O Operations – Typecasting with cout Statement – Member Functions of Istream Class – Formatted Console I/O Operations.

C++ Declarations : Parts of C++ Program – Types of Tokens – Keywords – Identifiers – Dynamic Initialization – Data Types in C++ - Basic Data Type – Derived Data Type – *User – Defined Data Type – The void Data Type – Type Modifiers – Wrapping Around* – Typecasting – Constants – Constant Pointers – Operators in C and C++ Precedence of Operators in C++.

Unit – II

Control Structures : Decision – Making Statements – The if-else Statements – The jump Statement – The goto Statement – The break Statement – The Continue Statement – The switch case statement – Loops – The for Loop – Nested for Loops – The While Loop – The do-while Loop.

Functions in C++ : The main() Function – Parts of Function – Passing Arguments – L Values and R Values – Return by Reference – Default Arguments – Inline Functions – Function Overloading – Principles of Function Overloading – Library Functions.

Unit – III

Classes and Objects : Classes in C++ Declaring Objects – The Public Keyword – The Private Keyword – The protected keyword – Defining Member Functions – Data Hiding or Encapsulation – Classes, Objects and Memory – Static Member Variables and Functions – Static Object – Array of Objects – Objects as Functions Arguments – Friend Functions – Recursive Member Function – Local Classes – The main() as a Member Function – Overloading Member Functions – Overloading main() Function.

Constructor and Destructors : Characteristics of Constructors and Destructors – Applications with Constructors – Constructors with Arguments – Overloading Constructors – Constructor with Default Argument – Copy Constructors – The constObject – Destructors – Calling Constructor and Destructors – Qualifier and Nested Classes – Anonymous Objects – Recursive Constructor – Local vs Global Object.

Unit – IV

Operator Overloading and Type Conversion : The Keyword Operator – Overloading Unary Operators – Operator Return Type – Constraint on Increment and Decrement Operators – Overloading Binary Operators – Type Conversion – Rules for Overloading Operators.

Inheritance : Access Specifiers and Simple Inheritance – Types of Inheritances – Single Inheritance – Multilevel Inheritance – Multiple Inheritance – Virtual Base Classes.

Pointers and Arrays : Pointer Declaration - Pointer to Class – Pointer to Object – The this Pointer – Base Classes – Arrays – Characteristics of Arrays – Arrays of Classes.

Unit – V

C++ and Memory : Memory Models – The New and delete Operators – Dynamic Objects.

Binding, Polymorphism and Virtual Functions : Binding in C++ - Virtual Functions – Rules for Virtual Functions – Pure Virtual Functions – Abstract Classes – Working with Virtual Functions.

Applications with Files : File Stream Classes – Steps of File Operations – Finding End of a File – File Opening Modes – File Pointer and Manipulators – Manipulators with Arguments – Sequential Read and Write Operations- Binary and ASCII Files – Random Access Operations.

Text Book :

1. Ashok N.Kamthane, “Object Oriented Programming with ANSI and Turbo C++, Pearson Education, New Delhi.

Reference :

1. Herbert Schildt, “C++ : The Complete Reference” Tata McGraw Hill Publishing Company Limited, New Delhi.
2. E. Balagurusamy, “Object- Oriented Programming C++”, Tata McGraw Hill Publishing Company Limited, New Delhi.
3. D. Ravichandran, “Programming with C++”, Tata McGraw Hill Publishing Company Limited, New Delhi.

OBJECT ORIENTED PROGRAMMING WITH C++ - LAB

1. Write a C++ Program to declare all members of a class as public. Access the element using objects.
2. Write a C++ Program to print sum of sin series.
3. Write a C++ Program to calculate simple interest. Hide the data element of the class using private keyword.
4. Write a C++ Program to show difference between static and non-static member variables.
5. Write a C++ Program to declare array of objects. Initialize and display the contents of array.

