SYLLABUS FOR B.Sc. ITM

FOR ADMISSION BATCH-2017-2022

B. J. B. AUTONOMOUS COLLEGE
BHUBANESWAR
ODISHA

BACHELOR OF SCIENCE IN INFORMATION TECHONOLOGY & MANAGEMENT							
Examination Course Curriculum for B.Sc.ITM Programme							
SEMESTER-1							
			Mid Semester		End Semester		
Sl No	Paper Code	Paper Name	Internal Marks	Time	External Mark	Time	Total Marks
1	1.1	Communicative English (CE)	20	1 Hour	80	3 Hour	100
2	1.2	Computer Mathematics (CM)	20	1 Hour	80	3 Hour	100
3	1.3	Computer Fundamental (CF)	20	1 Hour	80	3 Hour	100
4	1.4	Programming in C Language (PCL)	20	1 Hour	80	3 Hour	100
Practical		[Viva-Voice+Record+Written+Practical]					
5	1.5	MS Dos & MS Office			100		100
6	1.6	C Programming			100		100
SEMESTER-2							
1	2.1	Managerial Function (MF)	20	1 Hour	80	3 Hour	100
2	2.2	Operating System (OS)	20	1 Hour	80	3 Hour	100
3	2.3	Computer Architecture (CA)	20	1 Hour	80	3 Hour	100
4	2.4	Data Communication & Computer Network(DCCN)	20	1 Hour	80	3 Hour	100
Practical		[Viva-Voice+Record+Written+Practical]					
5	2.5	Operating System (Linux/Unix)			100		100
6	2.6	Computer Network			100		100
SEMESTER-3							
1	3.1	Data Structure (DS)	20	1 Hour	80	3 Hour	100
2	3.2	RDBMS	20	1 Hour	80	3 Hour	100
3	3.3	Quantitative Technique (QT)	20	1 Hour	80	3 Hour	100
4	3.4	Organisational Behavior (OB)	20	1 Hour	80	3 Hour	100
Practical		[Viva-Voice+Record+Written+Practical]					
5	3.5	Data Structure			100		100
6	3.6	RDBMS			100		100
SEMESTER-4							
1	4.1	Object Oriented Programming (OOPs)	20	1 Hour	80	3 Hour	100
2	4.2	Software Engineering (SE)	20	1 Hour	80	3 Hour	100
3	4.3	System Programming (SP)	20	1 Hour	80	3 Hour	100
4	4.4	Managerial Economics (ME)	20	1 Hour	80	3 Hour	100
Practical		[Viva-Voice+Record+Written+Practical]					
5	4.5	C++			100		100
6	4.6	Assembly Level Language			100		100

			Mid Semester		End Semester		
Sl No	Paper Code	Paper Name	Internal Marks	Time	External Mark	Time	Total Marks
SEMESTER-5							
1	5.1	OOPs in Java	20	1 Hour	80	3 Hour	100
2	5.2	ASP.Net	20	1 Hour	80	3 Hour	100
3	5.3	Compiler Design (CD)	20	1 Hour	80	3 Hour	100
4	5.4	Internet Working TCP/IP	20	1 Hour	80	3 Hour	100
Practical		**[Viva-Voice+Record+Written+Practical]**					
5	5.5	Java			100		100
6	5.6	ASP.Net			100		100
SEMESTER-6							
1	6.1	Operation Research (OR)	20	1 Hour	80	3 Hour	100
2	6.2	Internet and Web Technology (IWT)	20	1 Hour	80	3 Hour	100
3	6.3	Computer Graphics (CG)	10	½ Hour	40	2 Hour	50
4	6.4	Management Information System (MIS)	20	1 Hour	80	3 Hour	100
Practical		**[Viva-Voice+Record+Written+Practical]**					
5	6.5	HTML/DHTML/ASP			100		100
6	6.6	Computer Graphics Lab			50		50
7	6.7	**PROJECT [Record + Viva-voice]**					100
N:B *		**Practical Marks(for each semester)**					
1		**Viva-Voice=25 Marks**					
2		**Record= 25 Marks**					
3		**Written=25 Marks**					
4		**Practical(Lab)=25 Marks**					
5	6.6	**Computer Graphics Practical Marks**					
		Viva-Voice=15 Marks					
		Record= 15 Marks					
		Written=10 Marks					
		Practical(Lab)=10 Marks					

CONTENTS

BITM-5.4 Internet Working TCP/IP

Practical:

BITM-5.5 Java

BITM-5.6 ASP. Net

6th Semester:

BITM-6.1 Operation Research (OR)

BITM-6.2 Internet and Web Technology (IWT)

BITM-6.3 Computer Graphics (CG)

BITM-6.4 Management Information System (MIS)

Practical:

BITM-6.5 HTML/DHTML/ASP

BITM-6.6 COMPUTER GRAPHICS LAB

BITM-6.7 PROJECT [Record + Viva-Voice]

FIRST SEMESTER

[1.1] COMMUNICATIVE ENGLISH (CE)

Mark: 20+80=100

Unit-1 PRINCIPLES OF LETTER WRITING

Courtesy and consideration, Directness and conciseness, Structures and layout of letters, Elements of structure, Forms of layout, Styles of presentation, Planning a letter, Importance of planning, 5 step to planning.

Unit-2 WRITING LETTERS

Job application Letter, Importance and function, Drafting the application, preparing the resume, Sales letter, Qualities of sales letter, writing a sales letter. Claims and adjustment letter, making claims, Offering adjustments, Social correspondence, Formal letters, Informal letters, Business Letters, E-mailing.

Unit-3 REPORT WRITING

Importance of reports, types of Reports, Structure of Reports, Front matter, Main body, Preparatory Steps to writing report, collecting data, organizing materials, Writing the report, Rough draft, Procedure of writing checklist for reports.

Unit-4 COMPREHENSION & PRECIS WRITING.

Reading skills

Passage for comprehension, what is a precis? 10 steps to precis writing.

Communicative English

Introduction, Language, The English Language, tenses, Prepositions, Modals Sentence Formation, Paragraph Writing, Expansion.

Unit-5 EFFECTIVE SPEAKING

Fundamentals of effective speaking, Acquiring the basic skill, Developing confidence, Speaking effectively, The art of communicating, Delivery the talk, The challenge of effective speaking, Thoroughly prepare what you are going to say.

Reference Book :

Technical Communication -By M. Asraf Rizvi, Tata Mc Graw Hill Publication

Art of effective English Writing - By Mina Singh & O.P. Singh, Sultan Chand & Co. Publication

[1.2] COMPUTER MATHEMATICS (CM)

Mark : 20+80=100

Unit-1 Objective:

The aim of this module is to enable the student to Convert numbers to various bases and perform simple binary arithmetic operations, Use algebraic terminology to solve algebraic equations, Perform simple statistics calculations, Use Boolean, Venn diagram and logic algorithms, Use appropriate methods in determining accuracy in computations.

