CENTRE FOR DISTANCE EDUCATION
ANNA UNIVERSITY
CHENNAI – 25.

MASTER OF COMPUTER APPLICATION

I– VI SEMESTER

REGULATIONS 2007
SYLLABUS & ALL ELECTIVES

ANNA UNIVERSITY
MCA (DISTANCE MODE)
REGULATION 2007
CURRICULUM

SEMESTER – I

Code No.	Course Title	Marks
Theory		
DMC1601	Computer Organization	100
DMC1602	Problem Solving and Programming	100
DMC1603	Business Processes	100
DMC1604	Data Structures	100
DMC1605	Accounting and Financial Management	100
Practical		
DMC1606	Programming and Data Structures Laboratory	100

SEMESTER – II

Code No.	Course Title	Marks
Theory		
DMC1651	Mathematical Foundations of Computer Science	100
DMC1652	Object Oriented Programming	100
DMC1653	Design and Analysis of Algorithms	100
DMC1654	Database Management Systems	100
DMC1655	Operating Systems	100
DBA1605	Communication Skills	100
Practical		
DMC1656	Object Oriented Programming Lab	100
DMC1657	DBMS Lab	100

SEMESTER – III

Code No.	Course Title	Marks
Theory		
DMC1701	Computer Networks	100
DMC1702	Microprocessors and its Applications	100
DMC1703	Software Engineering	100
DMC1704	Computer Graphics and Multimedia Systems	100
DMC1705	Internet Programming	100
E1	Elective I	100
Practical		
DMC1706	Network Programming Lab	100
DMC1707	Operating Systems Lab	100

SEMESTER – IV

Code No.	Course Title	Marks
Theory		
DMC1751	UNIX and Network Programming	100
DMC1752	Resource Management Techniques	100
DMC1753	Object Oriented Analysis and Design	100
DMC1754	Middle-Ware Technologies	100
DMC1755	Visual Programming	100
E2	Elective II	100
Practical		
DMC1756	Internet Programming Lab	100
DMC1757	Graphics and Multimedia Lab	100

SEMESTER – V

Code No.	Course Title	Marks
Theory		
DMC1801	XML and Web Services	100
DMC1802	Software Project Management	100
E3	Elective III	100
E4	Elective IV	100
E5	Elective V	100
E6	Elective VI	100
Practical		
DMC1803	Java Programming Lab	100
DMC1804	Software Development Lab	100

SEMESTER – VI

Code No.	Course Title	Marks
DMC1851	Project Work	400

LIST OF ELECTIVES
M.C.A. (MASTER OF COMPUTER APPLICATIONS)

ELECTIVE 1 – III Semester

S.No.	Course Name
1.	DMC 1625 Advanced Databases
2.	DMC 1627 TCP/IP Protocol Suite
3.	DMC 1675 Management Information System

ELECTIVE 2 – IV Semester

S.No.	Course Name
1.	DMC 1630 Mobile Computing
2.	DMC 1632 Software Agents
3.	DMC 1676 Human Resource Management

ELECTIVE 3, 4, 5 and 6 - V Semester

S.No	Electives	Course Name
1.	Elective 3	DMC 1635 Information Security
		DMC 1645 Introduction to E-Learning
		DMC 1677 Risk Management
2.	Elective 4	DMC 1621 Electronic Commerce
		DMC 1646 Instructional Design for E-Learning
		DMC 1674 Knowledge Management
3.	Elective 5	DMC 1623 Web Graphics
		DMC 1647 E-Learning Technology
		DMC 1673 Legal Aspects in Health Care
4.	Elective 6	DMC 1628 Data Warehousing and Data Mining
		DMC 1671 Health Care Information System
		DMC 1638 Merchant Banking and Security Market

ANNA UNIVERSITY
MCA (DISTANCE MODE)
REGULATION 2007
SYLLABUS I TO VI SEMESTER

SEMESTER - I

DMC1601 COMPUTER ORGANIZATION

1. INTRODUCTION TO DIGITAL DESIGN

Data Representation – Data Types – Complements – Arithmetic Operations – Representations – Fixed –Point, Floating – Point , Decimal Fixed – Point – Binary Codes- Logic Gates, Boolean Algebra, Map Simplification – Combinational Circuits: Half-Adder, Full Adder- Flip Flops - Sequential Circuits

2. DIGITAL COMPONENTS - REGISTER TRANSFER & MICRO OPERATIONS

ICs – Decoders – Multiplexers – Registers – Shift Registers – Binary Counters – Memory Unit – Register Transfer Language – Register Transfer – Bus And Memory Transfers – Arithmetic, Logic And Shift Micro Operations, Arithmetic Logic Shift Unit.

3. COMPUTER ORGANIZATION AND PROGRAMMING

Instruction Codes – Computer Registers – Computer Instructions – Timing And Control – Instruction Cycle – Memory Reference Instructions – I/O And Interrupt – Machine Language – Assembly Language – Assembler - Program Loops – Programming Arithmetic And Logic Operations – Subroutines – I/O Programming.

4. INPUT – OUTPUT ORGANIZATION

Peripheral Devices – Input-Output Interface – Asynchronous Data Transfer – Modes Of Transfer – Priority Interrupt – DMA – IOP – Serial Communication.

5. MEMORY ORGANIZATION AND CPU

Memory Hierarchy – Main Memory – Auxiliary Memory – Associative Memory – Cache Memory – Virtual Memory – Memory Management Hardware – CPU: General Register Organization – Control Word – Stack Organization – Instruction Format – Addressing Modes – Data Transfer And Manipulation – Program Control.

TEXTBOOK

1. M.Morris Mano,"Computer System Architecture",Prentice Hall of India, 2001.

REFERNCES

1. John .p.Hayes,"Computer Architecture and Organization", Tata McGraw Hill, 1996.
2. V.C.Hamatcher,et al "Computer Organization", Tata Mcgraw Hill,1996

DMC1602 PROBLEM SOLVING AND PROGRAMMING

1. INTRODUCTION TO COMPUTER PROBLEM SOLVING

Introduction – The Problem Solving aspect – Top down Design – Implementation of Algorithms – Program Verification – Efficiency of Algorithms – Analysis of Algorithms

2. FUNDAMENTAL ALGORITHMS

Introduction – Exchanging the values – Counting – Factorial Computation – SINE computation – Base Conversion – Factoring Methods – Array Techniques.

3. INTRODUCTION TO C LANGUAGE

Overview of C – Constants, Variables and Data Types – Operators and Expressions – Managing Input/Output Operations – Formatted I/O – Decision Making - Branching –- IF, Nested IF – Switch – goto - Looping- While, do, for statements.

4. ARRAYS, FUNCTIONS, STRUCTURES AND UNIONS

Arrays – dynamic and multi-dimensional arrays - Character arrays and Strings – String handling Functions - User defined Functions – Categories of Functions – Recursion - Structures and Unions – Array of Structures – Structures and Functions

5. POINTERS AND FILE MANAGEMENT

Pointers – Declaration, Accessing a variable, character strings, pointers to functions and structures - File Management in C – Dynamic Memory allocation – Linked Lists – Preprocessors.

TEXTBOOKS

1. R.G.Dromey " How to Solve it by Computer ", PHI , 1998
2. E.Balagurusamy " Programming in ANSI C " , Tata McGraw Hill, 2004

REFERNCES

1. Deitel and Deitel " C How to Program ", Addisson Wesley , 2001
2. Brian W.Kernighan & Dennis Ritchie "C Programming Language", PHI, 1990
3. Byron.S.Gottfried "Schaum's Outline of Programming with C ", 2nd Edition,1996

DMC1603 BUSINESS PROCESSES

1. ORGANIZATIONAL STRUCTURE

Types of Business Organizations-Organizational Structures-Definition Complexity - Formulization-Size-Technology-Culture-Forms and Outcomes-Explanations of Structures - IT Industry and Organizational Structures-Case Studies

2. ORGANIZATIONAL OUTCOMES

Organizational Power and Power Outcomes-Leadership and Decision Making-Communication and Organizational Change-Organizational Environments and Effects-Inter and Intra organizational Relationships-Organizational Effectiveness-Case Studies

3. BUSINESS PROCESS RE-ENGINEERING

Introduction to Business Process Re-engineering (BPR)-Meaning-Types-Process - Impetrative for Survival-Strategic Approach-Implementing Business Process Re-engineering-Methodology and Steps-Indian Scenario of Implementing BPR-Case Studies

4. BPR AND IT INDUSTRY

BPR and Information Technology Process-People View and Perspectives-Empowering People through IT-Managing Change in the Global Environment-BPR Rediscovering Indian Paradigm-Need of Reengineering-Case Studies

5. E-BUSINESS PROCESS

E-Business-Introduction-E-business vs. E-commerce-Execution of E-business-Trends-Design for Execution-Construction-Types-Organizational Frame Work and Implementation-E-business Application Areas (CRM, ERP, SCM and Selling)-E-business and India-Case Studies

TEXTBOOKS

1. Richard H.Hall, Organizations-Structures, Processes and Outcomes", Pearson Education, 2004
2. M.S.Jayaraman et. Al, "Business Process Reengineering", Tata Mc Graw Hill Publications, 2001
3. Ravi Kalakota and Marcia Robinson, "E-Business; Roadmap for Success; Pearson Education, 2000

REFERNCES

1. Gareth Jones, "Organizational Theory, Design and Change", Pearson Education, 4th Edition, 2004
2. Dave Chaffey, "E-business and E-Commerce" Pearson Education, 2nd Edition,2003

DMC1604 DATA STRUCTURES

1. DATA STRUCTURES

Introduction – Arrays – Structures – Stack: Definition and examples, Representing Stacks - Queues and lists: Queue and its Representation, lists – Applications of Stack, Queue and Linked Lists.

2. TREES

Binary Trees – Operations on binary trees - Binary Tree Representations – node representation, internal and external nodes, implicit array representation – Binary tree Traversals - Huffman Algorithm – Representing Lists as Binary Trees

3. SORTING AND SEARCHING

General Background – Exchange sorts – Selection and Tree Sorting – Insertion Sorts – Merge and Radix Sorts – Basic Search Techniques – Tree Searching – General Search Trees – Hashing.

4. GRAPHS AND THEIR APPLICATIONS

Graphs – An application of graphs – Representation – transitive closure - Warshall's algorithm – Shortest path algorithm - a flow Problem – Dijkstra's algorithm – An application of scheduling - Linked representation of Graphs – Graph Traversals

5. STORAGE MANAGEMENT

General Lists: Operations, linked list representation, using lists, Freeing list nodes - Automatic list Management: Reference count method, Garbage Collection, Algorithms, Collection and compaction

TEXTBOOK

1. Tanaenbaum A.S.,Langram Y.Augestein M.J "Data Structures using C" Pearson Education , 2004

REFERNCES

1. Robert Kruse & Clovis L. Tondo "Data Structures and Program Design in C", Prentice Hall , 2nd edition.,1991.
2. Weiss "Data Structures and Algorithm Analysis in C" Addison Wesley, Second Edition, 1997.

DMC1605 ACCOUNTING AND FINANCIAL MANAGEMENT

1. FINANCIAL ACCOUNTING

Meaning and Scope of Accounting-Principles-Concepts-Conventions-Accounting Standards-Final Accounts-Trail Balance-Trading Account-Profit and Loss Account-Balance Sheet-Accounting Ratio Analysis-Funds Flow Analysis-Cash Flow Analysis

2. ACCOUNTING

Meaning-Objectives-Elements of Cost-Cost Sheet-Marginal Costing and Cost Volume Profit Analysis-Break Even Analysis-Applications-Limitations-Standard Costing and Variance Analysis-Material-Labor-Overhead-Sales-Profit Variances

3. BUDGETS AND BUDGETING CONTROL

Budgets and Budgetary Control-Meaning-Types-Sales Budget-Production Budget-Cost of Production Budget-Flexible Budgeting-Cash Budget-Master Budget-Zero Base Budgeting-Computerized Accounting

4. INVESTMENT DECISION AND COST OF CAPITAL

Objectives and Functions of Financial Management-Risk-Return Relationship-Time Value of Money Concepts-Capital Budgeting-Methods of Appraisal-Cost of Capital Factors Affecting Cost of Capital-Computation for Each Source of Finance and Weighted Average Cost of Capital

5. FINANCING DECISION AND WORKING CAPITAL MANAGEMENT

Capital Structure-Factors Affecting Capital Structure-Dividend Policy-Types of Dividend Policy-Concepts of Working Capital-Working Capital Policies-Factors affecting Working Capital-Estimation of Working Capital Requirements

TEXTBOOK

1. S.N.Maheswari, “Financial and Management Accounting”, Sultan Chand & Sons, 2003
2. I.M.Pandey, ”Financial Management”, Vikas Publications, 4th Reprint, 2002

REFERENCES

1. S.P.Iyengar, “Cost and Management Accounting”, Sultan Chand & Co,
2. I.M.Pandey, “Elements of Management Accounting” Vikas Publishing House, 19993

DMC1606 PROGRAMMING and DATA STRUCTURES LABORATORY

- Simple C programs
- Files and Structures
- Array Implementation
- Dynamic Memory allocation
- Implementation of Stacks
- Linked List Implementation
- Queue Implementation
- Implementation of Binary Search Tree and Linear Search
- Sorting Algorithm, Simple sorting and Queue Sorting

SEMESTER II

DMC1651 MATHEMATICAL FOUNDATIONS OF COMPUTER SCIENCE

1. MATRIX ALGEBRA

Matrices, Rank of Matrix, Solving System of Equations-Eigen Values and Eigen Vectors-Inverse of a Matrix - Cayley Hamilton Theorem

2. BASIC SET THEORY

Basic Definitions - Venn Diagrams and set operations - Laws of set theory - Principle of inclusion and exclusion - partitions- Permutation and Combination - Relations- Properties of relations - Matrices of relations - Closure operations on relations - Functions - injective, subjective and bijective functions.