6. Write a C++ Program to access private data using non-member function. Use friend function.
7. Write a C++ Program to create a class MAT of size of m x n. Define the matrix operations addition, subtraction, input and output by overloading +,-,>> and << operators respectively.
8. Write a C++ Program to create an abstract class 'Queue'. Create two subclasses 'StaticQ' and 'DynamicQ'. Class 'Queue' contains member functions insert, delete, create, isempty, isfull and display functions. DynamicQ overrides insert to change size of queue at runtime if queue is already full.
9. Write a C++ Program to overload member function of class.
10. Write a C++ Program to invoke constructor and destructor.
11. Write a C++ Program that overload + & relational (suitable) operator to perform the following operations.
    i) Concatenation of two Strings
    ii) Comparison of two Strings
12. Write a C++ Program to create multilevel inheritance. Create classes A1, A2 and A3.
13. Write a C++ Program to derive a class student from multiple base classes mark and sports. Print the details of the student including percentage.
14. Write a C++ Program to show hierarchical inheritance.
15. Write a C++ Program to declare an object and pointer to the class. Invoke member functions using pointer.

16. Write a C++ Program to create a class employee that contain two functions getdata() &putdata(). Create array of objects for the specified class and read the values using getdata(). Print the values using putdata().
17. Write a C++ Program to print the details vehicle using virtual function. Create a class vehicle and have a virtual function make(). Create another class two wheeler is inherited from vehicle class that invoke the virtual function make(). Print details of two wheeler. Create another class fourwheeler is inherited from the two wheeler that invoke virtual functionmake(). Print details of fourwheeler.
18. Write a program to read a line of text and replace one word with another word.
19. Write a C++ Program function template for finding the minimum value contained in an array.
20. Write a C++ Program to perform read and write operations with objects using write() and read() functions.

DATA STRUCTURE

Unit – I

Introduction and Overview – Definitions – Concept of Data Structures – Overview of Data Structures – Implementation of Data Structures. One – Dimensional Array – Memory allocation of an Array – Operation on Arrays – Application of Arrays – Multidimensional Arrays – Two – dimensional Array – Spare Matrices – Three Dimensional and n – dimensional arrays – Pointer Arrays.

Unit – II

Linked Lists – Definition – Single Linked List – Representation of a Linked List in memory – Operations on a Single Linked List – Circular Linked List – Double Linked List – Operations on a Double Linked List – Circular Double Linked List – Operations on Circular Double Linked List – Applications of Linked List – Sparse Matrix Manipulation – Polynomial Representation – Dynamic Storage Management – Memory Representation – Fixed Block Storage – Variable Block Storage.

Unit – III

Stacks – Definitions – Representation of a Stack – Array Representation of Stacks – Linked List Representation of Stacks – Operations on Stacks – Application of Stacks – Evolution of Arithmetic Expressions – Implementation of Recursion – Factorial Calculation – Quick Sort.Queue – Definition – Representation of Queues – Representation of Queues using an Array – Representation of a Queue using a Linked List – Various Queue Structures – Circular Queue – Dequeue – Priority Queue.

Unit – IV

Tables – Hash Tables – Hashing Techniques – Collision Resolution Techniques – Closed Hashing – Open Hashing - Comparison of Collision Resolution Techniques. Representation of Binary Tree – Linear Representation of Binary Tree- Linked Representation of Binary Tree – Physical Implementation of a Binary Tree in Memory – Operation on a Binary of Binary Tree – Physical Implementation of a Binary Tree in Memory – Operation on a Binary Tree – Insertion – Deletion – Traversals – Merging together Two Binary Trees – Types of Binary Trees – Expression Tree – Binary Search Tree – Heap Tree – Thread Binary Tree.

Unit – V

Sorting – Sorting Techniques – Straight Insertion Sort – Straight Selection Sort – Heap Sort – Bubble Sort – Shell Sort – Quick Sort – Merge Sort. Searching – Linear Search Techniques – Linear Search with Array – Linear Search with Linked List – Linear Search with Ordered List – Binary Search.

Text Book :

1. “Classic Data Structures” DebasisSamanta, PHI Learning Limited, New Delhi, 2009 Second Edition.

