B.Sc. (ITM), Utkal University

Effective from 2016-17 Academic Session

SEMESTER	COURSE OPTED	COURSE NAME	FULL MARKS	CREDITS
I	Ability Enhancement Course-I	English	100	4
	Core Course-I	Programming using C	100	4
	Core Course-I Practical	C LAB	50	2
	Core Course-II	Computer Organization	100	4
	Core Course-II Practical	CO LAB	50	2
	Core Course-III	Personal Management and Organizational Behaviour	100	4
	Generic Elective-I	Discrete Structures	100	4
	Generic Elective-I Practical	Discrete Structures LAB	50	2
II	Ability Enhancement Course-II	Environmental Science	50	2
	Core Course-IV	Programming using C++	100	4
	Core Course-IV Practical	C++ LAB	50	2
	Core Course-V	Data Structures	100	4
	Core Course-V Practical	Data Structures LAB	50	2
	Generic Elective-II	Statistics for Business	100	4
	Generic Elective-II Practical	Statistics LAB	50	2
III	Core Course-VI	Operating Systems	100	4
	Core Course-VI Practical	OS LAB	50	2
	Core Course-VII	Business Accounting	100	4
	Core Course-VII Practical	Business Accounting LAB	50	2
	Core Course-VIII	Managerial Economics	100	4
	Skill Enhancement Course-I	Business Communication	50	2
	Generic Elective-III	Numerical Techniques	100	4
	General Elective-III Practical	Numerical Techniques LAB	50	2
IV	Core Course-IX	JAVA Programming	100	4
	Core Course-IX Practical	JAVA LAB	50	2
	Core Course-X	Database Management System	100	4
	Core Course-X Practical	Database LAB	50	2
	Core Course-XI	Management Accounting	100	4
	Core Course-XI Practical	Management Accounting LAB	50	2
	Skill Enhancement Course-II	HTML Programming	50	2
	Generic Elective-IV	Quantitative Techniques(QT)	100	4
	General Elective-IV Practical	QT LAB	50	2

V	Core Course-XII	Data Communication	100	4
	Core Course-XII Practical	Data Communication LAB	50	2
	Core Course-XIII	Software Engineering	100	4
	Core Course-XIII Practical	Software Engineering LAB	50	2
	Discipline Specific Elective-I	Programming in VB	100	4
	Discipline Specific-I Practical	VB LAB	50	2
	Discipline Specific Elective-II	Financial Management	100	4
	Discipline Specific Elective-II Practical	Financial Management LAB	50	2
VI	Core Course-XIV	Internet Technology	100	4
	Core Course-XIV Practical	Internet Technology LAB	50	2
	Core Course-XV	Programming in .NET	100	4
	Core Course-XV Practical	.NET LAB	50	2
	Discipline Specific Elective-III	e-Commerce	100	4
	Discipline Specific Practical Work	Project Work	200	8

ENGLISH

UNIT-I

Short Story: Jim Corbett-The Fight between Leopards; Dash Benhur- The Bicycle

Dinanath Pathy- George V High School; Alexander Baron- The Man who knew too muc h; Will F Jenkins- Uneasy Homecoming

UNIT-II

Prose: C V Raman-Water- The Elixir of Life; Harold Nicolson- An Educated Person; Cla ire Needell Hollander- No Learning without Feeling; Steven Harvey- The Empty Page; S antosh Desai-Emoji Disruption

UNIT-III

Comprehension of a passage from any of the prescribed pieces and answering the que stions

UNIT-IV

Expanding an idea into a paragraph

UNIT-V

Language exercises-test of vocabulary, usage and grammar based on the prescribed pi eces

Prescribed Text

The Widening Arc: *A Selection of Prose and Stories*. Ed. Asim R Parhi, S Deepika and Pulastya Jani. Kitab Bhavan, Bhubaneswar. 2016.

Suggested Reading:

Fluency in English – Part II, OUP, 2006

Communicative English. E. Suresh Kumar and P. Sreehari

PROGRAMMING USING C

UNIT- I

Introduction to Programming Language, Introduction to C Programming , Character Set, C Tokens, Keywords & Identifiers, Constants, Variables, Data Types, Variables , Storage Classes, Operators (Arithmetic, Relational, Logical , Assignment, Increment & Decrement, Conditional , Bitwise), Expressions , Input and Output Operations.

UNIT- II

Decision Making and Branching: Simple IF Statement, IF ….. ELSE Statement, Nesting IF …. ELSE Statement, ELSE IF Ladder, Switch Statement, ?Operator, GOTO Statement. Decision Making and Looping: The WHILE Statement, The DO Statement, The FOR Statement, Jumps in LOOPS. Arrays, Character Arrays and Strings.

UNIT- III

User-defined Functions: Need, Elements & Definition, Function Calls, Function Definition, Category of Functions, Recursion. Structures and Unions: Defining, Declaring, Accessing, Initialization Structure, Arrays of Structures, Arrays within Structures, Structures and Functions, Unions.

UNIT- IV

Pointers: Accessing the Address of a Variable, Declaring Pointer Variables, Initializations of Pointer Variable, Accessing a Variable through its Pointer, Chain of Pointers, Pointer Expressions, Pointer Increments and Scale Factor, Pointers and Arrays,, Pointers and Character Strings, Array of Pointers, Pointers as Function Arguments, Functions Returning Pointers, Pointers to Functions, Pointers to Structures, Troubles with Pointers.

UNIT- V

File Management in C: 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, Dynamic Memory Allocation.

Recommended Books:

1. E. Balaguruswamy, “Programming in ANSI C”,4/e, (TMH)

2. Paul Deitel, Harvey Deitel, "C: How to Program", 8/e, Prentice Hall.
3. J. R. Hanly, “Problem Solving & Program Design in C”, 7/e, Pearson
4. B. Kernighan & D.M. Ritche, “The C Programming Language”, 2/e PHI

COMPUTER ORGANIZATION

UNIT-I

Introduction: Organization and Architecture, Structure & Functions.

Number Systems: The Decimal System, Positional Number Systems, The Binary System, Converting Between Binary and Decimal (Integers, Fractions), Hexadecimal Notation.

UNIT-II

Computer Arithmetic: Arithmetic & Logic Unit, Integer Representation (Sign-Magnitude, Twos Complement, Range Extension, Fixed Point Representation), Integer Arithmetic (Negation, Addition and Subtraction, Multiplication, Division), Floating-Point Representation, (Principles, IEEE Standard for Binary Floating-Point Representation), Floating-Point Arithmetic (Addition and Subtraction, Multiplication and Division, Precision Considerations, IEEE Standard for Binary Floating-Point Arithmetic.