Unit-2 Number bases

Introduction, Number sets, Level of precessions, Single precision, Double precision, Number base, Column System, Conversion from other bases to Binary Conversion from Binary bases to other conversion, Conversion among other based Binary to Octal Binary to Hexadecimal, Conversion between Octal & Hexadecimal, Real Number Octal Arithmetic Hexadecimal Arithmetic, Modular Arithmetic, Computer Based arithmetic Binary Addition, Rules for Binary addition, Examples' of Binary addition, Binary subtraction Rules for binary subtraction, Examples of binary subtraction, Examples of successive borrows in binary subtractions, Binary multiplication, Rules for Binary multiplication, Examples of binary Multiplication,

Handling of carries in multiplication, Binary Division, Example of binary division, Number storage in the computer word, 16 bit micro computer, 32 bit machine, Size limits of data, Storage of numbers, Storage of integers using sign modular method, Storage of integers, Storage of Fractions, Storage of Mixed numbers, Storage of number using 2's Complement method, Ten's complement, Two's complement, Re-complementing cases, Shift operations, Shift operation to achieve multiplication, Shift operation to achieve division, Floating Point Representation Introduction, Fixed point and floating point Binary, Floating point storage. Store floating point Format, Floating point notation, Normalized floating point form (decimal) Normalized exponent form (Binary), Storing negative mantissa, Storing negative Exponent.

Unit-3 Probability & Statistic

Probability, Definition of Probability, Success and failure, Probability Spaces, Probability of Combined Events, Addition law, Multiplication law, Probability of events that occur together, Statistics Introduction, Raw Data, Arrays Grouped Data, Frequency distributions, Class interval and class limits, Class boundaries, The size of Class interval, The class mark, Presentation of Statistical data.

Histogram and Frequency polygons, Cumulative frequency distributions, Measure of central tendency. The arithmetic mean, the median, the mode, Dispersion and variation, Mean deviation, the standard deviation, The variance.

Unit-4 Logic, set & Relations

Logic, Rules of Inference, Methods of Proof, Set, Relation & Digraphs, Function,

Combinatorics

Elementary Combinatorics, Integer partitions and distributions, Come counting principles, Recurrence relations, Generating functions, Techniques of solving recurrence relations.

Unit-5 Order Relation & Structure, Tree

Partially Ordered Set, External Elements of Partially Ordered Sets, Lattices, Finite Boolean algebra, Function on Boolean Algebra, Boolean Function as Boolean Polynomials.

Tree, Labeled Tree, Tree Searching, Undirected tree, Minimal Spanning Trees.

TEXT BOOKS:

Mathematics for Management, Author: Raghabacharya, Discrete Mathematics, Author: Kolman & Porty, PHI.

Discrete Mathematics, Author: Bernard Kolman, Rovert C Busby & Sharon Ross, PHI.

[1.3] COMPUTER FUNDAMENTAL (CF)

Mark: 20+80=100

Unit- 1 INTRODUCTION TO COMPUTERS

What is a computer ? Characteristics of computer. Generations of computers – First generation,Second generation,Third generation,Fourth generation,Fifth generation. Classification of computer – Super computers, Mainframe computers,Mini computers, Micro computers. Application of computers.

Unit- 2 INPUT & OUTPUT DEVICES

Input devices – Keyboard, Pointing devices, Scanning devices, Optical recognition devices, Digital camera, Voice recognition system,Media input devices.

Output devices – Display monitors, Printers – Impact printers, Non impact printers, Plotters, Voice output system, Projectors.

Unit- 3 MEMORY & STORAGE DEVICES

Introduction, RAM, Types of RAM, ROM, Types of ROM, Secondary storage devices, Types of secondary storage devices.

Unit -4 NUMBER SYSTEM

Binary number system, Working with Binary numbers :Conversion of binary number into decimal form, Conversion of decimal number into binary form. Addition of two binary numbers, Subtraction of two binary numbers, Subtraction of two binary numbers using two's complement, Multiplication of two binary numbers, Division of two binary numbers. Octal number system :Conversion of octal number into decimal form, Conversion of decimal number into octal form.Hexadecimal number system : Conversion of hexadecimal number into binary form, Conversion of binary number into hexadecimal form, Conversion of hexadecimal number into decimal form, Conversion of decimal number to hexadecimal form.

Unit-5 COMPUTER NETWORKS & THE INTERNET

Introduction to computer network, Media, Networking topologies**,** Types of network **:** local area network, wide area network, metropolitan area network, campus area network,personalareanetwork,Networkingdevices**:**hub,repeater,switch,bridge,router,gateway,networking interface card, Internet, Internet application, Understanding world wide web, Web browser, Search engine.

TEXT BOOKS:

1. Computer fundamental by P.K.Shinna ,BPB Publication
2. Fundamentals of Computers - E. Balagurusamy Mc Graw Hill.
3. Computer Fundamentals and Programming in C - Reema Thareja OXFORD Publication

[1.4] Programming in 'C' Language (PCL)

Mark: 20+80=100

Unit-1 Introduction :

Importance of C, Simple C Programs, Basic Structure of C Programs, Programming style, Executing a C Program, Tokens, Keywords and identifiers, Constants, Variables, Data types, Operators and Expression, Type conversions in expressions, Operators Precedence and associativity, review studies and exercises.

Unit-2 Managing Input and Output Operators :

Reading a character, writing a character, formatted input, formatted output, Decision Making and Branching :IF statement, , IF ELSE statement, Nested IF ..ELSE statements, ELSELIF ladder, switch statement, The GOTO statement, Looping: WHILE, DO WHILE and FOR Statement, Jumps in Loops, Cases studies, Review questions and Exercises.

Unit-3 Arrays :

One-dimensional arrays, Two-dimensional arrays, Multidimensional arrays, Character Strings: Declaring and initializing string variables, Reading strings from terminal, Writing strings to screen, Arithmetic operations on characters, Putting strings together, Comparison of two strings, String-Handling functions, Table of strings, Case studies, Review questions and exercises.

Unit-4 Function and Structure :

Need for user-defined functions, Calling a function, Category of Functions, Handling of non-integer functions, Nesting of functions, Recursions, Functions with arrays, The scope and lifetime of variables in functions, Structure and Unions :Structure definition, Giving values to members, Structure initialization, Comparison of structure variables, Arrays of structures, Arrays within structures, Structures within structures, Structures and functions, ,Size of Structures, Unions ,Bit fields, Case studies, Review questions and exercises.

Unit-5 Pointers and File Management:

Understanding pointers. Accessing the address of a variable, Declaring and initializing pointers, Accessing a variable through a pointer, Pointer expressions, Pointer increments , Pointer and arrays, Pointer and character strings, Pointers and functions, pointers and structures,

Point to pointers, File Management: Defining and opening a file, Closing a file, Input / output operations on files, Error handling during I/O operations, Random access to files, command line arguments, Case studies,

Text Books:

ANSI C, Author: E Balaguruswamy, Tat McGraw Hill

Programming in C, Author: E Balaguruswamy, TataMcGrawHill,

PRACTICAL

[1.5] Computer Fundamental: MS-DOS and MS-OFFICE —100 Marks

[1.6] Problem Solving & C: As per the theory paper—100 Marks

SECOND SEMESTER

[2.1] MANAGERIAL FUNCTIONS (MF) **Mark: 20+80=100**

Unit-1 Management Concepts

Organizations and Management, The Management Process, Managerial Rules, Managerial Levels and Skill, Organizational Function, Modern Management thought, Globalization and Management.