MSU/2016-17/UG-Colleges/Part-III (B.Sc.Computer and Information Technology)/ Semester-III / Ppr.no.19/Allied Practical Lab - III

DATA STRUCUTRES

1. Search an element in an array using Binary Search.
2. Stack Implementation using Array.
3. Queue implementation using Array.
4. To manipulate a linked list.
5. Infix to postfix expression.
6. Evaluation of Postfix expression
7. Tree Traversal
8. Merge Sort
9. Selection Sort
10. Quick Sort

MSU/2016-17/UG-Colleges/Part-III (B.Sc.Computer and Information Technology)/ Semester-III/Ppr.no.20/Skill Based Subject – I

Skill Based Subjects are Practical oriented. One hour should be assigned for tutorial class and three hours of practical to do the given practical list.
Sample should be provided to the students for designing the given list.

Subject : DTP

Page Maker

1. Design of ID Card (3" * 2").
2. Design of Visiting Card (3.5" * 2").
3. Design of an attractive invitation Card (5.5" * 8").
4. Design Letter Pad. (7.5" * 9").
5. Preparation of a small booklet with 6 pages (3.5" * 4.5").
6. Design a hand bill (5.5" * 8.5").
7. Create a advertisement for your college.
8. Design your college progress card.
9. Create a receipt bill with counter foil.
10. Create a graph/pie chart.

Photoshop

1. Design of a brochure for an institution.
2. Seasonal Greeting Card.
3. Transporting an image from one background to another.
4. Design a web page poster (1004 * 750)/text book cover page.
5. Crop and image/rotate an image.

CorelDraw

1. Create an object and fill with multiple colours.
2. Design a book cover.
3. Create a frame and enter a paragraph with different formats of text.
4. Export any five image in a single applications.
5. Design page frame by inserting image and objects.

INTRODUCTION TO INFORMATION TECHNOLOGY

Unit – I

Information Technology Basics : Introduction, Information, Technology, Information Technology, Present Scenario, Role of Information Technology, Information Technology and Internet, Careers in IT industry. Computer Organization and Architecture : Central Processing Unit, Inside a Computer, Data representation in Computer, Coding Schemes.

Unit – II

Computer Memory and Storage Introduction, Memory Hierarchy, Random Access Memory (RAM), Read Only Memory (ROM), RAM, ROM and CPU Interaction, Types of Secondary Storage Devices, Magnetic Tape, Magnetic Disk, Types of Magnetic Disk, Optical Disk, type of optical disks.

Unit – III

Input Output Media : Introduction, types of input devices, types of output devices. Multimedia Essentials : Introduction, Multimedia : Definition, Building Blocks of multimedia, multimedia system, multimedia applications, Virtual reality.

Unit – IV

The Internet : Introduction Evolution of Internet – Basic Internet Terms – Getting Connect to Internet – Internet Applications – Data over Internet. Internet Tools : Introduction – Web Browser – Browsing Internet using Internet Explorer – E – Mail – Search Engines – Instant Messaging.

Unit – V

Emerging Trends in IT : Introduction, E-Commerce – Electronic Data Interchange – Mobile Communication – Bluetooth – Global Positioning System – Infrared Communication – Smart Card – Imminent Technologies.

Text Books :

1. Introduction to Computers and Information Technology, D. Glory Ratna Mary, S. Selvanayahi, V. Joseph Peter, Shekina Publications.

Reference Books :

1. Introduction to Information Technology ITL Education Solutions Limited, Pearson Education.
2. Fundamentals of Information Technology By Alexis Leon & Mathews Leon Vikas Publication – New Delhi.

MSU/2016-17/UG-Colleges/Part-III (B.Sc. Computer and Information Technology)/ Semester-IV/Ppr.no.22/Core-5

JAVA PROGRAMMING

Unit – I

The Genesis of Java - Overview of Java – Development of Java – JDE – Data Types – Variables – Arrays – Type Conversion and Casting – Operators – Precedence – Control Statements.

Unit – II

Introduction Classes – Objects – OOPs Concepts – Declaring Objects – Introducing Methods – Constructors – Overloading – this keyword – Garbage Collection – finalize () method – More Examples.