UNIT-III

Computer Evolution and Performance: History of Computers, Design for Performance (Microprocessor Speed, Performance Balance, Improvements in Chip Organization & Architecture), Multicore, MICs, and GPGPUs, Intel x86 Architecture, Embedded Systems and the ARM, Performance Assessment (Clock Speed and Instructions per Second, Benchmarks, Amdahl’s Law, Little’s Law.

UNIT-IV

Digital Logic: Boolean Algebra, Gates, Combinational Circuits (Implementation of Boolean Functions, Multiplexers, Decoders, Read-Only Memory, Adders), Sequential Circuits (Flip-Flops, Registers, Counters), Programmable Logic Devices (PLA, FPGA).

UNIT-V

Top-Level View of Computer Function and Interconnection: Computer Components, Computer Function (Instruction Fetch and Execute, Interrupts, I/O Function), Interconnection Structures, Bus Interconnection (Bus Structure, Multiple-Bus Hierarchies, Elements of Bus Design), Point-to-Point Interconnect (QPI Physical Layer, Link Layer, Routing Layer, & Protocol Layer), PCI Express (PCI Physical and Logical Architecture, PCIe Physical Layer, PCIe Transaction Layer, PCIe Data Link Layer).

Text Book:

William Stallings: Computer Organization and Architecture. 9/e

PERSONAL MANAGEMENT & ORGANIZATIONAL BEHAVIOR

UNIT-I

Management: Management levels, Skills, Roles of a manager. Principles & Process of Management. Planning, Process & Types. Decision Making, Process and Types.

UNIT-II

Organization: Structure, Nature, Formal and Informal organization. Departmentation, Delegation, Centralization, Decentralization. Organizational Behavior, Characteristic, Concept, Contribution from different field of O.B. Individual Dimensions of Organizational Behavior, Perception, Attitudes, Value, Personality.

UNIT-III

Motivation and leadership, Motivation theories, leadership styles and theories.

UNIT-IV

Communication Process, barriers in communication in an organization, Types of Communication. Organisation change and Development, Change Process and Models & Types of Change. Resistance to change, Skills of change agents.

UNIT-V

What is HRM, Role of HR Manager, Functions of HRM (Recruitment, Selection, Orientation and Induction, Training and Development, Performance Appraisal, Wages and Salary, Carrier Planning and Succession Planning).

BOOKS:

1) OB: S S Khanka: Organizational Behavior , S. Chanda Pub
2) K. Aswathapa: Organizational Behavior, HPH
3) VSP Rao, V. Hari Krishna, Management , Text & Cases, Excel Pub.
4) Robbins Stephens P.: Essentials of Organisational Behaviour- PHI 7th Ed.
5) Prasad L.M.: Organizational Behavior, Sultan Chand
6) Rao and Narayan: Organizational Behavior, K Pvt Ltd
7) Chandan Jits: Organizational behavior, VIKAS
8) Drafke/Kossem; The Human side of Organisation,PHI 8th edition
9) VSP Rao: Human Resource Management:, Excel Pub
10) : P. Subba Rao; Human Resource Management, HPH

DISCRETE STRUCTURES

UNIT-I

Logic and Proofs: Propositional Logic, Propositional Equivalences, Predicates and Quantifiers, Nested Quantifiers, Rules of Inference, Introduction to Proofs, Normal Forms, Proof Methods and Strategy, Mathematical Induction, Strong Induction and Well-Ordering, Recursive Definitions and Structural Induction, Recursive Algorithms.

UNIT-II

Basic Structures: Sets, Set Operations, Functions, Recursive Functions, Sequences and Summations. Relations: Relations and their Properties, n-ary Relations and their Applications, Representing Relations, Closures of Relations, Equivalence Relations, Partial Ordering. Boolean.

UNIT-III

Algebra: Boolean Functions, Representing Boolean Functions, Logic Gates, Minimization of Circuits. Algebraic Structures & Coding Theory: The Structure of Algebras, Semi-groups, Monoids and Groups, Homomorphism, Normal Subgroups, and Congruence Relations, Rings, Integral Domains and Fields, Quotient and Product Algebras, Coding Theory. Polynomial Rings and Polynomial Codes.

UNIT-IV

Counting: Basics of Counting, The Pigeonhole Principle, Permutations and Combinations, Binomial Coefficients, Generalized Permutations and Combinations, Generating Permutations and Combinations. Advanced Counting Techniques, Applications of Inclusion-Exclusion, Discrete probability, Conditional probability, Bayes' Theorem.

UNIT-V Graphs:

Graphs and Graph Models, Graph Terminology and Special Types of Graphs, Havel-Hakimi Theorem, Representing Graphs and Graph Isomorphism, Connectivity, Cut-Sets, Euler and Hamiltonian Paths, Shortest-Path Problem, Planar Graphs, Graph Coloring, Network Flows.

Recommended Books:

1. Kenneth H Rosen, Discrete Mathematics & Its Applications, McGraw-Hill. 7/e.
2. J. L. Hein, Discrete Structures, Logic, and Computability, 3rd Edition, Jones and Bartlett Publishers, 2009
3. C.L. Liu , D.P. Mahopatra, Elements of Discrete mathematics, 2nd Edition , Tata McGraw Hill, 1985
4. M. O. Albertson and J. P. Hutchinson, Discrete Mathematics with Algorithms , John wiley Publication, 1988

ENVIRONMENTAL SCIENCE

UNIT-I

THE ENVIRONMENT: The Atmosphere, Hydrosphere, Lithosphere, Biosphere, Ecology, Ecosystem, Biogeochemical Cycle (Carbon Cycle, Nitrogen Cycle)

UNIT-II

ENVIRONMENT POLLUTION: Air Pollution, Water Pollution, Soil Pollution, Noise Pollution, Thermal Pollution, Radiation Pollution, Natural Disasters and their Management.

UNIT-III

POPULATION ECOLOGY: Individuals, Species, Pollution, Community, Control Methods of Population, Urbanization and its effects on Society, Communicable Diseases and its Transmission, Non-Communicable Diseases.

UNIT-IV

ENVIRONMENTAL MOVEMENTS IN INDIA: Grass-root Environmental Movements in India, Role of Women, Environmental Movements in Odisha, State Pollution Control Board, Central Pollution Control Board.

UNIT-V

NATURAL RESOURCES: Conservation of Natural Resources, Management and Conservation of Wildlife, Soil Erosion and Conservation, Environmental Laws; Water Act: 1974, Air Act: 1981, The Wildlife (Protection) Act: 1972, Environmental Protection: 1986.