Unit-2 Planning and Organizing

Importance of Planning, Hierarchy of Organizational Planes, Strategic Planning Process. The Organizing Process, Departmentation and hierarchy, Coordination, Types of Organization Structure.

Unit-3 Directing and Controlling :

Elements of Directing, Concept of Leadership, Importance of effective Communication and the Communication Process, Improving Communication.

Unit- 4 Designing control systems:

An introduction, Control system in Organization, H.R.D. Concepts, Function and Policies, Selection and induction, Performance Appraisal, Training and Development.

Unit-5 HRIS(Human Resource Information System) :

Wages and Salary administration, Marketing Management, Concepts, Function, Marketing mix, Product Policy, Product class, Pricing, Place, Marketing intermediaries, Distribution channel, Promotion.

Text Book:

Fundamentals of Business Organization & Management - Y K. Bhusan.

Publisher Sultan Chand & Sons.

[2.2] OPERATING SYSTEM (OS)

Mark: 20+80=100

Unit-1 Introduction:

What is Operating System, Simple Batch Systems, Multiprogramming and Time sharing System, Personal Computer System, Parallel and distributed System, Real time system. Operating System Structures: System Components, Operating System Services, System Calls. Process Management: Process concept, Process Scheduling. Operation on process. Cooperating process, Threads.

Unit-2 CPU Scheduling:

Basic Concepts, Scheduling Criteria, Scheduling Algorithms, Dead locks: System model,

dead lock characterization, methods of handling dead locks, dead lock Prevention, Dead lock avoidance, Dead lock detection, Recovery from dead lock.

Unit-3 **Memory Management**:

Backgrounds, logic versus Physical address space, swapping, Contiguous Allocation, Paging and segmentation.

Unit-4 **Virtual Memory**:

Backgrounds, Demand paging, Performance of Demand paging, Page replacement, Page replacement algorithms. Allocation of frames, thrashing.

Unit-5 **File System Interface**:

File Concept, Access Method, Directory Structure, I/O Hardware, Kernel I/O System, secondary Storage Structure, Disk Structure, Disk Scheduling, Disk Management, Swap Space management, Disk Reliability.

Text Book:

Operating System Concepts: Abraham Silberschartz and Peter Baer Galvin, Addison- Wesley.

Chapter:1, Chapter 3 (3.1,3.2,3.3), Chapter 4(4.1 to 4.5), Chapter 5(5.1,5.2,5.3),

Chapter:7 (7.1 to 7.7), Chapter 8 (8.1 to 8.6), Chapter 9 (9.1 to 9.7), Chapter 10 (10.1, 10.2, 10.3), Chapter 12 (12.2, 12.4), Chapter 12 (13.1 to 13.5)

Reference Books:

1. Operating System: Madnick & Donovan, MC.Graw Hill.
2. Modern Operating System: Andrew S.Tannenbaum,
3. Operating Systems and System Programming, Balakrishna Prasad, SCITECH

[2.3] COMPUTER ARCHITECTURE (CA) **Mark: 20+80=100**

Unit-1 **Number System** and Codes, Binary Number base Conversations, Octal and Hexadecimal numbers, Complements, Signed Binary Numbers, Binary Codes- BCD Codes, Gray Code, ASCII Character Code, Codes for serial data transmission and storage. Boolean Algebra and Logic Gates, Axiomatic definition of Boolean algebra, Basic theorems and properties of Boolean algebra, Boolean functions, Canonical and Standard forms, minterms and maxterms, standard forms; minters and maxterms, standard forms Digital logic Gates, multiple inputs. Gate level Minimization. The Map Method, K Maps, input five variables, Product of Sums Simplification, Don't care condition, Nand and NOR implementation.

Unit-2 **Combinational logic**, Combinational Circuits, Analysis and Design Procedure; Binary Adder Subtractor, Decoders, Encoders, Synchronous Sequential Logic, Sequenti.al Circuit, Latches, Flip-Flop, Analysis of Clocked sequential Circuits, Registers and Counters Shift Register, Ripple Counter

Unit-3 **Basic structures of Computers**: Functional units, operational concepts, Bus structures, Software, Performance, Multiprocessors and multicomputer. Machine Instruction and programs: Memory location and addresses, Memory Operations, Instructions and instruction Sequencing, Addressing mode, Assembly Language, Basic Input Output operations, subroutine, additional Instructions

Unit-4 **Basic processing Units** : Fundamental concepts, execution of complete Instructions, Multibus organization, Hardwired control, Micro programmed control, Memory System: Basic Concepts, Cache Memory, Performance Consideration. Virtual Memories, Memory Management requirement, Secondary Storage.

Unit-5 **8085 Microprocessor Architecture**: Instruction Sets, Addressing modes, Memory I nterfacing, Assembly

Language Programming.

8086 Microprocessor Architecture: Instruction Sets, Addressing modes, Memory Interfacing, Assembly Language Programming.

Text Book:

1. Digital Logic and Computer Design, by M. Morries Mana, Pearson Edu. India.
2. Computer Organization Carl Hamacher, Zvonkovranesic, Safwat laky, Mc Graw Hill.
3. Microprocessor Architecture, Programming and application with 8085, R.S. Gaonkar.

Reference Book:

1.Computer System Architecture: Morris M. Mano PHI New Delhi.

[2.4] DATA COMMUNICATION AND COMPUTER NETWORK

Mark: 20+80=100

Unit-1 Overview of Data Communications and Networking Physical Layer:

Analog and Digital data, Analog and Digital Signals, Analog versus Digital, Data Rate Limit, Transmission Impairment, More about signals.

Digital Transmission: Line coding, Block coding, Sampling, Transmission mod Analog Transmission: Modulation of Digital Data: Telephone modems, modulation of Analog signals. Multiplexing: FDM, WDM, and TDM. Transmission Media: Guided Media, Unguided Media (wireless), Circuit switching and Telephone Network: Circuit Switching, Telephone network

Unit-2 Data Link Layer:

Error Detection and Correction: Types of Errors, Detection, Error Correction, Data Link Control and Protocols: Flow and error control, Sop-and -wait-ARQ, Go-Back-N ARQ, selective Repeat, ARQ HFLC. Point-to-Point Access: PPP. Multiple Accesses, Random Access, Controlled Access, Channelization. Local area Network: Ethernet, Traditional Ethernet, Fast Ethernet, Gigabit Ethernet.

Unit-3 Network Layer:

Host to Host Delivery:

Internetworking, Addressing and Routing, Network Layer Protocols: ARP, IPV4, ICMP, IPV6 and ICMPV6,

Unit-4 Transport Layer:

Process to Process Delivery: UDP, TCP, TCP Header, UDP Header, congestion control and Quality of service.

