

AFFILIATED INSTITUTIONS
ANNA UNIVERSITY, CHENNAI
REGULATIONS – 2009
CURRICULAM AND SYLLABI
M.Sc. INFORMATION TECHNOLOGY (5 YEARS)

SEMESTER I

Course Code	Course Title	L	T	P	C
Theory					
EEN011	Technical English I	4	0	0	4
EMA006	Applied Mathematics I	3	1	0	4
EIT011	Basics of Electrical Engineering	4	0	0	4
EIT012	Computer Concepts and Problem Solving	4	0	0	4
EIT013	Programming in C	3	1	0	4
Practical					
EIT015	Electrical Engineering Laboratory	0	0	3	2
EIT016	Computer Concepts And Problem Solving Laboratory	0	0	3	2
EIT017	C Programming Laboratory	0	0	3	2
TOTAL		18	2	9	26

SEMESTER – II

Course Code	Course Title	L	T	P	C
Theory					
EEN021	Technical English II	4	0	0	4
EMA007	Applied Mathematics II	3	1	0	4
EIT021	Digital Principles	4	0	0	4
EIT022	Operating Systems	4	0	0	4
EIT023	Data Structures	3	1	0	4
Practical					
EIT025	Digital Laboratory	0	0	3	2
EIT026	Operating Systems Laboratory	0	0	3	2
EIT027	Data structures laboratory	0	0	3	2
TOTAL		18	2	9	26

SEMESTER – III

Course Code	Course Title	L	T	P	C
Theory					
EMA008	Mathematical Structures	3	1	0	4
EIT031	Design and Analysis of Algorithms	3	1	0	4
EIT032	Object Oriented Programming	4	0	0	4
EIT033	Database Management Systems	4	0	0	4
EIT034	Computer Architecture	4	0	0	4
Practical					
EIT036	Object Oriented Programming Laboratory	0	0	3	2
EIT037	Database Management Systems Laboratory	0	0	3	2
EIT038	Algorithms Design Laboratory	0	0	3	2
TOTAL		18	2	9	26

SEMESTER – IV

Course Code	Course Title	L	T	P	C
Theory					
EMA009	Probability and Statistics	4	0	0	4
EIT041	Microprocessors and Interfacing	3	1	0	4
EIT042	Java Programming	3	1	0	4
EIT043	Computer Networks	4	0	0	4
E1	Elective I	4	0	0	4
Practical					
EIT045	Microprocessors and Interfacing Laboratory	0	0	3	2
EIT046	Java Programming Laboratory	0	0	3	2
EIT047	Computer Networks Laboratory	0	0	3	2
TOTAL		18	2	9	26

SEMESTER – V

Course Code	Course Title	L	T	P	C
Theory					
EIT051	Software Engineering	3	1	0	4
EIT052	Web Technology	4	0	0	4
EIT053	Embedded Systems	3	1	0	4
E2	Elective – II	4	0	0	4
E3	Elective - III	4	0	0	4
Practical					
EIT055	Software Laboratory	0	0	3	2
EIT056	Web Technology Laboratory	0	0	3	2
EIT057	Embedded Systems Laboratory	0	0	3	2

TOTAL	18	2	9	26
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SEMESTER – VI

Course Code	Course Title	L	T	P	C
Theory					
EIT061	Fundamentals of Digital Signal Processing	3	1	0	4
EIT062	Unix Internals	4	0	0	4
EIT063	TCP / IP and Socket Programming	3	1	0	4
EIT064	Mobile Communication	4	0	0	4
E4	Elective IV	4	0	0	4
Practical					
EIT066	Unix Internals Laboratory	0	0	3	2
EIT067	TCP / IP and Socket Programming Laboratory	0	0	3	2
TOTAL		18	2	6	26

SEMESTER – VII

Course Code	Course Title	L	T	P	C
EIT071	Project Work - 1	0	0	24	12
TOTAL		0	0	24	12

SEMESTER – VIII

Course Code	Course Title	L	T	P	C
Theory					
EIT081	Information Coding techniques	3	0	0	3
EIT082	Network Security	3	1	0	4
EIT083	Advanced Java Programming	3	1	0	4
E5	Elective V	3	0	0	3
E6	Elective VI	3	0	0	3
Practical					
EIT085	Network Security Lab	0	0	3	2
EIT086	Advanced Java Programming Lab	0	0	3	2
TOTAL		15	2	6	21

SEMESTER – IX

Course Code	Course Title	L	T	P	C
Theory					
EIT091	Service Oriented Architecture	3	1	0	4
EIT092	Enterprise Resource Planning	3	0	0	3
EIT093	XML and Web Services	3	1	0	4
E7	Elective VII	3	0	0	3
E8	Elective VIII	3	0	0	3
Practical					
EIT095	Service Oriented Architecture Lab	0	0	3	2
EIT096	XML and Web Services Lab	0	0	3	2

TOTAL	15	2	6	21
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SEMESTER – X

Course Code	Course Title	L	T	P	C
Theory					
EIT0101	Project Work - II	0	0	24	12
TOTAL		12	0	24	12

LIST OF ELECTIVES FOR M.Sc. - INFORMATION TECHNOLOGY (5 YEARS)