References

1. Kumarasamy, K., A. Alagappa Moses and M. Vasanthy, 2004. Environmental Studies, Bharathidsan University pub, 1, Trichy

2. Rajamannar, 2004, Environemntal Studies, EVR College pub, Trichy

3. Kalavathy, S. (ed.) 2004, Environmental Studies, Bishop Heber College pub., Trichy

3. Kalavathy, S. (ed.) 2004, Environmental Studies, Bishop Heber College pub., Trichy

PROGRAMMING USING C++

UNIT- I

Principles of Object-Oriented Programming: Object-Oriented Programming (OOP) Paradigm, Basic Concepts of OOP, Benefits of OOP, Object Oriented Languages, Applications of OOP. Beginning with C++: Applications of C++, C++ statements,

Example with Class, Structure of C++ Program, Creating the Source File, Compiling and Linking. Tokens, Expressions and Control Structures: Tokens, Keywords, Identifiers & Constants, Basic Data Types, User-Defined Data Types, Derived Data Types, Symbolic Constants, Type Compatibility, Declaration of Variables, Dynamic Initialization of Variables, Reference Variables, Operators in C++, Scope Resolution Operator, Member Deferencing Operators, Memory Management Operators, Manipulators, Type Cast Operators, Expressions and their Types, Special Assignment Expressions, Implicit Conversions, Operator Overloading, Operator Precedence, Control Structures.

UNIT- II

Functions in C++: The Main Function, Function Prototyping, Call By Reference, Return by Reference, Inline Functions, Default Arguments, Const. Arguments, Function Overloading, Friend & Virtual Functions, Math. Library Functions. Classes and Objects: Specifying a Class, Defining Member Functions, Making an outside Function Inline, Nested Member Functions, Private Member Functions, Arrays within a Class, Memory Allocation for Objects, Static Data Members, Static Member Functions, Arrays of Objects, Objects as Function Arguments, Friendly Functions, Returning Objects, Cons. Member Functions, Pointer to Members, Local Classes.

UNIT- III

Constructors & Destructors: Constructors, Parameterized Constructors, Multiple Constructors in a Class, Constructors with Default Arguments, Dynamic Initialization of Objects, Copy Constructor, Dynamic Constructors, Constructing Two-Dimensional Arrays, Const. Objects, Destructors. Operator Overloading and Type Conversions: Defining Operator Overloading, Overloading Unary Operators, Overloading Binary Operators, Overloading Binary Operators using Friends, Manipulation of Strings using Operators, Rules for Overloading Operators, Type Conversions.

UNIT- IV

Inheritance : Defining Derived Classes, Single Inheritance, Making a Private Member Inheritance, Multilevel Inheritance, Multiple Inheritance, Hierarchical Inheritance, Hybrid Inheritance, Virtual Base Classes, Abstract Classes, Constructors in Derived Classes, Member Classes, Nesting of Classes. Pointers, Virtual Functions and Polymorphism: Pointers, Pointers to Objects, this Pointer, Pointers to Derived Classes, Virtual Functions, Pure Virtual Functions.

UNIT- V

Managing Console I/O Operations: C++ Streams, C++ Stream Classes, Unformatted I/O Operations, Formatted Console I/O Operations, Managing Output with Manipulators. Files: Classes for File Stream Operations, Opening and Closing a File, Detecting end-of-file, File Modes, File Pointers and their Manipulations, Sequential Input and Output Operations, Updating a File: Random Access, Error Handling During File Operations, Command-line Arguments.

Recommended Books;

1. E. Balgurusamy, Object Oriented Programming with C++ :, 4/e (TMH).
2. Paul Deitel, Harvey Deitel, "C++: How to Program",9/e. Prentice Hall.
3. J. Farrell, “Object-Oriented Programming, Cengage Learning
4. BjarneStroustroup, "Programming -- Principles and Practice using C++", 2/e, Addison-Wesley 2014

DATA STRUCTURE

UNIT-I

Introduction and Overview: Definitions, Concept of Data Structures, Overview of Data Structures, Implementation of Data Structures. Arrays: Terminology, One-Dimensional Array, Multi-Dimensional Arrays, Pointer Arrays.

UNIT-II

Linked Lists: Single Linked List, Circular Linked List, Double Linked List, Circular Double Linked List, Application of Linked Lists, Memory Representation, Boundary Tag System, De-allocation Strategy, Buddy System, Compaction.

UNIT-III

Stacks: Definition, Representation of Stack (Array, Linked List), Operations on Stacks, Applications of Stack (Evaluation of Arithmetic Expressions, Code Generation, Implementation of Recursion, Factorial Calculation, Quick Sort, Tower of Hanoi, Activation Record Management).

UNIT – IV

Queues: Definition, Representation of Queues (Array, Linked List), Circular Queue, Deque, Priority Queue, Application of Queues (Simulation, CPU Scheduling in Multiprogramming Environment, Round Robin Algorithm).

UNIT –V

Tree: Binary Trees, Properties of Binary Tree, Linear Representation of Binary a Binary Tree, Linked Representation of a Binary Tree, Physical Implementation of Binary Tree in Memory, Operations on Binary Tree (Insertion, Deletion, Traversal, Merging of two Binary Trees), Types of Binary Trees (Expression Tree, Binary Search Tree, Heap Tree, Threaded Binary Trees, Height Balanced Binary Tree, Weighted Binary Tree, Decision Trees).

Recommended Books:

1. D. Samanta, “Classic Data Structures”:, 2/e (PHI).
2. D.S Malik, “Data Structure using C++”, 2/e, Cengage Learning, 2010
3. Adam Drozdek, "Data Structures and algorithm in C++"*, 3/e*, Cengage Learning, 2012.
4. Robert L. Kruse, "Data Structures and Program Design in C++", Pearson.

STATISTICS FOR BUSINESS

UNIT-I

Probability and Probability Distribution**:** Events and the Sample Space, Calculating Probabilities using Simple events, Useful counting rules, Probability rules: Addition rule, Conditional probability and multiplication rule, Bayes' rule.

UNIT-II

Probability Distributions**:** Random Variable, Discrete random variable, Mean and Standard deviation of discrete random variable, Discrete Probability Distributions: Binomial, Poisson and Hypergeometric probability distribution, Continuous Probability distribution: Normal distribution.

UNIT-III

Sampling Distribution**:** sampling plans and experimental designs, Sampling distribution of a statistic, Central Limit theorem, Sampling distribution of the Sample mean and Proportion.

Large Sample Estimation**:** Point estimation, Interval estimation, Confidence interval of population mean, Population proportion, difference between two population means, difference between two population proportions.

UNIT-IV

Large Sample Tests of Hypothesis**:** Test of a Population mean, Test of difference of two population means, Test of hypothesis for a binomial proportion, Test of hypothesis for the difference between two binomial proportions.

Inference from Small Samples**:** Student's t Distribution, Small Sample inferences concerning a population mean and difference between two population means, Inferences concerning a population variance and difference between two population variances.