Objects as parameters – returning objects – recursion – Access Control – Static – Final – Nested and Inner Classes – Command Line Arguments – Sample Programs.

Unit – III

String and String Buffer Class Inheritance – Types of Inheritance – Method Overriding – Dynamic method Dispatch – Abstract Class – Final with Inheritance – More Examples.

Packages – Access Protection – Importing Packages – Interfaces – Implement and Applying Interfaces – Sample Programs.

Unit – IV

Exception Handling – Exception Types – Our Own Exception – Handling Exception – Java's Built in Exception – Thread Class and Runnable Interface – Extending Thread – Creating Multiple Threads – isAlive () and join() methods – Synchronization – suspend (), resume () and stop() threads – Example Programs.

I/O packages – Input Stream – Output Stream – File Input and Output Stream – Applet Class – An Applet Skeleton – Simple Applet Display Methods – Example Programs.

Unit – V

Event Handling – Delegation Event Model – Event Classes – Sources of Events – Event Listener Interface – AWT Controls – Labels – Buttons – Check Boxes – Check Box Group – Lists – Scroll Bar – Text Area – Menu Bars and Menu – Layout Managers – Examples.

Text Book :

1. Herbert Schildt, "Java 2" Fourth Edition, Tata McGraw – Hill Publishing Company Ltd, New Delhi.

Reference :

1. Peter Norton and William Stanek, "Guide To Java Programming", Techmedia, New Delhi.
2. Martin RineHart, "Java Database Development" Ed – 1998, Tata McGraw – Hill Publishing Company Ltd, New Delhi.

MSU/2016-17/UG-Colleges/Part-III (B.Sc. Computer and Information Technology)/ Semester-IV/Ppr.no.23/Major Practical Lab List - IV

JAVA PROGRAMMING

1. Create a Simple program with your own detail.
2. Use Overload i) Method ii) Constructor
3. Create a Program for object as parameters and returning objects.
4. Create a program with abstract class.
5. Create a program using Multilevel Inheritance.
6. Develop a Program using Interface.
7. Create and Import Package (Minimum Three Classes)
8. Create Our Own Exception for Employees.
   (Constraints 1.Age > 18 and < 58 2.Dept No. 10 || 20 || 30 || 40)
9. Suspend, Resume and Stop Threads (Minimum 3 Threads)
10. Read and Write the content of a file using I/O Packages.
11. Display a Simple Banner Applet.
12. Event Handling Mechanism for Keyboard and Mouse .
13. Create a Login form.
14. Simple Web Presentation using HTML Tag (Use 3 Pages)
15. Create a Program for Moving Ball (Start and Stop)
16. Create a Simple Java Database with 4 fields.

E- COMMERCE

Unit – I

Introduction to E-Commerce – Networks – Transactions – Commercial Transactions – Why use E – Commerce – Internet and other Novelties – Advantages of E– Commerce – Electronic Transactions Today - World Wide Web.

Unit – II

Security Technologies – Why Internet Is Unsecure – Internet Security Holes – Cryptography : Objectives – Codes and Ciphers – Breaking Encryption Schemes – DES Cryptographic Applications – Digital Signature – Nonrepudiation an Message Integrity.

Unit – III

Traditional Transactions : Updating – Offline and Online Transaction – Secure Web Servers – Required Facilities – Digital Currencies and Payment Schemes – Protocol for the Public Transport – Security Protocols – Credit Card Business Basics.

Unit – IV

Online Commerce Options – Functions and Features – Payment Systems : Electronic, Digital and Virtual Internet Payment Schemes – Account Setup and Costs – Virtual Transaction Process – InfoHaus – Security Considerations.

Unit – V

CyperCash : Model – Security – Customer Protection – Client Application – Selling through CyperCash – Servers and Commercial Environments – Payment Methods – Server Market Orientation – Netscape Commerce Server – Microsoft Internet – Servers – Smart Cards.