Unit-5 Application Layer:

Client Server Model, Socket Interface. Domain Name System (DNS): Electronic Mail (E-MAIL), SMTP and file transfer (FTP), HTTP and WWW, Security, Cryptography Message Security, User Authentication.

Text Book

1. Data Communication and Networking: Third Edition. Behrouz A. “Tata McGraw-Hill Publishing Company Limited.

Reference Book

1. Computer Networks: Third Edition. A system Approach. Larry L, Peterson And Bruce S. Davie ELSEVIER.
2. Computer Networks. A. S. Tannenbum PHI.

PRACTICAL

[2.5] OS (LINUX/UNIX) : As per the theory paper —100 Marks

[2.6] Computer Network: As per the theory paper——-100 Marks

THIRD SEMESTER

[3.1] DATA STRUCTURE (DS)

Mark: 20+80=100

Unit-1 INTRODUCTION AND OVERVIEW

Introduction, Basic Terminology; Elementary Data Organization, Data Structures, Data Structure Operations, Algorithms: Complexity, Time-Space Tradeoff, Solved problems. Control structures, Complexity of Algorithms, STRING PROCESSING:

Basic Terminology, Storing Strings, Character Data Types, ARRAYS, RECORDS AND POINTERS :Linear Arrays, Representations of Linear Arrays in Memory, Traversing Linear Arrays, Inserting and Deleting, Multidimensional Arrays, Pointer; Pointer Arrays,

Unit-2 LINKED LISTS

Introduction, Linked lists, Representation of Linked Lists in Memory, Traversing a Linked List, Searching a Linked List, Memory Allocation; Garbage Collection, Insertion into a Linked List, Deletion from a Linked List, Header Linked Lists, Two-way List, Solved Problems, Supplementary Problems, Programming Problems.

Unit-3 STACKS, QUEUES, RECURSION

Introduction, Stacks, Array Representation of Stacks, Lined Representation of Stacks, Arithmetic Expression, Polish Notation, Quick sort, An Application of Stacks, Recursion, Towers of Hanoi, Implementation of Recursive Procedures by Stacks, Queues, Linked Representation of queues, Deques, Priority Queues, Solved Problems, Supplementary Problems, Programming Problems,

Unit-4 TREES

Introduction, Binary Trees, Representing Binary Trees in Memory, Traversing Binary Trees, Traversal Algorithms Using Stacks, Header Nodes, Threads, Binary Search Trees.

Searching and Inserting in Binary Search Trees, Deleting in a Binary Search Tree, B Trees, Searching, Inserting and Deletion in a B-Tree, Heap, Heap sort, Path Lengths; Huffman's Algorithm, General Trees, Solved Problems Supplementary Problems Programming Problems.

Unit-5 SORTING AND SEARCHING

Introduction, Sorting, Insertion sort, Selection Sort, Merging, Merge-sort, Radix sort, Searching and Data Modification, Hashing, Supplementary Problems, Appendix Index

Text Books:

1. Data Structure, Schaumi Outlines, Author-Seymour Lipchitz, McGraw Hill
2. Data Structure using C & C++, Authour-Yedidyah Lanscam, M J Augenstein, Aaron M Tenebaum, PHI

[3.2] RELATIONAL DATABASE MANAGEMENT SYSTEM (RDBMS)

Mark: 20+80=100

Unit-1 Database and Database users, Database system concepts and architecture:

Data models, schema and instance, three schema architecture and data independence, database language, classification of Database Management System.

Entity Relationship (ER) model, Enhanced Entity Relationship model.

Unit-2 Relational Data Model, Mapping or ER model to Relational model, Relational algebra, Tuple relational calculus, Domain relational calculus, SQL.

Unit-3 Functional Dependency, Inference rules for functional dependency, minimal set of functional dependency Normal forms, Dependency preservation, loss less design.

Unit-4 Transaction processing: Introduction to transaction processing, transaction and system concept, serializabi!ity and recoverability.

Concurrency control technique: Two-phase locking for concurrency control technique, concurrency control based on timestamp ordering.

Unit-5 Introduction to object oriented database:

Overview object orient concept, object identity, object structure. type constructors, encapsulation of operation, methods and persistence, inheritance.

Database security and authorization

TEXT BOOK

R.Elmasari & S.B. Navathe-Fundamentals of database systems, 4th Edition, Pearson Education.

REFERENCE BOOK

1. A Silberschatz, H.F.Korth and S.Sudarshan - Database system concepts, McGraw- Hill.
2. C.J.Date- An Introduction to Database systems, Pearson Education.

[3.3] QUANTITATIVE TECHNIQUE (QT)

Mark: 20+80=100

Unit-1 Objective: To aware students about some computer related mathematics & Statistics, to aware student about computer simulation,

Matrices & Transformations

Introduction, Definitions, Matrix Algebra, Solutions of systems of equations, Transformations, Translations Enlargement, Reflection, Rotation, Shearing, Stretching.

Unit-2 Calculus

Limits of Functions, Continuity, Differentiation & Integration of algebraic, logarithmic & exponential functions Applications of Calculus, Applications of Differential Calculus, Area under a Curve,

Statistics & Probability Distribution

Probability distribution, Binomial Poisson & Normal distribution, Area under normal curve, Correlation & Regression, Coefficients of coordinates & Regression lines. Test of hypothesis & Significance, Test Based on F, chi-square & z.

Unit-3 Inventory Control & Investment Appraisal

Types of inventory, Reasons for holding stocks, Types of stocks costs, Basic inventory management decision Terminology's, Al illustration of a simple stock situation, Assumptions, Economic order quantity (EOQ), Other EOQ with discounts, Types of control system, Reorder level system, Periodic review system.

Investment Appraisal

Definition, Factors affecting the decision to invest Traditional technique, Payback method, Advantage of payback, Disadvantage of payback, Discounted cash in flow technique, Common features of DCF techniques,

Assumption in Basic DCF appraisal, Net present value (NAV), Internal rate of Return (IRR), The multiple rate problem

Unit-4 Network Analysis

Basic terminology, A typical network, Rules, Conventions, Time Analysis, Objectives, Basic Definitions, Time estimates, Symbol/notation, Float, Pert (Program Evaluation and Review Technique), Cost scheduling

Unit-5 Graph Theory

Introduction, Graph Theory Terminology, Sequential Representation of Graph; Adjacency Matrix; Path Matrix, Warshall's Algorithms; Shortest Paths, Linked Representation of a Graph, Operation on Graph, Traversing a Graph, Posets; Topological Sorting, Solved Problems,

Supplementary problems, Programming Problems

Text Book:

Mathematics for Management by Raghabacharya, Statistics for Management by Levin Rubin, PHI

[3.4] ORGANIZATIONAL BEHAVIOR (OB) Mark: 20+80=100

Unit-1 ORGANISATION BEHAVIOR

Nature of Organisation, Concept of Organisation, Features of Organisation, Types of Organisation, Organisational Goals, Organisational and individual goal

Unit-2 PERCEPTION

Concept of perception, Perception process, Perceptual Selectivity, Managerial Implication of perception.