UNIT-V

Analysis of Variance**:** One-way classification, Two-way classification.

Linear regression and Correlation**:** Method of least squares, Analysis of variance for linear regression, Testing the usefulness of the linear regression model, Estimation and Prediction using the fitted line. Carl Pearson's coefficient of Correlation, Test of hypothesis concerning the Correlation coefficient.

Recommended Books:

1. William Mendenhall, Robert J. Beaver, Barbara M. Beaver, “Probability and Statistics” 14/e, CENGAGE Learning.
2. W. W. Hines, D.C. Montgomery, D.M. Goldsman, & C.M. Borror, “Probability & Statistics in Engineering"

OPERATING SYSTEMS

UNIT- I

Operating System, Computer-System Organization, Computer-System Architecture, Operating-System Structure, Operating-System Operations, Process Management, Memory Management, Storage Management, Protection and Security, Distributed Systems, Special Purpose Systems, Computing Environments, Open-Source Operating Systems. Operating System Services, User Operating System Interface, System Calls, Types of System Calls, System Programs, Operating-System Design and Implementation, Operating System Structure, Virtual Machines, Operating System Debugging, Operating System Generations. System Boot.

UNIT- II

Process: Process Concept, Process Scheduling, Operations on Processes, Inter-Process Communication, Examples of IPC Systems, Communication in Client-Server Systems. Multithreaded Programming: Multithreading Models, Thread Libraries, Threading Issues, Operating-System Examples.

UNIT- III

Process Scheduling: Basic Concepts, Scheduling Criteria, Scheduling Algorithms, Thread Scheduling. Multiple-Process Scheduling. Synchronization: The Critical Section Problem, Peterson’s Solution, Synchronization Hardware, Semaphores, Classical Problems of Synchronization, Monitors, Synchronization Examples, Atomic Transactions.

UNIT- IV

Deadlocks: System Model, Deadlock Characterization, Methods of Handling Deadlocks, Deadlock Prevention, Deadlock avoidance, Deadlock Detection, Recovery from Deadlock. Memory Management Strategies: Swapping, Contiguous Memory Allocation, Paging, Structure of the Page Table, Segmentation, Example: The Intel Pentium.

UNIT- V

Virtual-Memory Management: Demand Paging, Copy-on-Write, Page Replacement, Allocation of Frames, Thrashing, Memory-Mapped Files, Allocating Kernel Memory. File

System: File Concept, Access Methods, Directory and Disk Structure, File-System Mounting, File Sharing, Protection.

Recommended Books:

1. A Silberschatz, P.B. Galvin, G. Gagne, Operating Systems Concepts, 8/e, John Wiley Publications 2008.
2. A.S. Tanenbaum, Modern Operating Systems, 3/e, Pearson Education 2007
3. W. Stallings, "Operating Systems, Internals & Design Principles", 5/e, Prentice Hall of India. 2008
4. G. Nutt, "Operating Systems: A Modern Perspective", 2/e, Pearson Education 1997.

BUSINESS ACCOUNTING

UNIT-I

Introduction to Financial Accounting. Accounting as an Information System. Importance, Scope, and Limitations. Users of Accounting Information. Generally Accepted Accounting Principles. The Accounting Equation. Nature of Accounts and Rules of Debit and Credit. Recording Transactions in General Journal. Recording Transactions in three column Cash Book. An overview of Subsidiary books – Purchase Book, Purchase Returns Book, Sales Book, and Sales Returns Book. Opening and Closing Entries. Preparation of Ledger Accounts.

UNIT-II

Introduction to International Financial Reporting Standards (IFRS). Understanding Accounting Standards issued by the ICAI related to Disclosure of Accounting Policies, Depreciation Accounting, and Revenue Recognition. Methods of charging Depreciation– Straight-line Method, and Written-down-value Method. Preparation of Trial Balance. Adjustment Entries. Post-adjusted Trial Balance. Bank Reconciliation Statement.

UNIT-III

Preparation of Financial Statements: Preparing Trading Account, Profit & Loss Account and Balance Sheet for a Sole Proprietor. Understanding contents of Financial Statements of a Joint Stock Company as per Companies Act 2013. Understanding the contents of a Corporate Annual Report. Preparation of Cash Flow Statement as per AS-3 (revised).

UNIT-IV

Analyzing Financial Statements: Objectives of Financial Statement Analysis; Sources of Information; Standards of Comparison; Techniques of Financial Statement Analysis - Horizontal Analysis, Vertical Analysis, and Ratio Analysis. Meaning and Usefulness of Financial Ratios; Analysis of Financial Ratios from the perspective of different Stakeholders like Investors, Lenders, and Short-term Creditors; Profitability Ratios, Solvency Ratios, Liquidity Ratios, and Turnover Ratios; Limitations of Ratio Analysis.

Books:

1. S.N. Maheshwari, Suneel K. Maheshwari, and Sharad K. Maheshwari: An Introduction to Accountancy, Vikas Publishing House Pvt. Ltd.
2. R. Narayanaswamy, Financial Accounting: A Managerial Perspective, PHI Learning Pvt. Ltd.
3. Charles T. Horngren, Gart L. Sundem, John A. Elliott, and Donna R. Philbrick, Introduction to Financial Accounting, Pearson.
4. J.R. Monga, Financial Accounting: Concepts and Applications, Mayur Paperbacks.
5. T.P. Ghosh, Financial Accounting for Managers: Taxmann Allied Services Pvt. Ltd.

MANAGERIAL ECONOMICS

UNIT-I: Demand, Supply and Market equilibrium: individual demand, market demand, individual supply, market supply, market equilibrium; Elasticities of demand and supply : Price elasticity of demand, income elasticity of demand, cross price elasticity of demand, elasticity of supply; Theory of consumer behavior : cardinal utility theory, ordinal utility theory(indifference curves, budget line, consumer choice, price effect, substitution effect, income effect for normal, inferior and giffen goods), revealed preference theory.

UNIT-II: Producer and optimal production choice : optimizing behavior in short run(geometry of product curves, law of diminishing margin productivity, three stages of production), optimizing behavior in long run (isoquants, isocost line, optimal combination of resources) Costs and scale : traditional theory of cost (short run and long run, geometry of cot curves, envelope curves), modern theory of cost (short run and long run), economies of scale, economies of scope.

UNIT-III: Theory of firm and market organization : perfect competition (basic features, short run equilibrium of firm/industry, long run equilibrium of firm/industry, effect of changes in demand, cost and imposition of taxes) ; monopoly (basic features, short run equilibrium, long run equilibrium, effect of changes in demand, cost and imposition of taxes, comparison with perfect competition, welfare cost of monopoly), price discrimination, multiplant monopoly ; monopolistic competition (basic features, demand and cost, short run equilibrium, long run equilibrium, excess capacity) ; oligopoly (Cournot's model, kinked demand curve model, dominant price leadership model, prisoner's dilemma)

UNIT-IV: Factor market : demand for a factor by a firm under marginal productivity theory (perfect competition in the product market, monopoly in the product market), market demand for a factor, supply of labour, market supply of labour, factor market equilibrium.