Text Books :

1. Pete Loshin, “Electronic Commerce”, 4th edition, An imprint ofdlaxmi publications pvt. Ltd., New Delhi 2004.
2. Greestein, “E-Commerce”, Tata Mc – Graww Hill Pvt. Ltd., 2000.
3. E-Commerce Kenneth C.LaudenCarelGuercio Traver-10th Edition-Pearson.

MSU/2016-17/UG-Colleges/Part-III (B.Sc. Computer and Information Technology)/ Semester-IV/Ppr.no.24 (B)/Major Elective – I (B)

ARTIFICIAL INTELLIGENCE

Unit – I

What is Artificial Intelligence? – The AI Problem – What is an AI Technique? – Tic – Tac – Toe – Defining the Problem as a State Space Search – A Water Jug Problem – Control Strategies – Breadth – First Search – Depth – First Search – Heuristic Search – Problem Characteristics.

Unit – II

Generate – and – Test – Hill Climbing – Best – First Search – The A* Algorithm – Problem Reduction – AND – OR Graphs – The AO * Algorithm – Means – Ends Analysis.

Unit – III

Knowledge Representation Issues : Representation and Mappings – Approaches to knowledge Representation – Using Predicate Logic – Representing Simple Facts in Logic – Representation Simple Facts in Logic – Representing Instance and Isa Relationships – Computable Functions and Predicates.

Unit – IV

Game Playing : The Minimax Search Procedure – Adding Alpha – Beta Cutoffs – Planning : An Example Domain : The Blocks World – Components of a Planning System – Goal Stack Planning – Undertaking : What is Undertaking? – What is Understanding? – What Makes Understanding Hard?

Unit – V

Expert Systems : Representing and Using Domain Knowledge – Expert System Shells – Explanation – Knowledge Acquisition – Perception And Action : Real – Time Search – Perception – Action – Robot Architectures.

Text Books :

1. Elaine Rich, Kevin Knight, “Artificial Intelligence”, Tata MCGraw – Hill Publishing Company Limited, New Delhi.

Reference :

1. Stuart Russell, Peter Norving, “Artificial Intelligence, A Modern Approach”, PHI Learning Private Limited.
2. Dan W. Patterson “Introduction to Artificial And Expert Systems”, PHI Learning Private Limited.

MSU/2016-17/UG-Colleges/Part-III (B.Sc. Computer and Information Technology)/ Semester-IV/Ppr.no.24(C)/Major Elective – I (C)

INTERNET SECURITY

Unit – I

Introduction : Why require a security? – Picking a Security Policy – Strategies for a Secure Network – The Ethics of Computer Security – Security Threats and levels – Security Plan (RFC 2196).

Unit – II

Classes of Attack : Stealing Passwords – Social Engineering – Bugs and Backdoors – Authentication Failures – Protocol Failures : Information Leakage – Exponential Attacks – Viruses and Worms – Denial – of – Service Attacks – Botnets – Active Attacks.

Unit – III

Computer Security – What are Viruse, Trojan Horse, Worms? – How to protect the computer against virus – What is the Structure of Viruse?

Unit – IV

Firewalls and Proxy Servers – Kinds of Firewalls : Packet Filters – Application – Level Filtering – Circuit – Level Gateways – Dynamic Packet Filters – Distributed Firewalls – What Firewalls Cannot Do – Filtering Services : Reasonable Services to Filter – Digging for Worms – Packet – Filtering – Implementing Polices (Default allow, Default Deny) on Proxy.

Unit – V

Cryptography – Introduction to Basic Encryption and Decryption, Diffie – Hellman Key Exchange – Concept of Public Key and Private Key – Digital Signatures.

Text Book :

1. William R. Cheswick, Steven M. Bellovin and Aviel D. Rubin, “Firewalls and Internet Security: Repelling the Wily Hacker”, Second Edition, Pearson Education.

Reference :

1. Speed, “Internet Security : A Jumpstart For Systems Administrators And IT Managers”, Elsevier India.
2. BehrouzForouzan, “Cryptography And Network Security E/2”, Tata McGraw Hill Education.