3. MATHEMATICAL LOGIC

Propositions and logical operators - Truth table - Propositions generated by a set, Equivalence and implication - Basic laws- Some more connectives - Functionally complete set of connectives- Normal forms - Proofs in Propositional calculus - Predicate calculus.

4. FORMAL LANGUAGES

Languages and Grammars-Phrase Structure Grammar-Classification of Grammars - Pumping Lemma For Regular Languages-Context Free Languages.

5. FINITE STATE AUTOMATA

Finite State Automata-Deterministic Finite State Automata (DFA), Non Deterministic Finite State Automata (NFA)-Equivalence of DFA and NFA-Equivalence of NFA and Regular Languages.

REFERENCES

1. Kenneth H.Rosen, " Discrete Mathematics and Its Applications", Tata McGraw Hill, Fourth Edition, 2002 (Unit 1,2 & 3).
2. Hopcroft and Ullman, "Introduction to Automata Theory, Languages and Computation", Narosa Publishing House, Delhi, 2002. (Unit 4,5)
3. A.Tamilarasi & A.M.Natarajan, "Discrete Mathematics and its Application", Khanna Publishers, 2nd Edition 2005.
4. M.K.Venkataraman "Engineering Mathematics", Volume II, National Publishing Company, 2nd Edition,1989.

DMC1652 OBJECT ORIENTED PROGRAMMING

1. OOP PARADIGAM

Programming Paradigms-Procedural Programming-Modularity-Exception Handling-Data Abstraction-User Defined Types-Concrete Types-Abstract Types-Virtual Functions-Object Oriented Programming-Generic Programming-Containers-Algorithms

2. INTRODUCTION TO C++

Overview of C++-Classes and Objects-Friend Functions-Friend Classes-Inline Function-Static Members-Arrays-Pointers-References-Dynamic Allocation

3. OVERLOADING

Function Overloading-Overloading Constructor Functions-Copy Constructors-Default Argument-Operator Overloading-Member Operator Overloading-Overloading new and delete

4. ADDITIONAL FEATURES

Inheritance-Base Class-Access Control-Virtual Functions-Pure Virtual Functions-Templates-Generic Functions-Applying Generic Functions-Generic Classes-Exception Handling-C++ I/O Streams-File I/O-STL-Overview-Container Classes-Lists-Maps-Algorithms Using Functions and Objects-String Class

5. DESIGN CONCEPTS

Role of Classes-Kinds of Classes-Concrete Types-Abstract Types-Nodes-Changing Interfaces-Object I/O-Actions-Interface Classes-Handles-Use Counts Applications frame works

REFERENCES

1. Herbert Schildt,"C++ The Complete Reference", Tata McGrawHill Edition, 2003 (unit 2, 3, 4)
2. Bjanne Stroustrup,"The C++ Programming Language",3rd Edition, Addison Wesley, 2000 (Unit 1 & 5)
3. Robert Lafore."Waite Groups OOP in Turbo C++",Galgotia Publications, 2001
4. Stanley, B.Lippman,Jove Lagrie,"C++Primer",3rd Edition, Addison Wesley,1998

DMC1653 DESIGN AND ANALYSIS OF ALGORITHMS

1. INTRODUCTION

Fundamentals of algorithmic problem solving – Important problem types – Fundamentals of the analysis of algorithm efficiency – analysis frame work – Asymptotic notations – Mathematical analysis for recursive and non-recursive algorithms.

2. DIVIDE AND CONQUER METHOD AND GREEDY METHOD

Divide and conquer methodology – Merge sort – Quick sort – Binary search – Binary tree traversal – Multiplication of large integers – Strassen's matrix multiplication – Greedy method – Prim's algorithm – Kruskal's algorithm – Dijkstra's algorithm.

3. DYNAMIC PROGRAMMING

Computing a binomial coefficient – Warshall's and Floyd' algorithm – Optimal binary search tree – Knapsack problem – Memory functions.

4. BACKTRACKING AND BRANCH AND BOUND

Backtracking – N-Queens problem – Hamiltonian circuit problem – Subset sum problem – Branch and bound – Assignment problem – Knapsack problem – Traveling salesman problem.

5. NP-HARD AND NP-COMPLETE PROBLEMS

P & NP problems – NP-complete problems – Approximation algorithms for NP-hard problems – Traveling salesman problem – Knapsack problem.

REFERENCES:

1. Anany Levitin "Introduction to the Design and Analysis of Algorithms" Pearson Education 2003.
2. 2.Thomas H.Cormen, Charles E.Leiserson, Ronald L.Rivest, "Introduction to algorithms" Prentice Hall 1990.

DMC1654 DATABASE MANAGEMENT SYSTEMS

1. INTRODUCTION

Database Systems vs. File Systems-View of Data- Data Models-Database Languages-Transaction Management-Database Systems Structure-History of Database Systems-Database Systems Applications-Entity Relationship Model

2. RELATIONAL DATABASES

SQL-Basic Structure-Set Operations-Complex Queries-Joined Queries-DDL-Embedded SQL-Dynamic SQL-Other SQL Functions-Query by Example-Integrity and Security of searching-Relational Database Design

3. DATA STORAGE AND INDEXING

Storage & File Structure-Disks-RAID-File Organization-Indexing &Hashing-B+ TREE-B Tree-Static Hashing-Dynamic Hashing-Multiple Key Access

4. QUERY EVALUATION & OPTIMIZATION

Query Processing - Selection Operation – Sorting - Join Operation - Evaluation of Expressions - Query Optimization

5. TRANSACTION MANAGEMENT

Transaction Concept-Static Implementation-Concurrency Control-Protocols-Deadlock Handling-Recovery Systems-Recovery with Concurrent Transactions-Shadow Paging-Buffer Management-Case Studies-Oracle-Microsoft SQL Server

REFERENCES

1. Abraham Silberschatz, Hentry F.Korth and S.Sudharssan,"Database System Concepts", 4th Edition, Tata McGraw Hill, 2002
2. Raghu Ramakrishnan & Johannesgerhrke, "Data Base Management Systems", Mc Graw Hill International Edition, 2000

DMC1655 OPERATING SYSTEMS

1. INTRODUCTION

Definition of OS-Mainframe System-Desktop Systems-Multi processor System-Distributed-Clustered-Real time Systems-Handheld Systems-Operating System Structure-System Components-Services-System Calls-System Programs-System Design and Implementation

2. PROCESS MANAGEMENT

Concepts-Process Scheduling-Operations on Processes-Co-operating Processes-Inter Process Communication-CPU Scheduling-Scheduling Concepts-Criteria-Scheduling Algorithms-Multiprocessor Scheduling-Real time Scheduling

3. PROCESS SYNCHRONIZATION

Critical Section-Synchronization Hardware-Semaphores-Problems of Synchroniza tion - Critical Regions-Monitors-Deadlocks-Characterization-Handling Deadlocks-Deadlock Prevention-Avoidance-Detection-Deadlock Recovery

4. MEMORY MANAGEMENT

Storage Hierarchy-Storage Management Strategies-Contiguous-Non Contigous Storage Allocation-Single User-Fixed Partition-Variable Partition-Swapping-Virtual Memory-Basic Concepts-Multilevel Organization-Block Mapping-Paging-Segmentation-Page Replacement Methods-Locality-Working Sets

5. I/O AND FILE SYSTEMS

Disk Scheduling-File Concepts-File System Structure-Access Methods-Directory Structure-Protection-Directory Implementation-Allocation Methods-Free Space Management-Case Study: Linux System

REFERENCES

1. Silberschatz and Galvin, Operating System Concepts, 6th Edition, John Wiley & Sons, Inc., 2004
2. Milankovic M., Operating System Concepts and Design, 2nd Edition, McGraw Hill, 1992
3. P.C.Bhatt, An Introduction to Operating Systems-Concepts and Practice, Prentice Hall Of India, 2004
4. H.M.Deitel, An Introduction to Operating Systems, 2nd Edition, Pearson Education, 2002

DBA1605 COMMUNICATION SKILLS

1. COMMUNICATION IN BUSINESS

Systems approach, forms of business communication, management and communication, factors facilitating communication.

2. COMMUNICATION PROCESS

Interpersonal perception, selective attention, feedback, variables, listening barriers to listening, persuasion, attending and conducting interviews, participating in discussions,
debates and conferences, presentation skills, paralinguistic features, oral fluency development.

3. BUSINESS CORRESPONDENCE

Business letter. Memos, minutes, agendas, enquiries, orders, sales letters, notice, tenders, letters of application, letter of complaints.

4. TECHNICAL REPORTS

Format, Choice of vocabulary, coherence and cohesion, paragraph writing, organization.

5. PROJECT REPORTS

Project proposal, project reports, appraisal reports.

TEXT BOOKS:

1. Sharan J.Genrson and Steven M.Gerson – "Technical Writing – Process and Product" – Pearson Education – 2000.
2. Raymond V.Lesikar, John D. Pettit and Mary E.Flatley – Lesikass Basic Communication Tata McGraw Will 8th Edition – 1999.
3. Stevel. E. Pauley, Daniel G.Riordan – Technical Report Writing Today – AITBS Publishing & Distributors, India 5th edition – 2000.
4. Robert L.Shurter, Effective letters in business Thrid Ed. 1983.

REFERENCES:

1. McGraith – Basic Managerial Skills for all Prentice Hall of India – 6th Edition 2002.
2. Halliday, M.A.Ky R.Hasan, Cohesion in English, Longman, London 1976.

DMC1656 OBJECT ORIENTED PROGRAMMING LABORATORY

- Recursive functions
- File handling operations
- Simple classes for understanding objects, member functions and constructors
- Handling constants in a class and constant objects
- String class implementation
- Dynamic memory allocation
- Iterator applications
- Operator overloading
- Functional overloading – templates
- Inheritance issues

DMC1657 DBMS LAB

- SQL – Triggers, stored procedures, queries, embedded sql
- Data definition of page tables and views
- Data manipulation and data control of base tables and views
- High level programming language extensions – PL/SQL and embedding with C/Java
- Stored procedures and Data base triggers
- Working with forms, menus and reports

SEMESTER – III

DMC1701 COMPUTER NETWORKS

1. INTRODUCTION

Building a network – Requirements – Network Architecture – OSI – Internet – Direct Link Networks – Hardware building blocks – Framing – Error detection – Reliable transmission.

2. NETWORK FUNDAMENTALS

LAN Technology – LAN Architecture – BUS/Tree – Ring – Star – Ethernet – Token Rings – Wireless.

3. NETWORK LAYER

Packet Switching – Switching and Forwarding – Bridges and LAN switches – Internetworking – Simple Internetworking – Routing.

4. TRANSPORT LAYER

Reliable Byte Stream (TCP) – Simple Demultiplexer (UDP) – TCP Congestion Control – Congestion Avoidance Mechanisms.

5. PRESENTATION LAYER and APPLICATIONS

Presentation formatting – Data compression – Cryptographic Algorithms: RSA - DES –– Applications – Domain Name Service – Email - SMTP – MIME – HTTP – SNMP.

TEXT BOOK

1. Larry L. Peterson & Bruce S. Davie, “Computer Networks - A systems Approach”, 2nd Edition, Harcourt Asia/Morgan Kaufmann, 2000.

REFERENCES

1. James F. Kurose and Keith W. Ross, “Computer Networking - A Top Down Approach featuring the Internet”, 1st Edition, Addison Wesley Publishing Company, 2001.
2. William Stallings, “Data and Computer Communications”, 5th Edition, PHI, 1997.
3. Andrew S. Tanenbaum, “Computer Networks”, Tata Mcgraw Hill, 3rd Edition, 2001.

DMC1702 MICROPROCESSORS AND ITS APPLICATIONS

1. INTRODUCTION TO 8085 MICRO PROCESSOR

Evolution of the Microprocessor - INTEL 8085- Introduction- Register Architecture - Memory Addressing - 8085 Addressing Modes -8085 Instruction Set -Timing Methods 8085 Pins and Signals -8085 Instruction Timing and Execution – Interrupts-DMA- Serial port-8085 Based System Design

2. INTRODUCTION TO 8086 MICROPROCESSOR

Introduction -8086 Architecture -8086 Addressing Modes -8086 Instruction Set – Data Movement Instructions Arithmetic and Logic Instructions - Program Control Instructions

3. 8086 MICROPROCESSOR INTERFACING

System Design Using 8086- Basic System concepts-Bus Cycle - Address and data bus concepts- interfacing with memories-RAM - EPROM - DRAMs - Programmed I/O : 8086-Based Microcomputer.