Books:

1. Dominick Salvatore (2009). Principles of Microeconomics (5th ed.) Oxford

University Press
2. Lipsey and Chrystal. (2008). Economics. (11th ed.) Oxford University Press
3. Koutosyannis (1979). Modern Micro Economics. Palgrave Macmillan
4. Pindyck, Rubinfeld and Mehta. (2009). Micro Economics. (7th ed.). Pearson.

NUMERICAL TECHNIQUES

UNIT – I

Introduction**:** Numbers and their accuracy, Chopping and Rounding off, Errors: Absolute and Relative errors, Floating point representations of numbers, Loss of significance. Solution of Algebraic and Transcendental Equations**:** Bisection Method, Newton-Raphson Method, Secant Method, Method of false position, Rate of convergence and comparison of iterative methods.

UNIT-II

Interpolation and Numerical Differentiation**:** Polynomial Interpolation, Interpolating polynomial: Lagrange form, Newton form, Nested form, Divided difference Interpolation, Inverse Interpolation, Errors in polynomial Interpolation. First derivative and second derivative via Taylor Series, Richardson Extrapolation.

UNIT-III

Numerical Integration**:** Trapezoidal Rule, Composite Trapezoidal rule, Simpson's 1/3 rule, Simpson's 3/8 rule, Gaussian Quadrature formulae (1-point, 2-point, 3-point)

UNIT-IV

Solution of System of Linear Equations**:** Gaussian Elimination method and Pivoting, LU factorization method, ill Conditioning, Iterative Methods: Jacobi iterative method, Gauss Seidel iterative method.

Eigen Values and Eigen Vectors**:** Eigen value properties, Computation Eigen values by Power method.

UNIT - V

Solution of Ordinary Differential Equations**:** Taylor Series method, Runge-Kutta method of order 2 and order 4, Predictor-Corrector method: Adam's-Bashforth-Moultan method. Smoothing of Data and the Method of Least Squares**:** Linear and non-linear least square method.

Recommended Books:

1. E. Ward Cheney and David R. Kincaid **,**"Numerical Methods and Applications" CENGAGE Learning India Private Ltd., New Delhi.
2. S.R.K. Iyengar, R.K. Jain, & M.K. Jain, "Numerical Methods for Scientific & Engineering Computation", 6/e, New Age Int. Pub.
3. S.S. Sastry, " Introductory Methods of Numerical Analysis", 5/e, EEE
4. Steven C. Chapra, "Applied Numerical Methods with MATLAB", 2/e, McGraw-Hill.

JAVA PROGRAMMING

UNIT-I

Introduction to Java**:** Java Architecture and Features, Understanding the semantic and syntax differences between C++ and Java, Compiling and Executing a Java Program, Variables, Constants, Keywords Data Types, Operators (Arithmetic, Logical and Bitwise) and Expressions, Comments, Doing Basic Program Output, Decision Making Constructs (conditional statements and loops) and Nesting, Java Methods (Defining, Scope, Passing and Returning Arguments, Type Conversion and Type and Checking, Built-in Java Class Methods).

UNIT-II

Arrays, Strings and I/O**:** Creating & Using Arrays (One Dimension and Multi-dimensional), Referencing Arrays Dynamically, Java Strings: The Java String class, Creating & Using String Objects, Manipulating Strings, String Immutability & Equality, Passing Strings To & From Methods, String Buffer Classes. Simple I/O using System.out and the Scanner class, Byte and Character streams, Reading/Writing from console and files. Object-Oriented Programming Overview**:** Principles of Object-Oriented Programming, Defining & Using Classes, Controlling Access to Class Members, Class Constructors, Method Overloading, Class Variables & Methods, Objects as parameters, final classes, Object class, Garbage Collection.

UNIT-III

Inheritance, Interfaces, Packages, Enumerations, Autoboxing and Metadata**:** Inheritance: (Single Level and Multilevel, Method Overriding, Dynamic Method Dispatch, Abstract Classes), Interfaces and Packages, Extending interfaces and packages, Package and Class Visibility, Using Standard Java Packages (util, lang, io, net), Wrapper Classes, Autoboxing/Unboxing, Enumerations and Metadata.

UNIT-IV

Exception Handling, Threading, Networking and Database Connectivity: Exception types, uncaught exceptions, throw, built-in exceptions, Creating your own exceptions;

Multi-threading: The Thread class and Runnable interface, creating single and multiple threads, Thread prioritization, synchronization and communication, suspending/resuming threads. Using java.net package, Overview of TCP/IP and Datagram programming. Accessing and manipulating databases using JDBC.

UNIT-V

Applets and Event Handling: Java Applets: Introduction to Applets, Writing Java Applets, Working with Graphics, Incorporating Images & Sounds. Event Handling Mechanisms, Listener Interfaces, Adapter and Inner Classes. The design and Implementation of GUIs using the AWT controls, Swing components of Java Foundation Classes such as labels, buttons, text fields, layout managers, menus, events and listeners; Graphic objects for drawing figures such as lines, rectangles, ovals, using different fonts. Overview of servlets.

Recommended Books:

1. E. Balagurusamy, " Programming with Java", 4/e, TMH
2. Bruce Eckel, "Thinking Java", 8/e, Pearson India, 2010.
3. John R. Hubbard, "Programming with JAVA", Schaum's Series, 2/e, 2004.
4. Cay S. Horstmann, GaryCornell, "Core Java 2 Volume 1 ,9/e,Printice Hall.2012.

DATABASE MANAGEMENT SYSTEM

UNIT-I

Databases and Database Users, Database System Concepts and Architecture, Data Modelling using the Entity-Relationship(ER) Model, The Enhanced Entity-Relationship (EER) Model.

UNIT-II

Relational Model: The Relational Data Model and Relational Database Constraints, The Relational Algebra and Relational Calculus.

UNIT-III

Relational Database Design by ER- and EER-to-Relational Mapping, SQL-99: Schema Definition, Constraints, Queries, and Views, Introduction to SQL Programming Techniques.

UNIT-IV

Functional Dependencies and Normalization for Relational Databases, Relational Database Algorithms and Further Dependencies, Practical Database Design Methodology and use of UML Diagrams.

UNIT-V

Disk Storage, Basic File Structures, and Hashing, Indexing Structures for Files, Algorithms for Query Processing and Optimization, Physical Database Design and Tuning.