Unit-3 PERSONALITY

Concept, Theories of Personality, Determinants of personality, Personality & Behavior, Inter Personal Behaviour, Transactional Analysis, Ego states, Transactions, Stroking, Application of Transactional analysis,

Unit-4 MOTIVATION & LEADERSHIP

Definition of Motivation, Theories of Motivation, Maslow's need Hierarchy, Herzberg's motivation, McClelland's Need theory, Motivational Pattern in Indian Organisation, Concept of Leadership, Theories of Leadership Trail theory, Behaviour theory, Situational theory, Leadership styles, Styles based on Authority, Managerial Grid Tridimensional Grid.

Unit-5 ORGANISATIONAL CONFLICT CHANGE & DEVELOPMENT

Inter Personal conflicts, Group conflicts, Intra group conflicts, Inter group conflicts, Organizational Change, Reasons for organizational change, Objective & process of charge, Organizational development, Need and steps of OD, OD interventions,

TEXT BOOK:

Organisational Behaviour by - L M Prashad, Stepher P. Robbins,

REFERENCE BOOKS :

Organisational Behavior by Fred Luthans, Organizational Behaviour by John W. Newstrom/ Keith Davis, Organizational Development by Wendell L French, Cecil H Bell.

PRACTICAL

[3.5] Data Structure: As per the theory paper) —100 Marks

[3.6] RDBMS: As per the theory paper) —100 Marks

FOURTH SEMESTER

[4.1] OBJECT ORIENTED PROGRAMMING(OOPs) Mark: 20+80= 100

Unit-1 Fundamentals:

Data types, Operators, Preprocessor directives, Declarations, Input & Output, control structures, functions and arrays. Objects and Classes: Structures and Classes, Unions and Classes, Data hiding and encapsulation, Private and public members, Member functions, Accessing class members, Objects as function parameters, Static data and member functions, friend functions and friend classes.

Unit-2 Object Initialization:

Constructors, Parameterized, constructors, Destructor, Constructor overloading, Constructors with default arguments, Constructors with dynamic operations.

Unit-3 Function and Operator Overloading:

Function overloading, functions with default arguments, Inline functions, Unary operator overloading, Operator returning value, Binary operator overloading, Overloading arithmetic, relational and assignment operators.

Inheritance:

Derived and base class, protected members, Overriding functions, Private, protected and public inheritance. Derived class constructors, Levels of inheritance and multiple inheritance.

Unit-4 Arrays, Pointers and References:

Array of Objects, Initialized and Uninitialized Arrays, Pointer to Object? This pointer, Pointer to derived type· Pointer to Class Member, Reference Parameters, Passing Reference to Objects, Returning References, Independent References, Dynamic Allocation Operators, Allocating Objects

Unit-5 Virtual Functions and Polymorphism:

Virtual Functions, Pure Virtual Functions, Abstract Classes, Using Virtual Functions, Early verses late binding, Error handling.

Text Books:

1. Object Oriented Programming with C++ by E. Balagurusamy, McGraw-Hill Education (India)
2. ANSI and Turbo C++ by Ashoke N. Kamthane, Pearson Education

Reference Books:

3. C++: The Complete Reference- Schildt, McGraw-Hill Education (India)
4. Object Oriented Programming with C++ - Rajiv Sahay, Oxford
5. Mastering C++ - Venugopal, McGraw-Hill Education (India)

[4.2] SOFTWARE ENGINEERING (SE) Mark: 20+80=100

Unit-1 Introduction:

The problem domain, software engineering challenges. Software process models: Water fall model, prototypes, spiral and reuse oriental development. Comparison of models. Project management process, risk management.

Unit-2 Software requirement analysis and specification:

Needs for SRS, requirement engineering, requirement elicitation and analysis, characteristics of a SRS, components of an SRS, structures of a requirement document. Function specification with use cases. Requirement validation.

Unit-3 Software design:

What is a good design, software design principles- cohesion and coupling and their types?

Software design approaches-function oriented software design: structured analysis and structure design, DFD, structure chart, detailed design.

Object model using UML:

Basic mechanism, key concepts, related technical term and advantages. UML diagrams: Use case diagram, class diagram, interaction diagram, activity diagram, state chart diagram.

Unit-4 Coding and Testing:

Programming principles and guidelines, coding process. Code review and verification: Code inspection, static analysis, Proving correctness, unit testing, combining different techniques. Size, measurements. Black box testing, white box testing, cyclomatic, complexity, integration testing, system testing.

Unit-5 Software reliability and quality management:

Hardware vs software reliability, reliability metrics, software quality and its management system-ISO 9000, SEI, CMM, six sigma. CASE and its environments and its benefits. Software re-engineering and reverse engineering. Maintenance process models.

Text Books:

1. Software Engineering by Pankaj Jalot, Narosa

Reference:

1. Software Engineering by Rajiv Malia - PHI
2. Software Engineering by Soomerville - Pearson

[4.3] SYSTEM PROGRAMMING(SP) Mark: 20+80=100

Unit-1 Introduction:

System Software, Application Software, Machine Structure, Evolution of components of a programming system (Assembler, Loader, Macros, Compiler, Formal Systems), Evolution of Operating Systems, Functions of Operating System.

Machine Structure: General Machine Structure, Approach to a new machine, Memory Registers, Data, Instructions, special features.

Unit -2

Machine Language: Long Way, No looping, Address Modification, Looping Introduction to Assembly Language Program Assemblers: Design Procedure, Design of Assembler, and Table Processing. Macros Language and Macro Processor: Macro Instructions, Features of a Macro Facility, Implementation. Loaders: Loader Schemes, Design of an Absolute Loader, Direct Linking loader, Bootstrap Loader.

Unit - 3 Programming Languages:

Importance of High Level Languages, Features, Data Types and Data Structures, Storage Allocation and Scope Name, Accessing Flexibility, Functional Modularity, Asynchronous Operations, Extensibility and Compile time Macros.

Unit -4 Formal Systems:

Uses of Formal Systems, Formal Specification, Formal Grammars, Backus-Naur Form, Canonic Systems, Canonic Systems vs. Formal Systems.

Unit -5 Compilers:

Introduction to Compilers, Phases of a compiler(Lexical Phase, Syntax Phase, Interpretation Phase, Optimization, Code Generation, Assembly, passes of a compiler), Intermediate Form, Storage Allocation, Code Generation, Data Structure.

Text Book:

Systems Programming by John J Donovan (McGraw-Hill Education)

Reference Book:

(1) System Software: An Introduction to systems programming by Leland Beck (Pearson)

(2) System Software : Nityashri,(McGraw-Hill Education)

(3) Operating System and System Programming – Dhamdhere (McGraw-Hill Education

[4.4] MANAGERIAL ECONOMICS (ME) Mark: 20+80=100

Unit -1 Introduction:

Meaning of Managerial Economics, Firm, Its Objectives & Constraints, Decision Process, Basic Principles.