4. 80386 AND PENTIUM MICRO PROCESSORS

Introduction to Intel 80386- Basic Programming model - Memory Organization - I/O Space - 80386 pins and signals- Bus transfer techniques - 80386 Modes – Introduction to Intel Pentium Microprocessor: Block diagram and Registers.

5. PERIPHERAL INTERFACING

Keyboard Display Interface-Hex key and display interface to 8085, 8279 Keyboard display controller chip- Printer Interface: LR 7040 Printer interface using 8295 printer controller-CRT controller interface: CRT Fundamentals, 8275 CRT Controller- Coprocessors.

TEXT BOOK

1. Mohamed Rafiquzzaman “Introduction to Microprocessors and Microcomputer-Based System Design” 2nd edition, CRC Press,1995.

REFERENCES

1. Walter A.Triebel, Avtar Singh, “The 8088and8086 Microprocessors Programming, Interfacing, Software, Hardware and Applications”, Prentice Hall of India Pvt. Ltd., 2002.
2. Barry B.Brey,”The INTEL microprocessors 8086/8088, 80186, 80286, 80386 and 80486 Architecture, Programming and Interfacing,” Prentice Hall of India, 2001.

DMC1703 SOFTWARE ENGINEERING

1. INTRODUCTION

A Generic View of Process – Process Models-The Waterfall Model-Incremental Model-Evolutionary Model-Specialized Model-The Unified Process–Agile Process – Agile Models – Software Cost Estimation – Planning – Risk Analysis – Software Project Scheduling.

2. REQUIREMENT ANALYSIS

System Engineering Hierarchy – System Modeling – Requirements Engineering: Tasks- Initiating The Process-Eliciting Requirements-Developing Use Cases-Negotiating Requirements-Validating Requirements – Building the Analysis Models: Concepts

3. SOFTWARE DESIGN

Design Concepts – Design Models – Pattern Based Design – Architectural Design – Component Level Design – Component – Class Based And Conventional Components Design – User Interface – Analysis And Design

4. SOFTWARE TESTING

Software Testing – Strategies: Conventional - Object Oriented – Validation Testing – Criteria – Alpha – Beta Testing- System Testing – Recovery – Security – Stress – Performance - Testing Tactics – Testing Fundamentals-Black Box – While Box – Basis Path-Control Structure

5.SCM AND QUALITY ASSURANCE

Software Configuration And Management-Features-SCM Process-Software Quality Concepts – Quality Assurance – Software Review–Technical Reviews – Formal Approach To Software Quality Assurance – Reliability – Quality Standards – Software Quality Assurance Plan

TEXT BOOK

1. Roger Pressman.S., “Software Engineering: A Practitioner's Approach”, 6th Edition, Mcgraw Hill, 2005.

REFERENCES

1. P. Fleeger, “Software Engineering”, Prentice Hall, 1999.
2. Carlo Ghezzi, Mehdi Jazayari, Dino Mandrioli, “Fundamentals Of Software Engineering”, Prentice Hall Of India, 1991.
3. I. Sommerville, “Software Engineering”, 5th Edition: Addison Wesley, 1996.

DMC1704 COMPUTER GRAPHICS AND MULTIMEDIA SYSTEMS

1. INTRODUCTION

Overview of Graphics System - Bresenham technique – Line Drawing and Circle Drawing Algorithms - DDA - Line Clipping - Text Clipping.

2. 2D TRANSFORMATIONS

Two dimensional transformations – Scaling and Rotations - Interactive Input methods - Polygons - Splines – Bezier Curves - Window view port mapping transformation.

3. 3D TRANSFORMATIONS

3D Concepts - Projections – Parallel Projection - Perspective Projection – Visible Surface Detection Methods - Visualization and polygon rendering – Color models – XYZ-RGB-YIQ-CMY-HSV Models - animation – Key Frame systems - General animation functions - morphing.

4. OVERVIEW OF MULTIMEDIA

Multimedia hardware & software - Components of multimedia – Text, Image – Graphics – Audio – Video – Animation – Authoring.

5. MULTIMEDIA SYSTEMS AND APPLICATIONS

Multimedia communication systems – Data base systems – Synchronization Issues – Presentation requirements – Applications – Video conferencing – Virtual reality – Interactive video – video on demand

TEXT BOOKS

1. Hearn D and Baker M.P, “Computer graphics – C Version”, 2nd Edition, Pearson Education, 2004 (unit 1, 2 &3).
2. Ralf Steinmetz, Klara steinmetz, “Multimedia Computing, Communications and Applications”, Pearson education, 2004 (unit 4 & 5).

REFERENCES

1. Siamon J. Gibbs and Dionysios C. Tsichritzis, “Multimedia programming”, Addison Wesley, 1995.
2. John Villamil, Casanova and Leony Fernanadez, Eliar, “Multimedia Graphics”, PHI, 1998.

DMC1705 INTERNET PROGRAMMING

1. BASIC INTERNET CONCEPTS

Connecting to the Internet – Domain Name System - Exchanging E-mail – Sending and Receiving Files - Fighting Spam, Sorting Mail and avoiding e-mail viruses – Chatting and Conferencing on the Internet – Online Chatting - Messaging – Usenet Newsgroup – Internet Relay chat (IRC) – Instant Messaging - Voice and Video Conferencing.

2. WORLD WIDE WEB

Overview – Web Security, Privacy, and site-blocking – Audio and Video on the web – Creating and Maintaining the Web – Web site creation concepts – Web Page Editors – Optimizing Web Graphics – Web Audio Files – Forms, Interactivity, and Database-Driven Web sites – File Transfer and downloading – FTP – Peer to Peer – Downloading and Installing software.

3. JAVA FUNDAMENTALS

Java features – Java Platform – Java Fundamentals – Expressions, Operators, and Control Structures – Classes, Packages and Interfaces – Exception Handling.

4. PACKAGES

AWT package – Layouts – Containers – Event Package – Event Model – Painting – Garbage Collection - Multithreading – Language Packages.

5. ADVANCED JAVA PROGRAMMING

Utility Packages – Input Output Packages – Inner Classes – Java Database Connectivity - Servlets - RMI – Java Beans.

TEXT BOOKS

1. Margaret Levine Young, “Internet and WWW”, 2nd Edition, Tata McGraw Hill, 2002.
   (Unit 1 & 2)
2. Herbert Schildt, “The Complete Reference – Java 2” , 4th Edition, Tata McGraw Hill, 2001. (Unit 3, 4 & 5)

REFERENCES

1. Keyur shah, “Gateway to Java Programmer Sun Certification”, Tata Mc Graw Hill, 2002.
2. Deitel & Deitel, “Java How to Program”, Prentice Hall, 1999.

DMC1706 NETWORK PROGRAMMING LABORATORY

1. Retrieving data with URLs
2. Implementation of Socket Programming
    a. Using TCP/IP
    b. Using UDP
3. Implementation of FTP
4. Implementation of ECHO/PING/TALK
5. Implementation of Remote command Execution
6. Implementation of ARP
7. Implementation of RARP
8. Implementation of RMI / RPC
9. Implementation of Shortest Path Routing Algorithm
10. Implementation of Sliding Window Protocol

DMC1707 OPERATING SYSTEM LABORATORY

1. Implement the following CPU Scheduling Algorithms.
   i) FCFS ii) Round Robin iii) Shortest Job First .
2. Implement the Mutual Exclusion Problem Using Dekker's Algorithm.
3. Implement Inter Process Communication Problem (Producer-Consumer / Reader- Writer Problem) Using Semaphores.
4. Implement Best fit, First Fit Algorithm for Memory Management.
5. Implement Memory Allocation with Pages.
6. Implement FIFO page Replacement Algorithm.
7. Implement LRU page Replacement Algorithm.
8. Implement the creation of Shared memory Segment.
9. Implement File Locking.
10. Implement Banker's algorithm.

SEMESTER IV

DMC1751 UNIX AND NETWORK PROGRAMMING

1. INTRODUCTION & FILE SYSTEM

Overview of UNIX OS - File I/O – File Descriptors – File sharing - Files and directories – File types - File access permissions – File systems – Symbolic links - Standard I/O library – Streams and file objects – Buffering - System data files and information - Password file – Group file – Login accounting – system identification.

2. PROCESSES

Environment of a UNIX process – Process termination – command line arguments - Process control – Process identifiers - Process relationships terminal logins – Signals -threads.

3. INTERPROCESS COMMUNICATION

Introduction - Message passing (SVR4)- pipes – FIFO – message queues - Synchronization (SVR4) – Mutexes – condition variables – read – write locks – file locking – record locking – semaphores –Shared memory(SVR4).

4. SOCKETS

Introduction – transport layer – socket introduction - TCP sockets – UDP sockets - raw sockets – Socket options - I/O multiplexing - Name and address conversions.

5. APPLICATIONS

Debugging techniques - TCP echo client server - UDP echo client server - Ping - Trace route - Client server applications like file transfer and chat.

TEXT BOOKS

1. W.Richard Stevens, “Advanced programming in the UNIX environment”, Addison Wesley, 1999.(Unit 1,2 &3)
2. W. Stevens, Bill Fenner, Andrew Rudoff, “Unix Network Programming”, Volume 1, The Sockets Networking API,3rd Edition, Pearson education, Nov 2003.(unit 4 & 5)

REFERENCE BOOKS

1. Meeta Gandhi,Tilak Shetty and Rajiv Shah “The ‘C’ Odyssey Unix –The open Boundless C”, 1st Edition ,BPB Publications1992.

DMC1752 RESOURCE MANAGEMENT TECHNIQUES

1. LINEAR PROGRAMMING MODELS

Mathematical Formulation - Graphical Solution of linear programming models – Simplex method – Artificial variable Techniques- Variants of Simplex method

2.TRANSPORTATION AND ASSIGNMENT MODELS

Mathematical formulation of transportation problem- Methods for finding initial basic feasible solution – optimum solution - degeneracy – Mathematical formulation of assignment models – Hungarian Algorithm – Variants of the Assignment problem

3. INTEGER PROGRAMMING MODELS

Formulation – Gomory's IPP method – Gomory's mixed integer method – Branch and bound technique.

4. SCHEDULING BY PERT AND CPM

Network Construction – Critical Path Method – Project Evaluation and Review Technique – Resource Analysis in Network Scheduling

5. QUEUEING MODELS

Characteristics of Queuing Models – Poisson Queues - (M / M / 1) : (FIFO / ∞ /∞), (M / M / 1) : (FIFO / N / ∞), (M / M / C) : (FIFO / ∞ / ∞), (M / M / C) : (FIFO / N / ∞) models.

TEXT BOOKS

1. Taha H.A., "Operations Research : An Introduction", 7th Edition, Pearson Education, 2004.

REFERENCES

1. A.M.Natarajan, P.Balasubramani, A.Tamilarasi, "Operations Research", Pearson Education, Asia, 2005.
2. Prem Kumar Gupta, D.S. Hira, "Operations Research", S.Chand & Company Ltd, New Delhi, 3rd Edition , 2003.

DMC1753 OBJECT ORIENTED ANALYSIS AND DESIGN

1. INTRODUCTION

An overview – Object basics – Object state and properties – Behavior – Methods – Messages – Information hiding – Class hierarchy – Relationships – Associations – Aggregations- Identity – Dynamic binding – Persistence – Metaclasses – Object oriented system development life cycle.

2. METHODOLOGY AND UML

Introduction – Survey – Rumbugh, Booch, Jacobson methods – Patterns – Frameworks – Unified approach – Unified modeling language – Static and Dynamic models – UML diagrams – Class diagram – Usecase diagrams – Dynamic modeling – Model organization – Extensibility.

3. OBJECT ORIENTED ANALYSIS

Identifying Usecase – Business object analysis – Usecase driven object oriented analysis – Usecase model – Documentation – Classification – Identifying object, relationships, attributes, methods – Super-sub class – A part of relationships Identifying attributes and methods – Object responsibility

4. OBJECT ORIENTED DESIGN

Design process – Axions – Cololllaries – Designing classes – Class visibility – Refining attributes – Methods and protocols – Object storage and object interoperability – Databases – Object relational systems – Designing interface objects – Macro and Micro level processes – The purpose of a view layer interface

5. SOFTWARE QUALITY

Quality assurance – Testing strategies – Object orientation testing – Test cases – Test Plan – Debugging principles – Usability – Satisfaction – Usability testing – Satisfaction testing

TEXT BOOKS

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

REFERENCES

1. Craig Larman, “Applying UML and Patterns”, 2nd Edition, Pearson, 2002.
2. Grady Booch, James Rumbaugh, Ivar Jacobson, “The Unified Modeling Language User Guide”, Addison Wesley Long man, 1999.
3. Bernd Bruegge, Allen H. Dutoit, “Object Oriented Software Engineering using UML, Patterns and Java”, Pearson, 2004.