Recommended Books:

1. R. Elmasri, S.B. Navathe, “Fundamentals of Database Systems”, 6/e, Pearson Education, 2010
2. A. Silberschatz, H.F. Korth, S. Sudarshan, “Database System Concepts” 6/e, McGraw Hill, 2010
3. R. Ramakrishanan, J. Gehrke, “Database Management Systems”, McGraw-Hill
4. C. Coronel, S. Morris, & P. Rob, “Database Principles (Fundamentals of Design, Implementation, and Management), 9/e, Cengage Learning.

MANAGEMENT ACCOUNTING

UNIT-I

Nature, Scope of Management Accounting: Meaning, definition, nature and scope of Management Accounting; Comparison of Management Accounting with Cost Accounting and Financial Accounting. Cost concepts: Meaning, Scope, Objectives, and Importance of Cost Accounting; Cost, Costing, Cost Control, and Cost Reduction; Elements of Cost, Components of total Cost, Cost Sheet. Classification of Costs: Fixed, Variable, Semivariable, and Step Costs; Product, and Period Costs; Direct, and Indirect Costs; Relevant, and Irrelevant Costs; Shut-down, and Sunk Costs; Controllable, and Uncontrollable Costs; Avoidable, and Unavoidable Costs; Imputed / Hypothetical Costs; Out-of-pocket Costs; Opportunity Costs; Expired, and Unexpired Costs; Conversion Cost. Cost Ascertainment: Cost Unit and Cost Center. Introduction to Overhead allocation, Overhead apportionment, and Overhead absorption.

UNIT-II

Cost-Volume-Profit Analysis: Contribution, Profit-Volume Ratio, Margin of safety, Cost Break-even Point, Composite Break-even Point, Cash Break-even Point, Key Factor, Break-even Analysis. Relevant Costs and Decision Making: Pricing, Product Profitability, Make or Buy, Exploring new markets, Export Order, Sell or Process Further, Shut down vs. Continue.

UNIT-III
Budgets and Budgetary Control: Meaning, Types of Budgets, Steps in Budgetary Control, Fixed and Flexible Budgeting, Cash Budget. Responsibility Accounting: Concept, Significance, Different responsibility centers, Divisional performance – Financial measures, Transfer pricing.

UNIT-IV
Standard Costing and Variance Analysis: Meaning of Standard Cost and Standard Costing, Advantages, Limitations and Applications; Material, Labor, Overhead and Sales variances. Introduction to Target Costing, Life Cycle Costing, Quality Costing, and Activity based Costing.

Books:
1. C.T. Horngren, Gary L. Sundem, Jeff O. Schatzberg, and Dave Burgstahler: Introduction to Management Accounting, Pearson
2. M.N. Arora: A Textbook of Cost and Management Accounting, Vikas Publishing House Pvt. Ltd.
3. M.Y. Khan, and P.K. Jain, Management Accounting: Text Problems and Cases, McGraw Hill Education (India) Pvt. Ltd.
4. S.N. Maheshwari, and S.N. Mittal, Cost Accounting: Theory and Problems, Shree Mahavir Book Depot (Publishers)

HTML PROGRAMMING

Unit-I: Introduction

The Basics: The Head, the Body, Colors, Attributes, Lists, ordered and unordered

Unit-II: Links: Introduction, Relative Links, Absolute Links, Link Attributes, Using the ID Attribute to Link within a Document.

Unit-III: Images: Putting an Image on a Page, Using Images as Links, Putting an Image in the Background

Unit-IV: –Tables, Creating a Table , Table Headers, Captions, Spanning Multiple Columns, Styling Table

Unit V: –Forms: Basic Input and Attributes, Other Kinds of Inputs, Styling forms with CSS, Where To Go From Here

Book:

Introduction to HTML and CSS --O'Reilly

QUANTITATIVE TECHNIQUES

UNIT-I

Linear Programming: Formulation of L.P. Problems, Graphical Solutions (Special cases: Multiple optimal solution, infeasibility, unbounded solution); Simplex Methods (Special cases: Multiple optimal solution, infeasibility, degeneracy, unbounded solution) Big-M method and Two-phase method; Duality and Sensitivity (emphasis on formulation & economic interpretation); Formulation of Integer programming, Zero-one programming, Goal Programming.

UNIT-II

Elementary Transportation: Formulation of Transport Problem, Solution by N.W. Corner Rule, Least Cost method, Vogel's Approximation Method (VAM), Modified Distribution Method. (Special cases: Multiple Solutions, Maximization case, Unbalanced case, prohibited routes) Elementary Assignment: Hungarian Method, (Special cases: Multiple Solutions, Maximization case, Unbalanced case, Restrictions on assignment.)

UNIT-III

Network Analysis: Construction of the Network diagram, Critical Path- float and slack analysis (Total float, free float, independent float), PERT, Project Time Crashing

UNIT-IV

Decision Theory: Pay off Table, Opportunity Loss Table, Expected Monetary Value, Expected Opportunity Loss, Expected Value of Perfect Information and Sample Information

UNIT-V

Markov Chains: Predicting Future Market Shares, Equilibrium Conditions(Questions based on Markov analysis) Limiting probabilities, Chapman Kolmogrov equation. Introduction to Game Theory: Pay off Matrix- Two person Zero-Sum game, Pure strategy, Saddle point; Dominance Rule, Mixed strategy, Reduction of m x n game and solution of 2x2, 2 x s, and r x 2 cases by Graphical and Algebraic methods; Introduction to Simulation: Monte Carlo Simulation

BOOKS:

1. N. D. Vohra: Quantitative Management, Tata McGraw Hill .

2. P. K. Gupta, Man Mohan, KantiSwarup: Operations Research, Sultan Chand.

3. V. K. Kapoor: Operations Research, Sultan Chand & Sons.

4. J. K. Sharma: Operations Research Theory & Applications, Macmillan India

Limited.

DATA COMMUNICATIONS

UNIT-I

Introduction: Data Communications, Networks, The Internet, Protocols and Standards. Network Models: Layered Tasks, The OSI Model, Layers in the OSI Model, TCP/ IP Protocol Suite, Addressing.

UNIT-II

Data and Signals: Analog and Digital, Periodic Analog Signals, Digital Signals, Transmission Impairment, Data Rate Limits, Performance. Digital Transmission: Digital-To-Digital Conversion, Analog-To-Digital Conversion, Transmission Modes. Analog Transmission: Digital-To-Analog Conversion, Analog-To-Analog Conversion.

UNIT-III

Multiplexing and Spreading: Multiplexing, Spread Spectrum. Transmission Media: Guided Media, Unguided Media (Wireless). Switching: Circuit Switched, Datagrams, Virtual Circuit Networks, Structure of a Switch. Telephone Network, Dial-Up MODEMS, Digital Subscriber Line (DSL), Cable TV Networks, Cable TV for Data Transfer.