Unit-2 Demand Analysis & Forecasting-I

Meaning of Demand, Demand function, Demand Elasticity, Demand Forecasting, Forecasting Methods, Accuracy of Forecasting, Production and Cost Analysis, Meaning of Production, Production Function, Least Cost Combination of Inputs, Return to Scales, Statistical Production Function, Cobb-Douglas,

Unit-3 Demand Analysis & Forecasting-II

Cost Concepts, Accounting Costs & Economic Costs, Determinant of Costs, Cost output Relationship- Short Run & Long Run Cost Function, Economics & Diseconomies of scale.

Unit-4 Pricing

Determinants of Price, Pricing Under different Objectives Pricing Under different Market Studies, Monopoly, Oligopoly, Monopoly is the Competition, Perfect Competition-selling & Promoting Express, Joint Product Price Discrimination.

Unit-5 Capital Budgeting

Nature of Capital Expenditure Decision,Capital Expenditure selection Process, Capital Budgeting and Risk, Estimating the Firms Cost of Capital, Determining the optimal capital budget and the marginal cost of capital.

TEXT BOOK:

Managerial Economics By G S Gupta, Tata McGraw Hill, Managerial Economics - concepts & Cases by V L Mote, Samuel Paul & G S Gupta, Tata McGraw Hill.

REFERENCE BOOK:

Managerial Economics by Joel Dean, Prentice Hall of India,

Managerial Economics by R N Carshney & K N Maheshwari, Sultan Chand & Sons, New Delhi,

PRACTICAL

C++: : As per the theory paper -100 Marks

Assembly Level Languages **:** As per the theory paper -100 Marks

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FIFTH SEMESTER

[5.1] OPPs IN JAVA **Mark: 20+80=100**

Unit – 1 : INTRODUCTION TO JAVA PROGRAMMING

OOP concepts.JAVA introduction. Java Features. Basic of Java Environment. Java Development Kit. Java Virtual Machine (JVM),Just in time (JIT),Java Standard Library (JSL), Differences between C++ & Java, Java Tokens – Key words, Data Type,Variable, The first step in writing java application,Basic java application,Primary application components,Class code block, Data(variables),Methods code block (main in example programme), Using semicolons and braces, Compiling and running a programme,Debugging, Operators, Control statements, Arrays, Type conversion and casting.

Unit – 2 : CLASS OBJECTS & STRINGS

Class, Creating objects, Methods,Method Overloading, Constructors, Constructors Overloading, Static class members, Access Modifiers / Control, This keyword, Argument passing, Command line arguments,Recursion, Nested class & Inner class, Strings – String class,String Buffer class, String Tokenizer class, Garbage collection

Unit – 3 : INHERITANCE , INTERFACES & PACKAGES

Inheritance, Types of Inheritances, Defining subclass,Member access rules, Super keyword, Method overriding, Abstract class, Final keyword, Object class, Final keyword, Object class, Array of objects, Dynamic method dispatch Interfaces, Implementing interfaces, Various forms of interface implementations, Multiple inheritance, Hybrid inheritance. Packages, Defining a package, Sub packages, Access protection,Class path.

Unit – 4 : EXCEPTION HANDLING & MULTI THREADING

Exception, Exception handling – Try block, Catch block, Finally block, Methods of exception object, Multiple catch statement, Nested try statement, Throw statement,Throws statement, Userdefined exception. Multithreading, Thread life cycle, Thread class constructiors, Methods, Main thread, Creating new thread, Thread priorities

Unit – 5 : WORKING WITH STREAMS – FILE & I/O HANDLING , APPLETS & AWT:

Streams, I/O stream hierachy, File input stream, File output stream, Character stream. Introduction to applet, Applet life cycle Introduction AWT,

TEXT BOOKS:

JAVA Programming Black BOOK – Dream tech publication, Java

Complete Reference, Tata McGraw Hill, Pure Java2, Sams, Tec media,

REFERENCE BOOKS:

Mastering Java, BPB Publication

[5.2] ASP. Net

Mark: 20+80=100

Unit -1 INTRODUCTION:

Introduction to ASP.NET, What is ASP.NET, .Net framework 2.0, Compile Code, Code Behind and Inline Coding, The Common Language Runtime, Object Oriented Concepts, Event Driven Programming

Unit - 2 Server Control:

Post back, Data binding, Grid View, List Box, Data list, Data binding Events, Repeater, Form view, Web Server Control, Html Server Control (basic HTML Server Control), Validation Control, Master Page, and Themes & CSS.

Unit -3 Database Access:

Introduction about ADO.NET, Introduction about Provider, Adapter, Reader, Command Builder, Database Access using ADO.NET.

Unit 4: Client Server Communication:

Communications with Web Browser, Response Object, Cookies, Query String, Session Management and Scope of Variable.

Unit 5: Advance ASP.NET:

Web.config, Sitemap path Server Control, User Control, User Profile.

Text Book and Reference:

1 Professional ASP.NET 1.1 Bill Evjen , Devin Rader , Farhan Muhammad, Scott Hanselman , Srivakumar Wrox

2 Introducing Microsoft ASP .NET 2.0 Esposito PHI

3 Professional ADO.NET Bipin Joshi,Donny Mack, Doug Seven , Fabio Claudio Ferracchiati, Jan D Narkiewiez Wrox

4 Special Edition Using ASP.NET Richard Leineker Person Education

5 The Complete Reference ASP.NET Matthew MacDonald TMH

6 ASP.NET Black Book DreamTech

7 Beginning ASP.NET 3.5 in C# and VB Imar Spaanjaars Wrox

[5.3]COMPILER DESIGN

Unit -1

Compliers & Translators, Need of Translators, Structure of A complier, Phases, Lexical Analysis, Syntax Analysis, Intermediate Code Generation, Code Optimization, Code Generation, Book Keeping, A Symbol Table in Brief, Semantic Analysis, L-Value, r-values, Error Handling.

Unit -II

Rules of Lexical Analyzer, Ned for Lexical Analysis, Input Buffering, Preliminary Scanning, A Simple Approach to the Design of Lexical Analyzers, Transition Diagrams, Regular Expression, String & Languages, Finite Automata, Non-deterministic Automata, Deterministic Automata,

From regular Expression to finite Automata, Context free Grammars, Derivations & Parse Trees, Parser4s , shift Reduce Parsing, Operator Precedence Parsing.

Unit -III

Symbol Tabel Management, contents of a Symbol Table, Names & Symbol Table records, reusing of symbol table spaces, array names, indirection in Symbol table entries, Data Structure for Symbol Tables, List, Self Organizing Lists, Search Trees, Hash Tables, Errors, Reporting Errors, Sources of Errors Syntactic Errors, Semantic Errors, dynamic Errors, Lexical Phase Errors, Minimum Distance Matching, Syntactic Phase Error, Time of Detection , Ponic mode, Case study on Lex and Yacc.