DMC1754 MIDDLEWARE TECHNOLOGIES

1. CLIENT / SERVER CONCEPTS

Client – Server – File Server, Database server, Group server, Object server, Web server .Middleware – General middleware – Service specific middleware. Client / Server Building blocks – RPC – Messaging – Peer – to- Peer.

2. EJB ARCHITECTURE

EJB – EJB Architecture – Overview of EJB software architecture – View of EJB – Conversation – Building and Deploying EJBs – Roles in EJB.

3. EJB APPLICATIONS

EJB Session Beans – EJB entity beans – EJB clients – EJB Deployment – Building an application with EJB.

4. CORBA

CORBA – Distributed Systems – Purpose - Exploring CORBA alternatives – Architecture overview – CORBA and networking model – CORBA object model – IDL – ORB - Building an application with CORBA.

5. COM

COM – Data types – Interfaces – Proxy and Stub – Marshalling – Implementing Server / Client – Interface Pointers – Object Creation, Invocation , Destruction – Comparison COM and CORBA – Introduction to .NET – Overview of .NET architecture – Marshalling - Remoting.

TEXT BOOKS

1. Robert Orfali, Dan Harkey and Jeri Edwards, “The Essential Client/Server Survival Guide”, Galgotia Publications Pvt. Ltd., 2002. (Unit 1)
2. Tom Valesky, “Enterprise Java Beans”,Pearson Education, 2002.(Unit 2 & 3)
3. Jason Pritchard, “COM and CORBA side by side”, Addison Wesley,2000 (Unit 4 & 5)
4. Jesse Liberty, “Programming C#”, 2nd Edition, O’Reilly Press, 2002. (Unit 5)

REFERNCES

1. Mowbray,”Inside CORBA”, Pearson Education, 2002.
2. Jeremy Rosenberger, “Teach yourself CORBA in 14 days”, Tec media, 2000.

DMC1755 VISUAL PROGRAMMING

1. INTRODUCTION

Introduction to Widows Programming – Event Driven Programming – Data Types – Resources – Window Message – Device Context – Document Interfaces – Dynamic Linking Libraries – Software Development Kit (SDK) Tools – Context Help.

2. CONTROLS AND TOOLBARS

Visual Basic Programming – Forum Design – VBX Controls – Properties – Event Procedures – Menus and Toolsbars – Using Dialog Boxes – Working with Control Arrays – Active X Controls – Multiple Documents Interface (MDI) – File System Controls – Data Control – Database Applications.

3. VISUAL C++ PROGRAMMING AND CONTROLS

Visual C++ Programming – Frame Work Classes – VC++ Components – Resources – Event Handling – Message Dispatch System – Model and Modeless Dialogs – Important VBX Controls – Document view Architecture – Serialization – Multiple Document Interface – Splitter Windows – Coordination Between Controls.

4. DATABASE APPLICATIONS

Database Connectivity – Min Database Applications – Embedding Controls in View – Creating user defined DLL's – Dialog Based Applications – Dynamic Data Transfer Functions – Data Base Management with ODBC – Communicating with other applications – Object Linking and Embedding.

5. GUI DESIGN AND FILE HANDLING

Basics of GUI Design – Visual Interface Design – File System – Storage and Retrieval System – Simultaneous Multi Platform Development.

TEXT BOOKS

1. Petzold, "Windows Programming", Microsoft Press, 1995.
2. Marion Cottingham, "Visual Basic", Peachpit Press, 1999.
3. Kate Gregory, "Using Visual C++", Prentice Hall of India Pvt. Ltd. 199.

REFERENCES

1. Pappar and Murray, "Visual C++ : The Complete Reference", Tata McGraw Hill, 2000.
2. Brian Siler and Jeff Spotts, "Using Visual Basic 6", Prentice Hall of India, New Delhi, 2002.

MC1708 INTERNET PROGRAMMING LAB

1. Program to illustrate the use of overloading and overriding.
2. Program to implement the concept of Interfaces and packages.
3. Generate the program using exceptions handling mechanism.
4. Program to achieve Inter thread communication and deadlock avoidance.
5. Implement the file operations.
6. Program using Applets.
7. Program using JDBC.
8. Program using JNI concepts.
9. Program to illustrate the use of Remote Method Invocation.
10. Program using Servlets.

DMC1706 GRAPHICS AND MULTIMEDIA LAB

1. Write a C program with Fundamental Graphics Function
2. Write a C program for Line drawing using Bresenham, DDA Line Drawing Algorithms.
3. Write a C program for Circle Drawing using Bresenham Circle Drawing Algorithms.
4. Write a C program for Clipping Algorithm using Line Clipping.
5. Write a C program for 2D Transformations like Translations and Scaling and Rotations.
6. Write a C program for 3D Transformations like Translations and Scaling and Rotations.
7. Create Frame by Frame Animations using multimedia authoring tools.
8. Develop a presentation for a product using techniques like Guide Layer, masking and onion Skin using authoring tools.
9. Create a Jpeg image which demonstrates the various features of an image editing tool.
10. Demonstrate Rasterization and filtering of layers and give blending effects for a logo

SEMESTER V

DMC1801 XML AND WEB SERVICES

1. INTRODUCTION

Role Of XML – XML and The Web – XML Language Basics – SOAP – Web Services – Revolutions Of XML – Service Oriented Architecture (SOA).

2. XML TECHNOLOGY

XML – Name Spaces – Structuring With Schemas and DTD – Presentation Techniques – Transformation – XML Infrastructure.

3. SOAP

Overview Of SOAP – HTTP – XML-RPC – SOAP: Protocol – Message Structure – Intermediaries – Actors – Design Patterns And Faults – SOAP With Attachments.

4. WEB SERVICES

Overview – Architecture – Key Technologies - UDDI – WSDL – ebXML – SOAP And Web Services In E-Com – Overview Of .NET And J2EE.

5. XML SECURITY

Security Overview – Canonicalization – XML Security Framework – XML Encryption – XML Digital Signature – XKMS Structure – Guidelines For Signing XML Documents – XML In Practice.

TEXT BOOKS

1. Frank. P. Coyle, “XML, Web Services And The Data Revolution”, Pearson Education, 2002.

REFERENCES

1. Ramesh Nagappan , Robert Skoczylas and Rima Patel Sriganesh, “ Developing Java Web Services”, Wiley Publishing Inc., 2004.
2. Sandeep Chatterjee, James Webber, “Developing Enterprise Web Services”, Pearson Education, 2004.
3. McGovern, et al., “Java Web Services Architecture”, Morgan Kaufmann
4. Publishers,2005.

DMC1802 SOFTWARE PROJECT MANAGEMENT

1. INTRODUCTION

Introduction to Competencies - Product Development Techniques - Management Skills - Product Development Life Cycle - Software Development Process and models - The SEI CMM - International Organization for Standardization.

2. DOMAIN PROCESSES

Managing Domain Processes - Project Selection Models - Project Portfolio Management - Financial Processes - Selecting a Project Team - Goal and Scope of the Software Project - Project Planning - Creating the Work Breakdown Structure - Approaches to Building a WBS - Project Milestones - Work Packages - Building a WBS for Software.

3. SOFTWARE DEVELOPMENT

Tasks and Activities - Software Size and Reuse Estimating - The SEI CMM - Problems and Risks - Cost Estimation - Effort Measures - COCOMO: A Regression Model - COCOMO II - SLIM: A Mathematical Model - Organizational Planning - Project Roles and Skills Needed.

4. SCHEDULING ACTIVITIES

Project Management Resource Activities - Organizational Form and Structure - Software Development Dependencies - Brainstorming - Scheduling Fundamentals - PERT and CPM - Leveling Resource Assignments - Map the Schedule to a Real Calendar - Critical Chain Scheduling.

5. QUALITY ASSURANCE

Quality: Requirements – The SEI CMM - Guidelines - Challenges - Quality Function Deployment - Building the Software Quality Assurance - Plan - Software Configuration Management: Principles - Requirements - Planning and Organizing - Tools - Benefits - Legal Issues in Software - Case Study.

TEXT BOOK

1. Robert T. Futrell, Donald F. Shafer, Linda I. Safer, “Quality Software Project Management”, Pearson Education, Asia, 2002.

REFERENCES

1. Pankaj Jalote, “Software Project Management in Practice”, Addison Wesley, 2002.
2. Hughes, “Software Project Management, 3/E”, Tata McGraw-Hill, 2004.

DMC1803 JAVA PROGRAMMING LAB

1. Simple Java Applications
    a. For understanding reference to an instance of a class(object), methods
    b. Handling strings in Java

2. Simple Package Creation
    a. Developing user defined packages in java

3. Interface
    a. Developing user-defined interfaces and implementation
    b. Use of predefined interfaces

4. Threading
    a. Creation of thread in Java applications
    b. Multithreading

5. Exception Handling Mechanism and Java
    a. Handling pre-defined exceptions
    b. Handling user-defined exceptions

6. Java Database Connectivity

DMC1804 SOFTWARE DEVELOPMENT LAB

Develop Software using CASE tools for the applications like :

1. Online railway reservation system
2. Payroll processing application
3. Inventory system
4. Automating the banking process
5. Software for game
6. Library management system
7. Create a dictionary
8. Text editor
9. Telephone directory
10. Create an E-Book of your choice

Software required:

- **Languages**: C/C++/Java/JSDK/Web browser.
- Any front end tool (like VB, VC++, Developer 2000) etc
- **Any backend tool** (Oracle, Ms-Access, SQL) etc.
- **Any CASE tool**

LIST OF ELECTIVES

General Electives

DMC1621 ELECTRONIC COMMERCE

1. INTRODUCTION

Networks and Commercial Transactions - Internet and Other Novelties - Electronic Transactions Today - Commercial Transactions - Establishing Trust - Internet Environment - Internet Advantage - World Wide Web.

2. SECURITY TECHNOLOGIES

Why Internet Is Unsecure - Internet Security Holes - Cryptography : Objective - Codes and Ciphers - Breaking Encryption Schemes - Data Encryption Standard - Trusted Key Distribution and Verification - Cryptographic Applications - Encryption - Digital Signature - Nonrepudiation and Message Integrity.

3. ELECTRONIC PAYMENT METHODS

Traditional Transactions : Updating - Offline and Online Transactions - Secure Web Servers - Required Facilities - Digital Currencies and Payment Systems - Protocols for the Public Transport - Security Protocols - SET - Credit Card Business Basics.

4. ELECTRONIC COMMERCE PROVIDERS

Online Commerce Options - Functions and Features - Payment Systems : Electronic, Digital and Virtual Internet Payment System - Account Setup and Costs - Virtual Transaction Process - InfoHaus - Security Considerations – CyberCash: Model - Security - Customer Protection - Client Application - Selling through CyberCash.

5. ONLINE COMMERCE ENVIRONMENTS

Servers and Commercial Environments - Payment Methods - Server Market Orientation - Netscape Commerce Server - Microsoft Internet Servers - Digital Currencies - DigiCash - Using Ecash - Ecash Client Software and Implementation - Smart Cards - The Chip - Electronic Data Interchange - Internet Strategies, Techniques and Tools.

TEXT BOOK

1. Pete Loshin, “Electronic Commerce”, 4th Edition, Firewall media, An imprint of laxmi publications Pvt. Ltd., New Delhi, 2004.

REFERENCES

1. Jeffrey F.Rayport and Bernard J. Jaworski, “Introduction to E-Commerce”, 2nd Edition, Tata Mc-Graw Hill Pvt., Ltd., 2003.
2. Greenstein, “Electronic Commerce”, Tata Mc-Graw Hill Pvt., Ltd., 2000.

General Electives

DMC1622 MANAGEMENT INFORMATION SYSTEMS

1. SYSTEM CONCEPTS

Definition – Computer based user machine system – Integrated system – Need for a database – Utilization of models – Evolution – Subsystems – Organizational subsystems – Activities subsystems.

2.ORGANIZATIONAL STRUCTURE

Basic model – Hierarchical – Specialization – Formalization – Centralization – Modifications of basic organizational structure – Project organization – Lateral relations – Matrix organization – Organizational culture and power organizational change

3. STRUCTURE OF MIS

Operating elements – Physical components – Processing functions – Outputs – MIS support for decision making – Structured programmable decisions – Unstructured non-programmable decisions – MIS structure based on management activity and organizational functions – Synthesis of MIS structure

4. SYSTEM SUPPORT

Data representation – Communication network – Distributed systems – Logical data concepts – Physical storage devices – File organizations – Data base organization – Transaction processing

5. DEVELOPMENT AND MANAGEMENT

A contingency approach to choosing an application – Developing strategy – Lifecycle definition stage – Lifecycle development stage – Lifecycle installation and operation stage – Project management

TEXT BOOK

1. Gordon B. Davis, Margrethe H. Olson, “Management Information Systems: Conceptual foundations, Structure and development” 2nd Edition , Tata-Mc Graw hill International book company, 2000.