UNIT-IV

Error Detection and Correction: Introduction, Block Coding, Linear Block Codes, Cyclic Codes, Checksum. Data Link Control: Framing, Flow and Error Control, Protocols, Noiseless Channels, Noisy Channels, HDLC, Point-To-Point Protocol. Multiple Access: Random Access, Controlled Access, Channelization. Wired LANs: IEEE Standards, Standard Ethernet, Changes in the Standard, Fast Ethernet, Gigabit Ethernet: Wireless LANs: IEEE 802.11, Bluetooth.

UNIT-V

Connecting LANs: Connecting Devices, Backbone Networks, Virtual LANs. Wireless LANs: Cellular Telephony, Satellite Networks. SONET: Architecture, SONET Layers, SONET Frames, STS Multiplexing, SONET Networks, Virtual Tributaries. Virtual-Circuit Networks. Frame Relay, ATM, ATM LANs,

Recommended Books:

1. B. A. Forouzan, “Data Communications and Networking”, 4/e, THM ,2007
2. A. S. Tanenbaum, & David J. Wetherall, “Computer Networks”**,** 5/e, Pearson

SOFTWRE ENGINEERING

UNIT-I

Professional Software Development, Software Engineering Ethics, Software Processes, Software Process Models, Process Activities, Coping with Change, The Rational Unified Process, Agile Software Development, Agile Methods, Plan-Driven and Agile Development, Extreme Programming, Agile Project Management, Scaling Agile Methods.

UNIT-II

Requirements Engineering, Functional and Non-Functional Requirements, The Software Requirements Document, Requirements Specification, Requirements Engineering Processes, Requirements Elicitation and Analysis, Requirements Validation, Requirements Management, System Modelling, Context Models, Interaction Models, Structural Models, Behavioural Models, Model-Driven, Engineering, Architectural Design, Architectural Design Decisions, Architectural Views, Architectural Patterns, Application Architectures.

UNIT-III

Design and Implementation: Object-Oriented Design using the UML, Design Patterns, Implementation Issues, Open Source Development, Software Testing: Development Testing, Test-Driven Development, Release Testing, User Testing, Software Evolution: Evolution Processes, Program Evolution Dynamics, Software Maintenance, Legacy System Management, Dependability and Security.

UNIT-IV

Socio-technical Systems: Complex Systems, Systems Engineering, System Procurement, System Development, System Operation. Dependability and Security: Dependability Properties, Availability and Reliability, Safety, Security. Dependability and Security Specification: Risk-Driven Requirements, Specification, Safety Specification, Reliability Specification, Security, Specification, Formal Specification.

UNIT-V

Dependability Engineering: Redundancy and Diversity, Dependable Processes, Dependable Systems Architectures, Dependable Programming. Security Engineering: Security Risk Management, Design for Security, System Survivability. Dependability and Security Assurance: Static Analysis, Reliability Testing, Security Testing, Process Assurance, Safety and Dependability Cases.

Recommended Books:

1. I. Sommerville, “Software Engineering”, 9/e, Addison Wesley.
2. R. Mall, “Fundamentals of Software Engineering”, 3/e, PHI
3. R.S. Pressman, “Software Engineering”, A Practitioner‘s Approach, 7/e, McGraw-Hill, 2009
4. K.K. Aggarwal and Y. Singh, “Software Engineering”,2/e, New Age International Publishers, 2008

PROGRAMMING in VISUAL BASIC

UNIT-I

GUI Environment: Introduction to graphical user interface (GUI), programming language (procedural, object oriented, event driven), the GUI environment, compiling, debugging, and running the programs. Controls : Introduction to controls textboxes, frames, check boxes, option buttons, images, setting borders and styles, the shape control, the line control, working with multiple controls and their properties, designing the user interface, keyboard access, tab controls, default & cancel property, coding for controls.

UNIT-II

Operations: Data types, constants, named & intrinsic, declaring variables, scope of variables, val function, arithmetic operations, formatting data. Decision Making: If statement, comparing strings, compound conditions (and, or, not), nested if statements, case structure, using if statements with option buttons & check boxes, displaying message in message box, testing whether input is valid or not.

UNIT-III

Modular programming: Menus, sub-procedures and sub-functions defining / creating and modifying a menu, using common dialog box, creating a new sub-procedure, passing variables to procedures, passing argument by value or by reference, writing a function/ procedure. Forms Handling : Multiple forms creating, adding, removing forms in project, hide, show method, load, unload statement, me keyword, referring to objects on a different forms.

UNIT-IV

Iteration Handling: Do/loops, for/next loops, using msgbox function, using string function Arrays and Grouped Data Control: Arrays - 1-dimension arrays, initializing an array using for each, user-defined data types, accessing information with user-defined data types, using list boxes with array, two dimensional arrays. lists, loops and printing list boxes & combo boxes, filling the list using property window / additem method, clear method, list box properties, removing an item from a list, list box/ combo box operations.

UNIT-V

Database Connectivity: Database connectivity of forms with back end tool like mysql, populating the data in text boxes, list boxes etc. searching of data in database. using forms. Updating/ editing of data based on a criterion.

Books: Programming in Visual Basic 6.0 by Julia Case Bradley, Anita C. Millispangh (Tata Mcgraw Hill Edition 2000 (Fourteenth Reprint 2004))

FINANCIAL MANAGEMENT

UNIT-I

Nature of Financial Management: Finance and related disciplines; Scope of Financial Management; Profit Maximization, Wealth Maximization - Traditional and Modern Approach; Functions of finance – Finance Decision, Investment Decision, Dividend Decision; Objectives of Financial Management; Organisation of finance function; Concept of Time Value of Money, present value, future value, and annuity; Risk & Return: Historical return, expected return, absolute return, holding period return, annualized return, arithmetic & geometric return; Risk - Systematic & unsystematic risk – their sources and measures.

UNIT-II

Long -term investment decisions: Capital Budgeting - Principles and Techniques; Nature and meaning of capital budgeting; Estimation of relevant cash flows and terminal value; Evaluation techniques - Accounting Rate of Return, Net Present Value, Internal Rate of Return & MIRR, Net Terminal Value, Profitably Index Method. Concept and Measurement of Cost of Capital: Explicit and Implicit costs; Measurement of cost of capital; Cost of debt; Cost of perpetual debt; Cost of Equity Share; Cost of Preference Share; Cost of Retained Earning; Computation of over-all cost of capital based on Historical and Market weights.

UNIT-III

Capital Structures: Approaches to Capital Structure Theories - Net Income approach, Net Operating Income approach, Modigliani-Miller (MM) approach, Traditional approach, Capital Structure and Financial Distress, Trade-Off Theory.