Unit -IV

Principal Sources of Optimization, Inner Loops, Language Implementation Details Inaccessible to the User. Further Optimization. Algorithm Optimization, Loop Optimization, Code Motion, Induction Variables, reduction in Strength, Basic Blocks Flow Graphs, DAG Representation of Basic Blocks, Value Numbers & Algebraic Laws, Global Data Flow Analysis, Memory Management Strategies, Fetch Strategy, Placement Strategies, Replacement Strategies, Address Binding, compile Time, Load Time, Exaction Time, Static Loading Dynamic Loading, Dynamic Linking.

Unit -V

Problems in code Generation, A Simple code Generator, next-Use Information, Register Descriptors, Address Descriptors, Code Generation Algorithm, Register Allocation & Assignment, Global Register Allocation, Usage Counts. Register Assignment for Outer Loops, Register Allocation by Graph coloring. Code Generation from DAG's, Peep-hole Optimization, Redundant Loads & Stores, Un-Reachable Code, Multiple Jumps, Algebraic Simplifications, and Use of Machine Idioms.

Text books and references:

1) A. V. Aho, R. Sethi, Lam, and J. D. Ullman, "Compilers", Pearson Education.
2) Alfred V. Aho, Jeffery D. Ullman, "Principle of Compiler Design",Narosa Pub House.
3) W. A. Barrett, R. M. Bates, D. A. Gustafson, and J. D. Couch, "Compiler Construction", Galgotia Book source Publishers, 1990.
4) D.M.Dhamdhere, "Compiler Construction", MacMillan India Ltd.,2nd Ed., 1997

[5.4] INTERNETWORKING AND TCP/IP **Mark: 20+80=100**

Unit-1 Internet Fundamentals:

Motivation for Internetworking, History & scope of internet, Internet protocol and standardization, Role of ISP & Factors for choosing an ISP, Internet service providers in India, Types of connectivity such as Dial Up, leased line, VSAT etc. , Internet server & client modules .

Unit-2 TCP/IP:

TCP/IP Internet layering model, Reliable stream transport service (TCP), Need for stream delivery, Properties of reliable delivery service, Providing reliability, TCP segment format, TCP header, TCP checksum, Acknowledgement, time out and retransmission, Response to congestion, Establishment of a TCP connection, Source and destination address, Protocol number, Checksum, Closing TCP connection, Connection less data gram delivery (Internet Protocol), Concept of unreliable delivery, Connection less delivery system, purpose of Internet protocol, IP header, Source and destination address, Protocol number, Checksum, Routing in an Internet, Obtaining a subnet mask, Benefits of TCP/IP.

Unit-3 Subnet Address Extension, Introduction to subnet address extension, Minimizing network numbers, Transparent routers, Subnet addressing, Flexibility in subnet address assignment, Implementation of subnet with mask, Subnet mask representation, Routing in the presence of subnet, User Data Gram Protocol, Introduction to UDP, Format of UDP

message, Domain Name System, IP address / domain name address, Mapping of domain name to IP address, Domain name resolution, obtaining authority for a sub domain.

Unit-4 Internet Applications & Services:

E-Mail, Email protocols, Format of an email message, Email routing, Email client, FTP, Types of FTP servers, FTP clients, Telnet, Telnet protocol, Telnet Server , Telnet clients, Internet Relay Chat, IRC network & servers, Channels, WWW (World Wide Web), Browser ,Security and cryptography.

Unit-5 E-Commerce:

Electronic commerce Environment & Opportunities, Background, Electronics market place technologies, Modes of electronic commerce. Search Engines: Technology overview, popular search engines. Registration of Website in a search engines.

BOOKS RECOMMENDED:

1. Internet working with TCPIIP Vol—I: Principles, Protocols & architecture - by Douglas E. Corner - PHI.
2. internet working with TCP/IP Vol-II: Design, implementation & internals - by Douglas E. Corner & David L. Stevens - PHI.
3. Internet working with TCP/IP Vol-III: Client server programming and applications by Douglas E.Corner & David L. Stevens - PHI.
4. HTML: The definitive guide - by Chuck Musciano & Kennedy.
5. E-mail security: How to keep your electronic message private - by Bruce Schneier & John Wiley.

PRACTICAL

Java: As per the theory paper —100 Marks

ASP. Net: As per the theory paper—100 Marks

SIXTH SEMESTER

[6.1] OPERATION RESEARCH (OR) **Mark: 20+80=100**

Unit-1 Operation Research

Introduction, Nature of OR, Phases of OR, Classifications of Problems, OR Techniques, OR & Modern Business Management, Limitations & Scope of OR, Problem formulation and modeling, Problem Formulation, Measures of Performance, Modeling in OR, Deriving a solution, Question of Error, Updating the Model.

Unit-2 Linear Programming

Basic Concepts of Linear Programming, Assumptions of Linear, Programming Linear Programming Model, Simplex Solutions, Non-Feasible Solution, Unbounded solution, Multiple Optimal solutions, Transportation, N.W. Corner Rule, VAM Method, Transportation Problems, Assignment Problems,

Unit-3 Combinatorial & Sequential Decisions

Combinatorial Decisions, What are Combinatorial Problems, Branch & Bound Technique, Applications of Branch & Bound Technique, Sequential Decisions, Introduction, Dynamic Programming, Optimality Function, Application of Dynamic Programming to situations, Sequencing Problems, Introduction, Elements of sequencing Problems, Assumption for Simple Sequencing, Gantt Chart, Graphical Technique for solving Sequencing problems,

Unit-4 Queuing simulation & Decision Theory Queuing

What is a Queue?, Queue Objects, Queuing Models, Queuing Problems, Erling's model,

Fixed Arrival and , Random Arrival Models, Simulation, Meaning of Simulation, Methods of Simulation, Monte Carlo method of Simulation, Application of Monte Carlo Method, Decision Theory,

What is Decision Theory?

Determination of alternatives action plans, Different decision models, Factors for

Decision Making under Risk situation, Marginal Analysis, Decision Trees, Posterior Analysis, Utility Functions

Unit-5 Risk Analysis, Value Analysis & Statistical Quality Control

Risk Analysis, Investment Decisions, Appraisal techniques, Analysis of Risk Factors, Risk Measurement Decision making approaches under risk situation, Sensitivity analysis, Value analysis, Purpose of Value analysis, VA Tools, Techniques for VA, Application of VA, Statistical quality Control, Process Control, Control Charts for Variables, Control Charts for Attributes, Product Control, Sampling Techniques, Acceptance sampling plan, Operating Characteristic Curve, AOQ & AOQL.

Production Management

Concept, Function, Production Planning & Control, Quality Control, Inventory, Purchasing, PERT? CPM

TEXT BOOK:

Operation Research By Kanti Swaroop, P K Gupta & Manmohan, S Chand Pub, Operation Research By H.A. Taha

[6.2] INTERNET AND WEB TECHNOLOGY (IWT) Mark: 20+80=100

Unit-1 Understanding HTML

The components of HTML, A short history of HTML and the World Wide Web, keeping up with HTML, standard extensions and difference, HTML documents life cycle, developing documents, publishing documents, testing published documents, maintaining documents, creating your first HTML document, understanding basics of HTML tools, entering tags and attributes, applying structures tag, applying common tags and attributes including fancier formatting. Linking your documents, URL anatomy, types of URL's, Constructing link anchors Inserting E-mail links Using Style sheets, Implementing style sheets, including images, developing images, adding images, using images as links, creating image maps, using background images, developing tables, creating basic table, spanning rows and columns, adding captions, formatting tables, adding and formatting borders, using HTML table features.