REFERENCES

1. E.Wainright Martin, Carol V. Brown, Danial W. DeHayes, Jeffrey A. Hoffer, William
2. C. Perkins, “Managing Information Technology” 3rd Edition, Prentice Hall International edition 1999.
3. Harold Koontz, Heinz Weihrich, “Essentials of Management”, 5th Edition, Tata McGraw Hill 1998.

General Electives

DMC1623 WEB GRAPHICS

1. INTRODUCTION

HTML coding - Basic web graphics - Web page design and site building - Image maps - Adding multimedia to the web.

2. PAINT SHOP PRO/PHOTOSHOP

Introduction - Image Basics - File Formats - GIF - JPEG - Color Palette - Layers - Creating new Images - Brushes - Grids - Scaling Images - Moving and Merging Layers - Tool Palette - Screen capturing - Grey styling - Using style Palette - Animation.

3. IMAGE HANDLING

Scanning Images - Adding Text to the images - Designing icons - Creating background images - Color models - Color depths - Color calibration - Creating gradients - Oil paint effect.

4. MULTIMEDIA

Creating clippings - Animations with sound effects - Adding audio or Video - Windows Media Player ActiveX Control - Agent control - Embedding VRML in a web page - Real Player ActiveX control.

5. APPLICATIONS

Creating web site with a particular theme using all the utilities - Graphics - Animations and Interaction.

TEXT BOOKS

1. Richard Schrand, “Photoshop 6 Visual Jumpstrat”, Adobe Press, 2000. (Unit 1,2 & 3)
2. James L. Mohles, “Flash 5.0 Graphics, Animation & Interaction”, Macromedia 2000. (Unit 4 & 5)

REFERENCES

1. Deitel, “Internet and World Wide Web How to program”, Prentice Hall 2003.
2. Robert Reinhardt, Jon Warren Lentz , “Flash 5 Bible”, Hungry Minds Inc, 2001.

General Electives

DMC1624 HUMAN RESOURCE MANAGEMENT

1. LEADERSHIP

Technical Leadership - Leader's Goal, Conviction, Vision - Transformational and Transactional Leadership - Leader's Vision - Professionalism : Importance, Elements-Managing Awareness -Performance -Manager's Role in Professionalism.

2. MANAGING TECHNICAL AND PROFESSIONAL PEOPLE

Goals of Engineers and Scientists - Work Assignment - Need for Influence - Professional Career and Goals - Age and Creativity - Performance - Motivation - Employee Partnership - Career Risks - Technical Competence - Professional Discipline - Manager's Role in Professional Discipline - Guidelines.

3. IDENTIFICATION AND DEVELOPMENT OF TALENTED PEOPLE

Talented Professionals – Importance - Characterization - Identification – Assessment and Recognizing Talent - Development - Development Needs - Counseling.

4. INNOVATION

The Importance of Innovation - Risk of Failure - Nature of Creativity - Imagination - Managing Innovative Teams - Needs of Creative Teams - Team Dynamics - A Software Development Example - Manager's Responsibility - Team's Personal Needs - Political versus Technical Solutions - Team Synergism.

5. TEAM ENVIRONMENT AND RECOGNITION

Innovative Team Environment -Award Programs - Recognition Programs - An Example Award Plan - Industry Award Plans - Award Guidelines - Incentive Plans - A Caution on Recognition Programs

TEXT BOOK

1. Watts S. Humphrey, “Managing Technical People: Innovation, Teamwork, and the Software Process”, Addison-Wesley, 1996.

REFERENCES

1. Biswajeet Pattanayak, “Human Resource Management”, Prentice Hall of India, 2002.
2. K. Aswathappa, “Human Resource and Personnel Management text and cases”, Tata Mc-Graw Hill publishing Co. Ltd., 2002.

General Electives

DMC1625 ADVANCED DATABASES

1. RELATIONAL DATABASES

Relational Model - Querying - Storage Structures - Query Processing - Normalization.

2. OBJECT ORIENTED DATABASES

Introduction to Object Oriented Data Bases - Approaches - Modeling and Design - Persistence - Transaction - Concurrency - Recovery - Database Administration.

3. EMERGING SYSTEMS

Enhanced Data Models - Client/Server Model - Data Warehousing and Data Mining - Web Databases – Mobile Databases.

4. CURRENT ISSUES

Rules - Knowledge Bases - Active and Deductive Databases - Distributed Databases and Parallel databases.

5. DATABASE DESIGN ISSUES

Security - Integrity - Consistency - Database Tuning - Optimization and Research Issues.

TEXT BOOK

1. R. Elmasri and S.B. Navathe, “Fundamentals of Database Systems”, Addison Wesley, 2000.

REFERENCES

1. Gary W. Hanson and James V. Hanson, “Database Management and Design”, Prentice Hall of India Pvt Ltd, 1999.
2. Alex Benson, Stephen Smith and Kurt Thearling, “Building Data Mining Applications for CRM”, Tata McGraw-Hill, 2000.

General Electives

DMC1626 SOFTWARE QUALITY MANAGEMENT

1. INTRODUCTION

Software Process assessment overview - Assessment phases - Assessment principles - Assessment conduct -Implementation consideration - Quality management - Quality assurance plan - Considerations – Verification and Validation.

2. CONFIGURATION MANAGEMENT

Need for configuration Management - Software product nomenclature - configuration management functions - Baselines - Responsibilities - Need for automated tools - plan – SCM support functions - The requirement phase Design control - The implementation phase - Test phase - SCM Tools - Configuration accounting and audit.

3. SOFTWARE STANDARDS AND INSPECTION

Definitions - Reason for software standards - Benefits - Establishing standards - Guidelines - Types of reviews - Inspection of objectives - Basic inspection principles - The conduct of inspection - Inspection training.

4. TESTING AND MANAGING SOFTWARE QUALITY

Testing: principles - Types - Planning - Development - Execution and reporting – Tools and methods - Real Time testing - quality management paradigm - Quality motivation – Measurement criteria - Establishing a software quality program - Estimating software quality.

5. DEFECT PREVENTION

Principles of software defect prevention - Process changes for defect prevention - Defect prevention considerations - Managements role - Framework for software process change - Managing resistance to software process change - Case studies.

TEXT BOOK

1. Watts S. Humphrey, “Managing the software process”, Addison Wesley, 1999.

REFERENCES

1. Tsum S.Chow, “Software Quality Assurance a Practical Approach”, IEEE Computer Society press, 1985.
2. Richard E. Fairley, “Software Engineering - A Practitioner’s approach”, McGraw Hill, 1982.

General Electives

DMC1627 TCP/IP PROTOCOL SUITE

1. INTRODUCTION

Standards – Internet – History- OSI model – Protocol suite – Addressing – Transmission media – Local Area and Wide Area Networks – Switching – Connecting devices – IP addressing

2. INTERNET PROTOCOL

Subnetting – Supernetting – IP packets – Delivery – Routing – Routing model – Routing table – Datagram – Fragmentation – Checksum – IP Design – ARP – RARP – Internet control message protocol – Internet group management protocol

3. TRANSMISSION CONTROL PROTOCOL

User Datagram protocol – UDP operation – Use – UDP design – TCP services – Flow control – Error control – TCP operation and design – connection – Transition diagram – Congestion control

4. APPLICATION LAYER AND CLIENT SERVER MODEL

Concurrency – BOOTP – DHCP – Domain name system – Name space – Distribution – Resolution – Messages – Telnet – Rlogin – Network Virtual Terminal – Character Set – Controlling the server – Remote login

5. APPLICATION PROTOCOLS

File Transfer Protocol – Connections – Communication – Simple Mail Transfer Protocol – Simple Network Management Protocol – Hyper Text Transfer Protocol – Transaction – Request and Response messages

TEXT BOOK

1. Behrouz A. Forouzan, “TCP/IP Protocol Suite”, Tata McGraw Hill Edition 2000.

REFERENCE

1. Douglas E. Comer, David L. Stevens, “Internetworking with TCP/IP – Volume I, II and III”, Prentice-Hall of India Pvt. Ltd., 2nd Edition 1994

General Electives

DMC1628 DATA WAREHOUSING AND DATA MINING

1. INTRODUCTION

Relation To Statistics, Databases- Data Mining Functionalities-Steps In Data Mining Process-Architecture Of A Typical Data Mining Systems- Classification Of Data Mining Systems - Overview Of Data Mining Techniques.

2. DATA PREPROCESSING AND ASSOCIATION RULES

Data Preprocessing-Data Cleaning, Integration, Transformation, Reduction, Discretization Concept Hierarchies-Concept Description: Data Generalization And Summarization Based Characterization- Mining Association Rules In Large Databases.

3. PREDICTIVE MODELING

Classification And Prediction: Issues Regarding Classification And Prediction-Classification By Decision Tree Induction-Bayesian Classification-Other Classification Methods-Prediction-Clusters Analysis: Types Of Data In Cluster Analysis- Categorization Of Major Clustering Methods: Partitioning Methods – Hierarchical Methods

4. DATA WAREHOUSING

Data Warehousing Components -Multi Dimensional Data Model- Data Warehouse Architecture-Data Warehouse Implementation- -Mapping the Data Warehouse to Multiprocessor Architecture- OLAP.-Need- Categorization of OLAP Tools.

5. APPLICATIONS

Applications of Data Mining-Social Impacts Of Data Mining-Tools-An Introduction To DB Miner-Case Studies-Mining WWW-Mining Text Database-Mining Spatial Databases.

TEXT BOOK

1. Jiawei Han, Micheline Kamber, "Data Mining: Concepts and Techniques", Morgan Kaufmann Publishers, 2002.

REFERENCES

1. Alex Berson,Stephen J. Smith, “Data Warehousing, Data Mining,& OLAP”, Tata McGraw- Hill, 2004.
2. Usama M.Fayyad, Gregory Piatetsky - Shapiro, Padhrai Smyth And Ramasamy Uthurusamy, "Advances In Knowledge Discovery And Data Mining", The M.I.T Press, 1996.
3. Ralph Kimball, "The Data Warehouse Life Cycle Toolkit", John Wiley & Sons Inc., 1998.
4. Sean Kelly, "Data Warehousing In Action", John Wiley & Sons Inc., 1997.

General Electives

DMC1629 COMPONENT BASED TECHNOLOGY

1. INTRODUCTION

Definition - Industrialization of software development - CBD drivers and benefits - Technology evolution - Components and network computing

2. FUNDAMENTALS

Basic concepts of CBD - Scenarios for CBD - Evolution or revolution - Build,find and use components and objects.

3. MODELS

Basic concepts of object models - Components and interfaces - Working with interfaces - Component and interface modeling - Specification models - domain modeling - Describing classes - Patterns and frameworks.

4. Using CBD

Categorizing & deploying components - CORBA, DCOM.

5. FRAMEWORKS

Class libraries - Encapsulated components - Software frameworks - Pre - built applications.

TEXT BOOK

1. Kuth Short, “Component Based Development and Object Modeling”, Sterling software,1997.

REFERENCE

1. Clemens Szyperski, “Component software - Beyond object - Oriented programming”, Addison - Wesley, 2000.

General Electives

DMC1630 MOBILE COMPUTING

1. INTRODUCTION

Medium Access Control : Motivation for Specialized MAC- SDMA- FDMA- TDMA- CDMA- Comparison of Access mechanisms – Tele communications : GSM- DECT- TETRA – UMTS- IMT-200 – Satellite Systems: Basics- Routing- Localization- Handover- Broadcast Systems: Overview – Cyclic Repetition of Data- Digital Audio Broadcasting – Digital Video Broadcasting

2. WIRELESS NETWORKS

Wireless LAN: Infrared Vs Radio Transmission – Infrastructure Networks- Ad hoc Networks- IEEE 802.11 – HIPERLAN – Bluetooth- Wireless ATM: Working Group- Services- Reference Model – Functions – Radio Access Layer – Handover- Location Management- Addressing Mobile Quality of Service- Access Point Control Protocol

3. MOBILE NETWORK LAYER

Mobile IP : Goals – Assumptions and Requirement – Entities – IP packet Delivery- Agent Advertisement and Discovery – Registration – Tunneling and Encapsulation – Optimization – Reverse Tunneling – IPv6 – DHCP- Ad hoc Networks

4. MOBILE TRANSPORT LAYER

Traditional TCP- Indirect TCP- Snooping TCP- Mobile TCP- Fast retransmit/ Fast Recovery- Transmission/ Timeout Freezing – Selective Retransmission- Transaction Oriented TCP

5. WAP

Architecture – Datagram Protocol- Transport Layer Security- Transaction Protocol- Session Protocol- Application Environment-Wireless Telephony Application

TEXT BOOK

1. J.Schiller, “Mobile Communication”, Addison Wesley, 2000.

REFERENCE BOOKS

1. William C.Y.Lee, “Mobile Communication Design Fundamentals”, John Wiley, 1993.
2. William Stallings, “Wireless Communication and Networks”, Pearson Education, 2003.
3. Singhal, “WAP-Wireless Application Protocol”, Pearson Education, 2003.