Dividend Policy Decision - Dividend and Capital; The irrelevance of dividends: General, MM hypothesis; Relevance of dividends: Walter's model, Gordon's model; Leverage Analysis: Operating and Financial Leverage; EBIT -EPS analysis; Combined leverage.

UNIT-IV

Working Capital Management: Management of Cash - Preparation of Cash Budgets (Receipts and Payment Method only); Cash management technique,

Receivables Management – Objectives; Credit Policy, Cash Discount, Debtors Outstanding and Ageing Analysis; Costs - Collection Cost, Capital Cost, Default Cost, Delinquency Cost, Inventory Management (Very Briefly) - ABC Analysis; Minimum Level; Maximum Level; Reorder Level; Safety Stock; EOQ, Determination of Working Capital.

Books:

1. M.Y. Khan & P.K. Jain: Financial Management Text Problem and Cases, Tata McGraw Hill Pubilshlng Co. Ltd.
2. R. P. Rustogi: Financial Management: Theory Concepts and Practices, Taxmann Publication.
3. I.M. Pandey: Financial Management: Theory and Practices, Vikas Publishing House
4. R.A. Brealey, S.C. Myers, F. Allen& P. Mohanty: Principles of Corporate Finance,

McGraw Hill Higher Education
5. J.V. Horne & J.M. Wachowicz: Fundamentals of Financial Management Prentice Hall

INTERNET TECHNOLOGY

UNIT-I

Java: Use of Objects, Array and ArrayList class

UNIT-II

JavaScript: Data types, operators, functions, control structures, events and event handling.

UNIT-III

JDBC: JDBC Fundamentals, Establishing Connectivity and working with connection interface, Working with statements, Creating and Executing SQL Statements, Working with Result Set Objects.

UNIT-IV

JSP: Introduction to Java Server Pages, HTTP and Servlet Basics, The Problem with Servlets, The Anatomy of a JSP Page, JSP Processing, JSP Application Design with MVC, Setting Up the JSP Environment, Implicit JSP Objects, Conditional Processing, Displaying Values, Using an expression to Set an Attribute, Declaring Variables and Methods, Error Handling and Debugging, Sharing Data Between JSP Pages, Requests, and Users, Database Access.

UNIT-V

Java Beans: Java Beans Fundamentals, JAR files, Introspection, Developing a simple Bean, Connecting to DB

Recommended Books:

1. Ivan Bayross, Web Enabled Commercial Application Development Using HTML, DHTML, Javascript, Perl CGI , BPB Publications, 2009.
2. Cay Horstmann, BIG Java, Wiley Publication , 3/e, 2009
3. Herbert Schildt , Java 7, The Complete Reference, , 8/e, 2009.
4. Jim Keogh ,The Complete Reference J2EE, TMH, , 2002

ASP.NET

UNIT-I

INTRODUCTION TO .NET FRAMEWORK Genesis of .Net – Features of .Net - .Net binaries – Microsoft Intermediate Language – Meta Data - .Net types and .net name spaces – Common Language Runtime – Common Type System – Common Language Specification - .Net Applications using command line compiler and visual studio .net IDE.

UNIT-II

BASICS OF ASP. NET: Introducing ASP .NET – Creating and deploying ASP .NET applications – Web forms – Web controls – working with events – Rich web controls – Custom web controls – Validation controls – Debugging ASP .NET pages.

UNIT-III

ADVANCED ASP .NET: ASP .NET configuration – Business objects – HTTP Handlers – Caching in ASP .NET – ASP .NET security – Localizing ASP .NET applications – Deployment projects.

UNIT-IV

BUILDING WEB SERVICES: Introduction to web services – Web services Infrastructure – SOAP – Building a web service – Deploying and publishing web services – Finding web services – Consuming web services.

UNIT-V

ADO .NET: Basics of ADO .NET – Changes from ADO – Data Table – Data Views – Data Set – Data Relation Type – ADO .NET Managed Providers – OleDb and SQL Managed Providers – OleDb Data Adapter Type.

Text Books:

1. Mridula Parihar, et. al. – “ASP .NET Bible” – Wiley-dreamtech India Pvt. Ltd.
2. Andrew Troelsen – “C# and the .Net Platform” – Apress – 2001.(Unit I and II)

Reference Books:

1. David S. Platt – “Introducing .Net” – Microsoft Press – 2002.
2. Alex Homer et. al. – “Professional ASP .NET 1.1” – Wiley-dreamtech India Pvt. Ltd. – 2004.

E-COMMERCE

UNIT-I

An introduction to Electronic commerce: What is E-Commerce (Introduction And Definition), Main activities E-Commerce, Goals of E-Commerce, Technical Components

of E-Commerce, Functions of E-Commerce, Advantages and disadvantages of E-Commerce, Scope of E-Commerce, Electronic Commerce Applications, 9 Electronic Commerce and Electronic Business(C2C)(C2G,G2G, B2G, B2P, B2A, P2P, B2A, C2A, B2B, B2C).

UNIT-2

The Internet and WWW: Evolution of Internet, Domain Names and Internet Organization (.edu, .com, .mil, .gov, .net etc.) , Types of Network, Internet Service Provider, World Wide Web, Internet & Extranet, Role of Internet in B2B Application, building own website, Cost, Time, Reach, Registering a Domain Name, Web promotion, Target email, Baner, Exchange, Shopping Bots.

UNIT-III

Internet Security: Secure Transaction, Computer Monitoring, Privacy on Internet, Corporate Email privacy, Computer Crime(Laws , Types of Crimes), Threats, Attack on Computer System, Software Packages for privacy, Hacking, Computer Virus(How it spreads, Virus problem, virus protection, Encryption and Decryption, Secret key Cryptography, DES, Public Key Encryption, RSA, Authorisation and Authentication, Firewall, Digital Signature(How it Works).

UNIT-IV

Electronic Data Exchange: Introduction, Concepts of EDI and Limitation, Applications of EDI, Disadvantages of EDI, EDI model,Electronic Payment System: Introduction, Types of Electronic Payment System, Payment Types, Value Exchange System, Credit Card System, Electronic Fund Transfer, Paperless bill, Modern Payment Cash, Electronic Cash.

UNIT-V

Planning for Electronic Commerce: Planning Electronic Commerce initiates, Linking objectives to business strategies, Measuring cost objectives, Comparing benefits to Costs, Strategies for developing electronic commerce web sites.

Books

1. E-Commerce Concepts, Models, Strategies:- G.S.V.Murthy Himalaya Publishing House
2. E- Commerce:- Kamlesh K Bajaj and Debjani Nag
3. Electronic commerce:- Gray P. Schneider
4. E-Commerce, Fundamentals & Applications: Chand (Wiley) Web and E-Commerce