HTML Forms

Developing HTML forms, determining form content, creating forms, creating forms, understanding frames. deciding to use frames, creating frames, accommodating non framed browsers, enabling effective navigation adding java script, what is java script, adding java script to your document, adding event handler, tracking visitors, using cookies.

Unit-2 Bringing Pages to Life with DHTML

What is DHTML? Creating collapsible document, converting documents to HTML, why convert? Selecting and using conversion tools, using validation services, why you need conversion services? Using related services, finding and using validation services, Generating HTML from data base, Exploring your options, deciding to use database, choosing software, generating static HTML from Database, maintaining pages generating from database, making your web site searchable, choosing to let visitors search your site, using low-tech alternatives, enabling visitors to search within your site, finding and implementing search engines recommendations for searching solutions, leaving the work for internet search engines.

Unit-3 Understanding and using web servers

An overview of networking, web servers, getting access to a server, using a server, using implementing a coherent web site, including theme-bearing elements, making your site

navigable, balancing flash with usability, web publishing, the evolution of DHTML, scripting, interactive documents and interaction with database, mathematics, multimedia, document modeling and style sheets, CSS, designing your page. Building the design, seek synergy, applying the design, moving elements: positioning for optimal functionality. Visual integrity efficient designing, suitable of size, gridded pages, working with frames, creating dynamic frame content with Java script, Preparing for interaction database: data binding, interacting with database under internet explorer, programming to manipulate database.

Unit-4 Intro/Getting Started

Client/Server, IIS Web Server, Hap Edit - ASP Editor, ASP Overview, Variables, Forms & Query string server variables, Sessions, Conditions/Control Flow,

Constructing Code

Arrays, Looping For/Loop and While/Next, Functions and Sub Procedures, VB Built In Functions, Coding Standards: Comments, Naming Conventions, Indenting, Modular, Debugging, Error Handling, includes/Organizing Code,

Object Types, Automated Tasks

Working with Forms - Validation, Security, Buffer Overflow Risks, Writing to Files, Automatic Emails & Regular expressions.

Unit-5 Working with Databases

MS Access/Database Concepts, SOL, ADO, Reading from a table.

More Work with Databases

Writing to a Database, Joins - Reading from a Database, More ADO, Database Planning/ Creation

Text Book:

Mastering HTML, by - Ray, BPB Publication,

DHTML in Action, by - Petrovsky, Tata Mc Graw Hill

Reference Book:

HTML Black Book, IDG Books

ASP 3 FAST AND EASY® WEB DEVELOPMENT THOMASSON, ISBN :81-203-1819-6

[6.3] COMPUTER GRAPHICS **Mark: 10 + 40=50**

Unit-I Conceptual Framework for interactive Graphics. Scan conversion for lines, circles, filing of rectangles, Polygons, Pattern filling. Chipping lines, Circles, Polygons, Antiliasing.

Unit-II **Geometrical Transformations** : 2D transformations homogenous co-ordinatescomposition of 2D transformation. The window to view port transformation, efficiency, Matrix representation and composition of 3D transformation viewing in 3D projections, specifying an arbitrary 3D view examples of 3D viewing, planner geometric projections, co-ordinate systems.

Unit-III **Parametric cubic curves** : B spline curves, rational cubic polynomial cubic curve segment, Subdividing curves, Drawing curves. Parametric bicubic surfaces Be / ier surface, B-spline surfaces, Displaying bicubic surfaces

Unit-IV Light and colour, Achromatic light, colour models for raster graphics, Using colour in computer graphics. Visible surface determination, Techniques for efficient visible surface algorithms, The Z-buffer algorithm.

Unit-V Illumination and shading, phong illumination model, Gourand and Phong shading Texture mapping and shadows, Recursive ray tracing and radiosity.

Textbook

1. Computer Graphics with Virtual Reality System, Rajesh K.Maurya, Wiley-Dreamtech.
2. Computer Graphics, D. Hearn and M.P. Baker (C Version), Pearson Education

Reference Books

1. Computer Graphics Principle and Practice , J.D. Foley, A.Dam, S.K. Feiner, Addison, Wesley
2. Procedural Elements of Computer Graphics- David Rogers (TMH)
3. Computer Graphics: Algorithms and Implementations – D.P Mukherjee & Debasish Jana (PHI)
4. Introduction to Computer Graphics & Multimedia – Anirban Mukhopadhyay & Arup Chattopadhyay (Vikas)

[6.4] MANAGEMENT INFORMATION SYSTEM (MIS) Mark: 20+80=100

Unit-1 Foundation of Information System

Information System Resources & Technology, Fundamentals of Information System, Information system Resources, People Resources, Hardware Resources, Software Resources, Data Resources, Network Resources, Information System Activities, Input of Data Resources, Processing of Data into information Output information Product, Storage of Data, Resources, Control of System Performance,

Unit-2 Information Systems: Components

Operation Support System, Transaction Processing Systems, Process Control System, Enterprise Collaboration System, Management Support System, Decision support System, Executive information system, Expert systems, Knowledge Management System, Strategic Information System, Business Information System, Integrated information system

Unit-3 Information System for Business Operations

Cross Functional Information System, Marketing Information system, Manufacturing Information System, Computer Integrated Manufacturing, Collaborative Manufacturing Networks.

Unit-4 Process Control, Robotics, Human Resources Information System, Training & Development, Compensation Analysis, Government Reporting. Accounting Information System, Online Accounting System, Order Processing. Inventory Control, Financial Information system, Financial Forecasting Planning, Transaction Processing System, The Transaction processing Cycle, The Data Entry Process, Source Data Automation .

Unit-5 Database Maintenance, Document & Report Generation, Inquiry Processing, Managerial Decision Support, Internet Reporting, Online Analytical processing, Decision Support System, DSS models, What - if Analysis, Sensitivity Analysis, Goat Seeking Analysis, Optimization Analysis, Executive Information System .

TEXT BOOKS

Management Information System, Author: Davis Olson, McGraw Hill Pub,

REFERENCE BOOKS:

Management Information System, Author: James Obrin, Tata McGraw Hill,

PRACTICAL

HTML/DHTML/ASP : As per the theory paper)—100 Marks

Multimedia : Sound recording and editing through sound Forge, Adobe Photoshop, Creating desktop video

With Adobe Premier, Flash, Max—50 Marks

PROJECT:

Note :-

Multimedia Theory —(Internal Mark-10 + End Semester Mark-40) - 50 Marks

Computer Graphics practical—(End Semester Mark) - 50 Marks