General Electives

DMC1631 ENTERPRISE RESOURCE PLANNING

1. INTRODUCTION TO ERP

Integrated Management Information Seamless Integration – Supply Chain Management – Integrated Data Model – Benefits of ERP – Business Engineering and ERP – Definition of Business Engineering – Principle of Business Engineering – Business Engineering with Information Technology.

2. BUSINESS MODELLING FOR ERP

Building the Business Model – ERP Implementation – An Overview – Role of Consultant, Vendors and Users, Customisation – Precautions – ERP Post Implementation Options-ERP Implementation Technology –Guidelines for ERP Implementaion.

3. ERP AND THE COMPETITIVE ADVANTAGE

ERP domain MPGPRO – IFS/Avalon – Industrial and Financial Systems – Baan IV SAP-Market Dynamics and Dynamic Strategy.

4. COMMERCIAL ERP PACKAGE

Description – Multi-Client Server Solution – Open Technology – User Interface-Application Integration.

5. ARCHITECTURE

Basic Architectural Concepts – The System Control Interfaces – Services – Presentation Interface – Database Interface.

TEXT BOOK

1. Vinod Kumar Garg and N.K.Venkita Krishnan, “Enterprise Resource Planning – Concepts and Practice”, PHI, 1998.

REFERENCE

1. Jose Antonio Fernandz, “The SAP R/3 Handbook”, TMH, 1998.

General Electives

DMC1632 SOFTWARE AGENTS

1. AGENT AND USER EXPERIENCE

Interacting with Agents - Agent From Direct Manipulation to Delegation - Interface Agent Metaphor with Character - Designing Agents - Direct Manipulation versus Agent Path to Predictable

2. AGENTS FOR LEARNING IN INTELLIGENT ASSISTANCE

Agents for Information Sharing and Coordination - Agents that Reduce Work Information Overhead - Agents without Programming Language - Life like Computer character - S/W Agents for cooperative Learning - Architecture of Intelligent Agents

3. AGENT COMMUNICATION AND COLLABORATION

Overview of Agent Oriented Programming - Agent Communication Language - Agent Based Framework of Interoperability

4. AGENT ARCHITECTURE

Agents for Information Gathering - Open Agent Architecture - Communicative Action for Artificial Agent

5. MOBILE AGENTS

Mobile Agent Paradigm - Mobile Agent Concepts -Mobile Agent Technology - Case Study: Tele Script, Agent Tel

TEXT BOOKS

1. Jeffrey M.Bradshaw," Software Agents ", MIT Press, 2000. (Unit 1,2,3 & 4)
2. William R. Cockayne, Michael Zyda, “Mobile Agents", Prentice Hall, 1998 (5th Unit)

REFERENCES

1. Russel & Norvig, " Artificial Intelligence: A Modern Approach ", Prentice Hall, 2nd Edition, 2002
2. Joseph P.Bigus & Jennifer Bigus, “Constructing Intelligent agents with Java: A Programmer's Guide to Smarter Applications ", Wiley, 1997.

General Electives

DMC1633 SUPPLY CHAIN MANAGEMENT

1.BASIC CONCEPTS

Introduction to supply chain management (SCM) – concept of SCM – Components of SCM, an overview – features of SCM – strategic issues in SCM – Systems View - SCM current scenario – value chain management and customer relations management**.**

2.INTERFACES WITH OTHER DISCIPLINES

Marketing and Supply Chain Interface – Customer focus in SCM – Demand planning Purchase planning – Make or Buy decision – Indigenous and global sourcing – Development and management of suppliers – legal aspects of buying – cost management – negotiating for purchasing/subcontracting – purchase insurance – evaluation of purchase performance (performance indices).Inventory management.- Finance and Supply Chain Interface. Financial impact of inventory.

3.MANUFACTURING AND WAREHOUSING

Manufacturing scheduling – Manufacturing flow system – work flow automation – Flexibility in manufacturing to achieve dynamic optimization. Material handling system design and decision. Warehousing and store keeping – strategies of warehousing and storekeeping – space management.

4.LOGISTICS MANAGEMENT

Logistics management – Role of logistics in SCM – Integrated Logistics management – transportation design and decision – multi modalism – third party logistics services and providers – facilities management (port/airport.ICD's) channels of distribution – logistics and customer service.

5.INFORMATION TECHNOLOGY AND SCM

Information technology and SCM – EDI, ERP, Internet and Intranet, E-Commerce, Bar coding, Telecommunication Network, Advanced planning system, Decision support models for Supply Chain Management, Artificial Intelligence for SCM- Best practice in supply chain management – organizational issues to implement SCM.

TEXT BOOK

1. B.S.Sahay, "Supply chain management for global competitiveness", Macmillan India Limited, 2000.

REFERENCES

1. Donald J.Bowersox & David J.Closs, "Logistical Management", Tata McGraw-Hill Editions, New Delhi, 2000.
2. David Simchi-Levi, "Designing and managing the supply chain", Tata McGraw-Hill Editions, New Delhi, 2000.

General Electives

DMC1634 IT INFRASTRUCTURE MANAGEMENT

1. INTRODUCTION AND STAFFING

Introduction - Evolution of information system – Executive support – Factors in design of IT organization – Staffing – Customer service.

2. PROCESSES

Processes - Availability – Performance and tuning – Five Major environments – Production acceptance.

3. MANAGEMENT

Change Management – Definition – Drawbacks – Steps – Emergency change metric – Assessment – Problem Management – Definition – Scope – Steps – Client Issues – Assessment – Facilities Management – Definition – Elements – Process owner – Evaluation – Assessment.

4. STRATEGIC SECURITY AND DISASTER RECOVERY

Strategic security – Definition – Development – Assessment – Disaster recovery – Definition – Case Study – Steps – Assessment.

5. TECHNOLOGY

Developing robust processes – Characteristic – Formal and Informal processes – Automating robust processes – Evaluating Infrastructure processes – Evaluating process documentation – Integration – Strategic and tactical processes – Client server environment issues – Web enabled environment issues.

TEXT BOOK

1. Rich Schiesser, “IT Systems Management Designing, Implementing and Managing World-class infrastructures”, Prentice Hall 2002.

REFERENCES

1. Barbara McNurlin & RALPH Sprague .H, “Information Systems Management in Practice”, Prentice Hall, 6th edition 2003.

2. W.Ronald Hudson, Ralph Haus, Waheed Uddin, “Infrastructure Management Design, Construction, Maintenance, Rehabilitation, Renovation”, McGraw Hill 1997.

General Electives

DMC1635 INFORMATION SECURITY

1. INTRODUCTION

History, Critical Characteristics of Information, NSTISSC Security Model, Components of an Information System, Securing the Components, Balancing Security and Access, The SDLC, The Security SDLC, Need for Security, Business Needs, Threats, Attacks, Legal, Ethical and Professional Issues.

2. SECURITY ANALYSIS

Risk Management : Identifying and Assessing Risk, Assessing and Controlling Risk.

3. LOGICAL DESIGN

Blueprint for Security, Information Security Poicy, Standards and Practices, ISO 17799/BS 7799, NIST Models, VISA International Security Model, Design of Security Architecture, Planning for Continuity

4. PHYSICAL DESIGN

Security Technology, IDS, Scanning and Analysis Tools

5. NETWORK AND COMPUTER SECURITY

Cryptography, Access Control Devices, Physical Security, Security and Personnel

TEXT BOOKS

1. Michael E Whitman and Herbert J Mattord, “Principles of Information Security”, Vikas Publishing House, New Delhi, 2003.
2. Ron Weber, “Information Systems Control and Audit”, Pearson Education, New Delhi, 2004.

REFERENCES

1. Micki Krause, Harold F. Tipton, “ Handbook of Information Security Management”, Vol 1-3 CRC Press LLC, 2004.
2. Stuart Mc Clure, Joel Scrambray, George Kurtz, “Hacking Exposed”, Tata McGraw Hill, 2003.
3. Matt Bishop, “ Computer Security Art and Science”, Pearson/PHI, 2002.

General Electives

DMC1636 INFORMATION SYSTEM AUDIT

1. INTRODUCTION

Introduction – IT Environment – Legal Issues – Federal Legislation – Privacy – Legislative Activities – **Audit and Review** – Concerns – Policies – Procedures – Standards and their applications – IT Auditor – Risk Assessment.

2. AUDIT PROCESS

IT auditing - Standards – Principles – Data gathering – **Tools and techniques** – Flow charting – Audit reports and followup – Post audit – Audit productivity tools – technical skills and tools – Computer forensics.

3. AUDIT IT PLANNING AND ORGANIZATION

IT Strategy and Standards – Planning and controlling – Financial management and budgeting – Planning and control approach – E-commerce Security management – **Project management –** Body of Knowledge – Auditors role – Checkpoints and tools – **Quality management –** Software development standards – Approaches to software development – Software development life cycle.

4. AUDITING IT ACQUISITION AND IMPLEMENTATION

Software acquisition – Identifying various alternatives – Performing feasibility analysis – Conducting risk analysis – Defining Ergonomic requirements – Carrying out the selection process – Reviewing software acquisitions – **System implementation** – Implementation approach – Help desk and production support – Case study – **Application risks and controls** – End user computing application risks – Electronic data interchange application risks – Application controls – Application maintenance – **Change management -** Software configuration management.

5. AUDITING IT OPERATIONS

IT operations environments : Complexities and control issues – Elements of WAN – Tools for network monitoring – The Internet, Intranet and Extranet – Operational control issues – Problem management auditing – **Assessing risk in IT operations –** Risk Assessment – Introduction to Enterprise/Operational Risk Management – Internet Security – **Audit Method and Techniques for operations –** DBMS recovery – Auditing – Importance – Tools and Techniques in IT operation review.

TEXT BOOK

1. Frederick Gallegos, Sandrra senft, Daniel P.Manson, Carol Gonzales, " Information Technology Control and Audit", Second Edition,2004.

REFERENCE

1. Mario Piattini, "Auditing Information systems", IGI Global, 1999.

Banking Technology

DMC1637 BANKING TECHNOLOGY AND MANAGEMENT

1. BRANCH OPERATION AND CORE BANKING

Introduction and evolution of bank management – Technological impact in banking operation – Total branch computerization – Concept of opportunities – Centralized banking – Concept, opportunities, challenges and implementation

2. DELIVERY CHANNELS

Over of delivery channels – Automated Teller machine (ATM) – Phone banking – call centers – Internet banking – Mobile banking – Payment gateways – Card technologies – MICR electronic clearing

3. BACK OFFICE OPERATIONS

Bank back office management – Inter branch reconciliation – Treasury management – Forex operations – Risk management – Data center management – Network management – Knowledge management (MIS/DSS/EIS) – Customer relationship management (CRM).

4. INTER BANK PAYMENT SYSTEM

Interface with payment system network – structured financial messaging system – Electronic fund transfer – RTGSS – Negotiated dealing systems and securities settlement systems – Electronic Money – E-cheques.

5. CONTEMPORARY ISSUES IN BANKING TECHNIQUES

Analysis of Rangarajan committee reports – E Banking budgeting – Banking softwares.

REFERENCES

1. Kaptan S S & Choubey N S, “E-Indian Banking in Electronic Era”, Sarup & Sons, New Delhi 2003.
2. Vasudeva, “E-Banking”, Common Wealth Publishers, New Delhi, 2005.
3. Effraim Turban, Rainer R. Kelly, Richard E.Potter, “Information Technology”, John Wiley & Sons Inc,2000.
4. Andrew S. Tanenbaum, “Computer Networks”, Tata Mcgraw Hill, 3rd Edition, 2001

Banking Technology

DMC1638 MERCHANT BANKING AND SECURITY MARKET

1. FINANCIAL SYSTEM

Introduction – Contemporary trends in its growth and development – Regulatory framework – Financial services – Nature and introduction – Evolution of Specialized institutions – Merchant bankers – Fund Managers – NBFCs – Leasing companies – Factors – Venture capital funds.

2. MERCHANT BANKING

Functions – Merchant banking in India – SEBI guidelines for merchant bankers – Role of Merchant bankers in fund raising – Managing public issue – Pre and post issue – Book building – Private placement – Raising of funds through bonds and public deposits – SEBI guidelines for public issues – Pricing of issue – Promoters, contribution – Appointment and role of merchant bankers – Under writers – Brokers – Registrars and Managers – Bankers – Underwriting of issues – Allotment of shares – Procedures for new issues – e-trading.

3. SECURITY MARKETS

Legal environment – SEBI act 1992 – Securities contract regulation act 1956 – Companies act 1956 (Various provisions relating to securities – RBI rules and guidelines for FII' – Types of markets – Primary and Secondary market – Primary market – Its role and functions – Methods of selling securities in primary market – New financial instruments – Secondary market – Role – Importance – Organization of stock exchanges – Listing of securities in stock exchanges – Trading mechanism – Screen based trading – Insider trading – Take-over – Internet based trading.