OPERATION RESEARCH AND NUMERICAL ANALYSIS

Unit – I

Transportation Problem : Introduction – General Transportation Problem – The Transportation Table – Formulation of the Transportation Problem – Triangular Basis in a Transportation Problem – Finding an initial basic feasible solution : Northe West Corner rule – Least – Cost Method or Matrix Minima Method – Vogel's Approximation Method.

Unit – II

Assignment Problem : Introduction – Mathematical formulation of the problem – The Assignment method – The Travelling Salesman Problem.

Unit – III

Sequencing Problem : Introduction – Problem of Sequencing – Basic Terms used in sequencing – Processing n jobs through two machines – Processing n jobs through k machines – Processing 2 jobs through k machines.

Unit – IV

Simultaneous equations – Back substitutions – Gauss Jordan elimination method – Calculation of inverse of a matrix – Gauss – Seidel iteration method.

Unit – V

Difference Operators – Newton's interpolation formula – Lagrange's interpolation formula – Divide difference interpolation – Inverse interpolation.

Text Books :

1. KantiSwarup, P.K. Gupta and Man Mohan, "Operations Research", Sultan Chand A Sons, New Delhi – Unit I, II and III.
2. S. Arumugam, A. ThangapandiIssac and A. Somasundaram, "Numerical Analysis", New Gamma Publishing House, Palayamkottai – Unit IV & V.

Reference :

1. T. Sankaranarayanan, Joseph A. Mangaladoss, "Operations Research", Suja Publishing House, Tirunelveli.
2. R. Panneerselvam, "Operations Research", 2nd Edition, PHI Learning (2011), New Delhi.
3. Vasishtha, "Numerical Analysis", Krishna Prakashan Media (P) Ltd. (2010) , Meerut.

DATA STRUCUTRES

1. Search an element in an array using Binary Search.
2. Stack Implementation using Array.
3. Queue implementation using Array.
4. To manipulate a linked list.
5. Infix to postfix expression.
6. Evaluation of Postfix expression
7. Tree Traversal
8. Merge Sort
9. Selection Sort
10. Quick Sort

Skill Based Subjects are Practical oriented. One hour should be assigned for tutorial class and three hours of practical to do the given practical list.
Sample should be provided to the students for designing the given list.

Subject : Animation Applications

FLASH

1. Create a Simple Presentation.
2. End a Movie Clip using Script.
3. Start a graphic animation at a specific frame.
4. Text animation using motion tweening.
5. Activate a new window/page using buttons.
6. Bouncing ball with sound effect.
7. Create a scrolling gallery in a page.

DREAMWEAVER

1. Creating a New Dreamweaver Site.
2. Adding Images, Text and Links.
3. Flash Buttons and Flash Text.
4. Creating a Rollover Images.
5. Creating Tables – FAQs.
6. Designing Web Pages with Frames.
7. Inserting and Formatting a Table in Standard View.
8. Design navigation Bar with Images.

MSU/2016-17/UG-Colleges/Part-IV(B.Sc.Computer and Information Technology)/ Semester-IV/Ppr.no.28/Non – Major Elective - II

BASIC PROGRAMMING DESIGN

Unit – I

Introduction – Algorithms, Flowcharts, Types of Programming Languages, Selection of Programming Languages, Program Writing Debugging.

Unit – II

Flow Charts – Elementary Concepts – Introduction, Kinds of flow charts, symbols used in flow charts, Advantages of flow charts, examples, constants and variables.

Unit – III

Flow Charting Simple Computation – Introduction, illustrating examples, conclusions.

Unit – IV

Subscripted Variables – Introduction, basic concepts of subscripted variables, one dimensional array, illustrating examples, conclusions.

Unit – V

Multidimensional Arrays – Introductions, definitions, matrix operations, illustrating examples, beyond two dimensions, conclusions – Introduction to File Structure.
Introduction, Concept of data files, Types of Data Files, File Organization methods, File Processing activities, Conclusions.

Text Book :

1. Basic Programming Design, D.S. Arul Selvan& A.A. RegiesonSylum Shalom Publications, Green St, Nagercoil.

Reference :

1. Insight into Flowcharting Raj K. Jain By S. Chand & Company Ltd.