4. DEPOSITORIES

Role and need – The depositories act 1996 – SEBI (Depositories and participants regulation) 1996 – SEBI (Custodian of securities) Regulation 1996 – National securities depository Ltd (NSDL) – Depository participant.

5. ACTIVITIES OF OTHER FINANCIAL SERVICE PROVIDERS

Credit rating agencies – Nature – Factors considered – Rating procedure – Instruments rated – Revisions in rating – Leasing companies – Lease rental determination – Break even lease rentals – Factoring service – Recourse and Non recourse factoring – Venture capital funds – Role and progress in India.

TEXT BOOKS

1. Machi Raju H R, "Merchant Banking", Wiley Eastern Ltd, New Delhi.
2. Machi Raju H R, "Working of Stock Exchages in India", Wiley Eastern Ltd, New Delhi.

REFERENCES

1. Dalton John M, "How the stock market works", 3rd sub edition, Prentice Hall Press, 2001.
2. J.C.Verma, 'A Manual of Merchant Banking', Bharath Publishing House, New Delhi, 2001.
3. Machi Raju H R, 'Indian Financial System' – Vikas Publishing House, 2nd Edition, 2002.

Banking Technology

DMC1639 INVESTMENT BANKING

1. INTRODUCTION

Introduction to investment banking - Financial holding companies full service and Boutique investment banks - Investment banking business strategies - Career paths and strategies in investment banking

2. EQUITY AND DEBTS

Private equity - Mergers and Acquisitions - Equity underwriting - Debt underwriting.

3. ASSET SECURITIZATION AND TRADING TECHNIQUES

Asset Securitization - Foreign Listing on wall street - Trading and Trading Techniques - Repurchase Agreements

4. FINACIAL AND INVESTMENT MANAGEMENT

Financial Engineering - Investment Management - Clearing and Settlement - Securities Regulation and ethics

5. GLOBAL MARKETS

Euro markets and Japan - Emerging markets - China's Securities markets - Investment banking trends and challenges.

TEXT BOOK

1. Thomas Liaw K, " The Business of Investment Banking", Wiley, 1999.

REFERENCES

1. John Wise, "Investment Banking Insider's Guide", Lulu.com, 2006.
2. Tom Lott, "Vault career guide to Investment Banking", Vault.com, 2005.

Banking Technology

DMC1640 INTERNATIONAL BANKING

1. THE MODERN BANKING AND INTERNATIONAL BANKING

Modern banking – Introduction – Bank and financial intermediation – Diversification of banking activities – Performance of banks – International banking – Introduction – Theory of international banking – Definition – Trade in international banking services – Multinational banking – Costs and benefits of international banking – Performance of international banks – Banking structure around the world – Banking structures – Industrialized countries – Developing countries – Eastern Europe.

2. COMPETITIVE ISSUES AND MANAGEMENT OF RISKS IN BANKING

Competitive issues – Introduction – Measuring bank output – Productivity measures – Empirical models of competition in banking – Management of risks – Introduction – Definition – Risk management – Derivatives – Approaches to the management of financial risks – Bank organizational structure and risk management.

3. REGULATION OF BANKS

Regulation – Introduction – Prudential regulation in UK – Prudential regulation in US – Prudential regulation in European union – Regulation of banks in Japan – International coordination of prudential regulation – Causes of bank failure – strategic issues for banks – Case studies.

4. FINANCIAL STABILITY

International financial crises – International financial stability – Financial stability forum – Financial stability standards – Stability response.

5. INTERNATIONAL STANDARDS

Code of good practices – Transparency in monetary financial policies (IMF) – Fiscal transparency (IMF) – Principles – OECD – CPSS – FATF – BCBS – IOSCO – IAIS

TEXT BOOKS

1. Shelagh A Heffernan, “Modern Banking in Theory and Practice”, John Wiley & Sons Ltd, 1996.
2. George Alexander Walker, “International Banking Regulation Law, Policy and Practice”, Kluwer Law international, 2001.

REFERENCES

1. Mervyn K Lewis & Kevin T Davis, “Domestic and International Banking”, The MIT Press, 1987.
2. Sarkis Joseph Khoury, “Advances in International Banking and Finance”, JAI Press, 1998.
3. Mullineux A W & Victor Murinde, “Handbook of International Banking”, Edward Elgar Pub, 2005.

Call Center Management

DMC1641 CUSTOMER RELATIONSHIP MANAGEMENT

1. CUSTOMER RELATIONSHIP MANAGEMENT

Defined Technology – Strategy – CRM – CRM Success Factors – The Customer service/sales profile – The three levels of service/sales customer service/sales profile

2. CUSTOMER SERVICE

Managing your customer service/sales profile – Content center – Brokerage managing initial – stand alone transaction managing for repeat business – Managing for customer advocacy – CRM strategy starting points - CRM strategy selection.

3. MANAGING CUSTOMER DATA

Managing and sharing customer data – Returning to strategies – Data vs information – Managing customer information – Data vs ethics and legalities of data used tools for capturing customer information

4. EFFECTIVE SLA's

Service-level agreements – Keys to effective SLA's – Creating an SLA – Using SLA's to support internal customer relationships – Making SLA's work – E-commerce – Customer relationships on the internet.

5. MANAGING CRM

Managing relationships through conflict – Managing the moment of conflict – Customer relationship management – Early warning system – Customer problems – Fighting complacency – Resetting CRM strategy – Ready, Set, Reset various phases.

TEXT BOOK

1.Kristin Anderson & Carol Kerr, "Customer relationship management", Mc Graw Hill 2003.

REFERENCE

1. Judith W Kincaid, " Customer relationship management: getting it right", Prentice Hall, 2002.

Call Center Management

DMC1642 BUSINESS PROCESS OUTSOURCING

1. HISTORY OF BPO

Background and history of BPO – BPO as a "Socio-technical" phenomenon – Managing a successful BPO project.

2. CONCEPT OF THE BPO

A systematic team structure and approach – Concept of the BPO life cycle – Various BPO business models.

3. BUSINESS PROCESS MAPPING EXERCISE

Three-tier structure analysis of the enterprise – The BPO Analysis Team (BAT) – BPO costs, direct, hidden, strategic – Total cost management methodology.

4. DEVELOPING THE BPO

Procedure for establishing a vendor selection team (VST) – RFP concepts – Writing a thorough RFP – Developing the BPO contract – Vendor deliverables, penalties for lack of performance – remedies to counter problems – rewards for reaching beyond the basic contract terms – Metrics and service level agreements (SLAs)

5. MANAGING THE BPO TRANSITION

Handling reduction in force(RIF) – Management of the BPO buyer-vendor relationship – Infrastructure considerations – Hardware and software issues – Data management during the changeover.

TEXT BOOKS

1. Rick L.Click and Thomas N.Duening, "Business Process Outsourcing: The competitive Advantage", John Wiley & Sons, 2004.
2. Thomas N.Duening and Rick Lclick, "Essentials of Business Process Outsourcing", John Wiley & Sons, 2005.

REFERENCE

1. John K Halvey and Barbara Murphy Melby, "Business Process Outsourcing: Process, Strategies and Contracts", Wiley, John&Sons,Incorporated,1999.

Call Center Management

DMC1643 CALL CENTER TECHNOLOGY

1. ROLE OF THE CUSTOMER CONTACT CENTER

The traditional call center – The role of the customer contact center – The parts and principles of the typical customer contact center – Connection to the outside world.

2. MANAGING TELEPHONY

Staffing issues – The budget – Building a business case – Managing telephony workflow – The typical switching system – The advantages of a purpose built ACD system.

3. ACD BASICS

The ACD as a customer workflow manager – Bullet-proofing the customer contact center – Telephone terminals and workstations

4. MAPPING AND MANAGEMENT CRM

Data gathering and reporting – Cutomer experience: mapping and management – CRM within the customer contact center environment

5. INTERNET

Integrating the internet into a traditional call center – The technology acquisition process – Over viewing VOIP based and IPLC based technology.

TEXT BOOK

1. Andrew J.Waite, “A Practical Guide to Call Centre Technology”, CMP books, 2002.

REFERENCE

1. James C. Abott, “The Executive guide to Call Centre Metrics “,Robert Houston Smith Publishers, 2004.

Call Center Management

DMC1644 STRESS MANAGEMENT

1. BASICS

Stress management – Failure of stress management – Methodologies – Stress optimizations.

2. BUILDING COMMITMENT

Developing a credible leadership – Establishing acclimate of trust – Contracting for clear expectations – committing to share information – Insuring personal and professional development.

3. BUILDING CONTROL

Promoting self-knowledge – Discussing unique stressors – Developing a plan of attack – Breaking the stress cycle – Encouraging participation at all levels – Renegotiating psychological contacts during times of change.

4. BUILDING CHALLENGE

Modeling optimistic attitudes from the top down – Identifying growth opportunities – Rewarding creative organizational problem solving – Valuing continuous organizational learning – Establishing support systems.

5. ISSUES

Stress is a leadership issue – Stress is an organizational problem – A three-step approach – Optimization – Strategies for staying courteous under stress – The stress Survey.

TEXT BOOKS

1. Stephen coscia, “Tele-Stress, Relief for Call Centre Stress Syndrome”, 2nd Edition, CMP Books, 1998.
2. Rebecca Braden Nordeman, “Optimizing Stress in the Support Center”,Help Desk Institute, 1997.

REFERENCE

1. Jerry Wilde, Anger and Stress Management Book, Lgr Production, 2001.
2. Jay. M.D. Winner and Susan Myers, Effective Ways to beat stress for better health, Blue Fountain Press,2003.
3. Claire Michaels, “10 Simple Solutions to Stress: How to tame Tension and start enjoying your life”, New Harbinger Publications, 2007.

E- Learning

DMC1645 INTRODUCTION TO E-LEARNING

1. INTRODUCTION

Definition – Benefits – Challenges & opportunities – ROI metrics & evaluation – E-Learning cycle – Learning strategy – Business drivers – E-learning strategy.

2. DESIGN AND IMPLEMENTATION

Role of tutor – Instructional design – Design issues – Types of learning engagements – Blended learning – Team – Infra structure – Vendor relationships – Learning management systems – Testing.

3. DELIVERY

Multi-channel delivery – Learner support – Developing curriculum – E-learning standards – Instructional design – Content development process – Case studies – Future directions

4. WEB BASED TRANING

Definition – Need for WBT – Choosing an approach - Kind of courses – Technical standards – Metaphors – Course framework – registration – Running the course – resources – Feedback – Access.

5. LEARNING METHODOLOGY

Organizing learning sequences – Common lesson structures – Creating building blocks – Designing learning sequences – Learning activities – Test and exercise learning – Planning tests – Selecting questions – Sequencing test questions – Feedback – Improve testing – Prevent cheating.

TEXT BOOKS

1. John Gardner, Bryn Holmes, “E-Learning: Concepts and Practice”, SAGE Publications Ltd, 2006.
2. Don Morrison, “E-learning Strategies: How to get Implementation and Delivery Right First Time”, John Wiley and Sons Ltd, 2003.
3. William Horton, “Web-Based Training”, John Wiley & Sons Inc, 2000.

REFERENCE

1. M W Allen, “Michael Allen’s Guide to E-learning: Building Interactive, Fun and Effective Learning Program for any Company”, John Wiley & Sons Inc, 2003.
2. Marc J Rosenberg, “E-Learning: Strategies for Delivering Knowledge in the Digital Age”, McGraw-Hill Education, 2000.
3. Brandon Hall, “Web-Based Training Cookbook”, John Wiley & Sons, 1997.

E- Learning

DMC1646 INSTRUCTIONAL DESIGN FOR E-LEARNING

1.INTRODUCTION

E-learning – Types – Foundations – Problem based Approach to designing E-Learning – Design E-learning – Design and curriculum strategies – Story telling and contextual based design strategies – Blended learning and curriculum design – Informal learning.

2. PRINCIPLES OF E-LEARNING

Philosophy of education – Theory of learning – Applying principles of multimedia – Applying principles of contiguity – Applying principles of modality – Applying principles of redundancy – Applying principles of coherency – Applying principles of personalization.

3. HIGH LEVEL DESIGN

Simulations – e-Monitoring and e-Coaching – m-Learning – Live virtual classroom.

4. DETAIL DESIGN STRATEGIES

Openings and closings – Exposition techniques for writing e-learning content – Interaction – Visual communication techniques.

5. TECHNIQUES

Leveraging examples in E-learning – Collaborative E-learning – Learner control in E-learning – E-Learning and problem solving skills – Applying guidelines.

TEXT BOOKS

1. R C Clark and R E Mayer, “E-Learning and the Science of Instruction”, Pfeiffer Wiley, 2003.
2. Driscoll, “Advanced Web-based Training Strategies: Unlocking Instructionally-Sound Online Learning”, Pfeiffer Wiley, 2005.

REFERENCE

1. William Horton, “E-Learning by Design”, Pfeiffer Wiley, 2006.
2. Robin Mason, “E-Learning: the key concepts”, Routledge, New Ed Edition, 2006.

E- Learning

DMC1647 E-LEARNING TECHNOLOGY

1. INTRODUCTION

Using Dreamweaver for e-learning – Advantages – Disadvantages – Other web technologies – Course binder – Possibilities – Installation – Basics – Getting started – Multiple choice & time/false interaction.

2. ADVANCED INTERACTION

Explore interaction – Button interaction – Text interaction – Timer interaction – Slider interaction – Global interaction enhancements.

3. EXTENDING COURSE BUILDERS

Using custom - style sheet to enhance CB – Action manager – Overview – Customizing action manager tab – action management object – crating custom – course builder interactions – deciphering- CB java script.

4. LEARNING SITE

Introduction to learning site – Possibilities – Installation - Designing a learning site – Customizing a learning site.

5. TRACKING LEARNER DATE

Learning site for tracking – Learning site database – Tracking and scoring issues – Setting up data tracking – Enhancements – Communicating with learning management system.

TEXT BOOKS

1. Gain Hess & Steven Hancock, " Using Dreamweaver MX to create E-Learning : A Comprehensive Guide to Course Builder and Learning sites", Rapid Intake Press, 2004.
2. Michael Doyle, "Macromedia Dreamweaver E-learning Tool-kit: Building Web-based Traning with Course builder", 2003.

REFERENCE

1. Marc L Rosenberg, "Beyond E-Learning: Approaches and Technologies to Enhance Organizational Knowledge, Learning and Performance", Pfeiffer Wiley, 2006.
2. Besty Bruce, "E-learning with Dreamweaver MX: Building online Learning Applications", Peachpit Press, 2002.

Trading And Equity Management

DMC1648 PORTFOLIO MANAGEMENT

1. MONEY AND CAPITAL MARKETS

Trends of savings and financial flow, the Indian Money market, introduction, characteristics of money market , need for money market, major segments of money market, money market instruments and Capital market, introduction, primary market and secondary market, recent capital market reforms, new capital issue, instruments and market participant

2. STOCK EXCHANGES

Nature and functions of stock exchange in India,organizational structure of the secondary marlet,stock exchanges and financial development in India, listing of securities in stock exchange-OTCEI market-New Issue Market- concepts and function, underwriting, role of new issue market ,mechanics of trading in stock exchanges.

3. FUNDAMENTAL ANALYSIS

Economic Analysis - Economic forecasting and stock Investment Decisions - Forecasting techniques. Industry Analysis - Industry classifications. Economy and Indus try Analysis. Industry life cycle - Evaluating Industry relevant factors - External industry information sources. Company Analysis : Measuring Earnings - Forecasting Earnings - Applied valuation techniques - Graham and Dodds investor ratios.

4. TECHNICAL ANALYSIS

Technical Analysis: Fundamental Analysis Vs Technical Analysis - Charting methods - Market Indicators. Trend - Trend reversals - Patterns - Moving Average - Exponential moving Average - Oscillators - ROC - Momentum - MACD - RSI - Stoastics.Factors influencing share prices, forecasting stock prices - Efficient Market Theory - Risk and Returns.

5. PORTFOLIO ANALYSIS

Portfolio theory- Markowitz theory, Sharpe index model,CAPM.Portfolio investment model- basic principles, planning, implementation, portfolio objective and types. Portfolio evaluation – measures of return, formula plans,types of formula plans.Risk adjusted measure of performance – Sharpe's measure, Treynor's measure and Jensen's measure

TEXT BOOKS

1. V.K.Bhalla, "Investment Management", S.Chand & Company Ltd, New Delhi 2003.

REFERENCES

1. Punithavathy Pandian, "Security Analysis & Portfolio Management", Vikas Publishing House Pvt. Ltd., 2001.
2. V.A.Avadhani, "Securities Analysis & Portfolio Management" Himalay Publishing House, 1997.

Trading And Equity Management

DMC1649 RISK MANAGEMENT

1.INTRODUCTION

Process of Decision Making – Nature of Major Decisions – Nature of Decision Making – Risk Ranking and its application.

2.RISK ASSESSMENT

Approaches to Risk Assessment – Financial Institutional viewpoint of risk – Methods to assess risks acceptability – Assessment of risks in lending to foreign countries, Investment risk in a company.

3.PROBLEMS OF ASSESSING RISK

Theoretical Considerations – Theoretical concerns – Uncertainty of Assessment – Application of fuzzy data analysis, problems of assessing Risk – Technical – Economic – Sociopolitical.

4.ASSESSING RISK ACCEPTABILITY

Risk Ranking Technique – Alternative methods like Review by experts Public debate – Systems analysis – Statistical techniques including Simulation – Cognitive Mapping – Game Theory – Multivariate Analysis Decision theory etc. – Comparison of the efficiency of alternate methods of analysis

5.METHODS OF ASSESSING DECISION OPTIONS

Comparison of Risk Ranking technique with the methods used by Financial Institution, Methods used by Insurance Industry.

TEXT BOOKS

1. C.Arthur Williams, Jr & others, " Risk Management and Insurance", McGraw-Hill International Editions, 2000.
2. James T.Gleason, "Risk: The New Management Imperative in Finance", Jaico Publishing House, 1999.

REFERENCES

1. John C.Chicken, "Managing Risks & Decision in Major Projects", Chapman & Hall, London, 1994.
2. Ian M.Johnstone & Bryden, "Managing Risk", Avebury, England, 1995
3. Kevin Dowd, "Beyond value at Risk, John Wiley & Sons, West Sussex, England, 1998.
4. Bob Ritchie & David Marshall, "Business Risk Management", Chapman & Hall, London, 1996.
5. J.Woodhouse, " Managing Industrial Risk", Chapman & Hall, London, 1993.

Trading And Equity Management

DMC1638 MERCHANT BANKING AND SECURITY MARKET

1. FINANCIAL SYSTEM

Introduction – Contemporary trends in its growth and development – Regulatory framework – Financial services – Nature and introduction – Evolution of Specialized institutions – Merchant bankers – Fund Managers – NBFCs – Leasing companies – Factors – Venture capital funds.

2. MERCHANT BANKING

Functions – Merchant banking in India – SEBI guidelines for merchant bankers – Role of Merchant bankers in fund raising – Managing public issue – Pre and post issue – Book building – Private placement – Raising of funds through bonds and public deposits – SEBI guidelines for public issues – Pricing of issue – Promoters, contribution – Appointment and role of merchant bankers – Under writers – Brokers – Registrars and Managers – Bankers – Underwriting of issues – Allotment of shares – Procedures for new issues – e-trading.

3. SECURITY MARKETS

Legal environment – SEBI act 1992 – Securities contract regulation act 1956 – Companies act 1956 (Various provisions relating to securities – RBI rules and guidelines for FII' – Types of markets – Primary and Secondary market – Primary market – Its role and functions – Methods of selling securities in primary market – New financial instruments – Secondary market – Role – Importance – Organization of stock exchanges – Listing of securities in stock exchanges – Trading mechanism – Screen based trading – Insider trading – Take-over – Internet based trading.

4. DEPOSITORIES

Role and need – The depositories act 1996 – SEBI (Depositories and participants regulation) 1996 – SEBI (Custodian of securities) Regulation 1996 – National securities depository Ltd (NSDL) – Depository participant.

5. ACTIVITIES OF OTHER FINANCIAL SERVICE PROVIDERS

Credit rating agencies – Nature – Factors considered – Rating procedure – Instruments rated – Revisions in rating – Leasing companies – Lease rental determination – Break even lease rentals – Factoring service – Recourse and Non recourse factoring – Venture capital funds – Role and progress in India.

TEXT BOOKS

3. Machi Raju H R, "Merchant Banking", Wiley Eastern Ltd, New Delhi.
4. Machi Raju H R, "Working of Stock Exchages in India", Wiley Eastern Ltd, New Delhi.

REFERENCES

3. Dalton John M, "How the stock market works", 3rd sub edition, Prentice Hall Press, 2001.
4. J.C.Verma, 'A Manual of Merchant Banking', Bharath Publishing House, New Delhi, 2001.
3. Machi Raju H R, 'Indian Financial System' – Vikas Publishing House, 2nd Edition, 2002.

Health Care Management

DMC1651 HEALTH CARE INFORMATION SYSTEMS

1. INTRODUCTION

Introduction to health care information – Health care data quality – Health care information regulations, laws and standards.

2. HEALTH CARE INFORMATION SYSTEMS

History and evolution of health care information systems – Current and emerging use of clinical information systems – system acquisition – System implementation and support.

3. INFORMATION TECHNOLOGY

Information architecture and technologies that support health care information systems – Health care information system standards – Security of health care information systems.

4. MANAGEMENT OF IT CHALLENGES

Organizing information technology services – IT alignment and strategic planning – IT governance and management.

5. IT INITIATIVES

Management's role in major IT initiatives – Assessing and achieving value in health care information systems.

TEXT BOOK

1. Karen A Wager, Frances Wickham Lee, John P Glaser, " Managing Health Care Information Systems: A Practical Approach for Health Care Executives", Jossey-Bass/Wiley, 2005.

REFERENCE

1. Rudi Van De Velde and Patrice Degoulet, "Clinical Information Sytems: A Componenet based approach", Springer 2005.

Health Care Management

DMC1652 HRM IN HEALTH CARE SERVICES

1. INTRODUCTION

An Overview of Human Resources – How Human Resources Fits Into an Organization - The Legal Framework of Contemporary Human Resources.

2. HUMAN RESOURCE ACTIVITIES AND MANAGERS

Introduction - The Manager-Employee Relationship - Position Descriptions — Department Managers and the Recruiting Process — Civil Service Systems

3. EMPLOYEE TRAINING AND PERFORMANCE APPRAISALS

Conducting a Successful and Legal Selection Interview — Employee Training — Compensation and Benefits — Performance Appraisals — Managers and Employee Problems — Addressing Problems Before Taking Critical Action — Documentation —Terminating Employees

4. CASE STUDY AND SUCCESSION PLANNING

Case Study: Balancing Needs — Succession Planning — Relations with Labor Unions —Directions in Employee Relations.

5. MAINTAINING AN EFFFECTIVE HR DEPARTMENT

Human Resources Arbitration — Using Human Resource Consultants — Maintaining an Effective HR Department

TEXT BOOK

1. Charles R.McConnell & Fleming Fallon L, “Human Resource Management in Health care”, Jones and Bartlett, 2007.

REFERENCE

1. Robert L Mathis and John H.Jackson, “Human Resource Management”, Southern Western College Publication, 11th edition, 2004.
2. Stella M Nkomo, Myron D Fottler and R Bruce McAfee, “Applications in Human Resource Management: Cases, Exercises and Skills builders”, Southern Western College Publication,2004.

Health Care Management

DMC1653 LEGAL ASPECTS IN HEALTH CARE

1. INTRODUCTION

Introduction to law – Sources of law – Contract and antitrust – Purpose of contract – Types of contracts – Legality of object – Conditions – Remedies – Contracts of Adhesion – Employment contracts – Restraint of trade – Civil procedure and trial practice – Discovery and examination before trail – Memorandum of law – Evidence – Jury deliberation and determination – Damages – Appeals – Execution of judgments – Corporate liability – Authority of health care corporation – Duties of health care corporations.

2.PERSONNEL

Medical staff – Organization – Privileges – Bylaws – Reappointments – Physician-patient relationship – Nursing and law – Practice of nursing – Nurse licensure – Nurse practice roles - Liability by departments and health care professionals – Ambulatory care centers – Emergency departments – Certification of Health care professionals – Licensing Health care professionals.

3. INFORMATION MANAGEMENT

Introduction – Managing information – Patient consent – Consent definition – Patient self-determination act – Proof of consent – Refusal of treatment – Statutory consent – Consent and judicial intervention – Defence and failure to inform - Legal reporting requirements – Child abuse – Communicable diseases – Births and deaths – Risk management and incident reporting.

4. PROTECTION

Issues of Procreation – Circuit and district court decisions – Wrongful birth, life, and conception – Patient rights and responsibilities – Patient rights – Admission – Discharge – Transfer – Patient bill of rights – Patient responsibilities – Patient Advocacy – Acquired immune deficiency syndrome – AIDS and health care workers – AIDS and the right to know – The right to treatment – News media and confidentiality – Negligence – Occupational safety and health act.

5. ETHICS

Health care ethics – Ethics committee – End of life issues – Organ donations – Malpractice insurance - Insurance policy – Liability of professional – Medical Liability Insurance – Self insurance – Medical staff insurance coverage – Labour relations – Unions and health care organization – Labour rights – Patients rights during labour disputes – Employment discipline and discharge – Public policy issues – Interference with employment activities – Fairness.

TEXT BOOK

1. George D Pozgar, " Legal Aspects of Health Care", Ninth edition, Jones and Bartlett Publishers,Inc,2004.

REFERENCE

1. Dana C Mcway, "Legal Aspects of Health Information Management", Thomson Delmar Learning, Second Edition, 2002.