Course Code	Course Title	L	T	P	C
SEMSTER IV					
EIT501	Multimedia Systems	4	0	0	4
EIT502	Client Server Computing	4	0	0	4
EIT503	Principles of Management	4	0	0	4
EIT504	Object Oriented Analysis and Design	4	0	0	4
SEMESTER V					
EIT505	Software Project Management	4	0	0	4
EIT506	Data Warehousing	4	0	0	4
EIT507	Signals and Systems	4	0	0	4
EIT508	Wireless Technology	4	0	0	4
EIT509	Professional Ethics	4	0	0	4
EIT510	PC Testing and Troubleshooting	4	0	0	4
SEMESTER VI					
EIT511	Extreme Programming	4	0	0	4
EIT512	Open Source Computing	4	0	0	4
EIT513	Business Data Processing	4	0	0	4
EIT514	Image Processing	4	0	0	4
SEMESTER VIII					
EIT515	Management Information Systems	3	0	0	3
EIT516	Artificial Intelligence	3	0	0	3
EIT517	Advanced DBMS	3	0	0	3
EIT518	Distributed Operating Systems	3	0	0	3
EIT519	Decision Support Systems	3	0	0	3
EIT520	Internet Programming	3	0	0	3
SEMESTER IX					
EIT521	Compiler Design	3	0	0	3
EIT522	Software Quality Assurance	3	0	0	3
EIT523	Middleware Technologies	3	0	0	3
EIT524	Architecture of Unix & Windows	3	0	0	3
EIT525	Advanced Computer Architecture	3	0	0	3

EIT526	Network Protocols	3	0	0	3
EEN011	TECHNICAL ENGLISH - I	L	T	P	C
		4	0	0	4

UNIT I ENGLISH TODAY 12

Modern English: varieties of discourse—regional variations—accent and dialects— social variations—occupational varieties and scientific English—medium and attitude; speaking and writing; formal and informal style—language change—new ways of studying English.

UNIT II EXTENDING VOCABULARY: STRUCTURAL AND CONTENT WORDS 12

Principles of word formation; abbreviations and acronyms; foreign words and phrases; idioms and phrases—everyday computer—related words; scientific and technical terms.

UNIT III GRAMMAR 12

Referring to people and things with the help of noun phrases- describing people and things with the help of determiners- adjectives and modifiers- making a messagevarying the message: negation question exclamation inversion – expressing words referring to time, place and manner- reporting what people say or think – combining messages: coordination and subordination- making text- the structure of information.

UNIT IV RECEPTIVE SKILL 1—LISTENING 12

Developing guided note taking from a lecture, recognizing and using descriptive words and phrases, completing information in a table, practicing dictation and checking spelling, developing accuracy in listening, imitating standard spoken English through native speakers' talk and presentation, listening for general and specific information, listening to news in the media and relating information to issues and locales around the world.

UNIT V RECEPTIVE SKILL 2—READING 12

Predicting the content – skimming the text for gist- identifying the topic sentences – guessing the meaning of words from contexts – scanning for specific information – transfer of information – cloze reading.

TOTAL : 60 PERIODS

REFERENCES:

1. Adrian Doff & Christopher Jones, "Language in use – intermediate", Cambridge University Press, 2003.
2. Gail Ellis and Barbara Sinclair, "Learning to learn English: A course in learner training", Cambridge University Press, 1989.

Spreadsheet Programs – applications – Spreadsheet package features, attributes - structure, label, data, importing data, formula, functions – data handling – Managing workbooks.

UNIT IV INTRODUCTION TO COMPUTER PROBLEM SOLVING 12

Introduction – Problem Solving aspects-Top-Down Design-Implementation of Algorithms – Program Verification-Efficiency of Algorithms-Analysis of Algorithmfundamental algorithm-factorial computation-generation of Fibonacci sequence.

UNIT V FACTORING AND ARRAY TECHNIQUES 12

Factoring Methods-finding the square root of a number-generating prime numbers- Array techniques-array order reversal-Finding the maximum number in a set- Removal of duplicates from an ordered Array-finding the kth smallest element.

TOTAL:60 PERIODS

REFERENCES:

1. Peter Norton,“Introduction to Computers”,4th Edition, TMH Ltd, New Delhi, 2001.
2. R.G. Dromey,“How to solve it by Computers”, Pearson Publishers, New Delhi, 2007.

EIT013	PROGRAMMING IN C	L	T	P	C
		3	1	0	4

UNIT I INTRODUCTION TO C LANGUAGE 12

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

UNIT II ARRAYS AND FUNCTIONS 12

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

UNIT III STRUCTURES AND UNIONS 12

Basics of Structures-Declaring a Structure – Array of Structures –Passing Structures elements to Functions- Passing entire Structure to Function – Structures within Structures - Union – Union of Structures – Enumerated Data Types – type of Statement.

UNIT IV POINTERS 12

Pointers – Declaration, Accessing a variable, dynamic memory allocation, Pointers versus Arrays, Array of pointers, Pointers to functions and structure Pointers.

UNIT V FILE MANAGEMENT 12

File Management in C – Data hierarchy- Files and Streams – Sequential access file- Random access file - Preprocessors.

L:45 T:15 TOTAL: 60 PERIODS

REFERENCES:

1. V.Rajaraman "Computer Programming in C" PHI, New Delhi, 2001
2. Kamthane, A.N., "Programming with ANSI and Turbo C", Pearson Education, Delhi, 2006.
3. Yashavant P. Kanetkar " Pointers In C" , BPB Publications, New Delhi, 2002
4. E.Balagurusamy " Programming in ANSI C " , Tata McGraw Hill, 2004
5. Deitel and Deitel " C How to Program ", Addisson Wesley , 2001

EIT015	ELECTRICAL ENGINEERING LAB	L	T	P	C
	(Any 10 Experiments)	0	0	3	2

LIST OF EXPERIMENTS

1. Verification of Ohm's and Krichoff's Law
2. Measurement of Power and Impedance in RL, RC and RLC circuits
3. Swinburn's Test on D.C. Shunt Motor
4. Load Test on D.C.Shunt Motor
5. Load Test on D.C. Shunt Generator
6. Open Circuit and Load Characteristics of Separately Excited DC Generator
7. OC & SC Test on Single Phase Transformer
8. Load Test on Single Phase Transformer
9. Load Test on Single Phase and Three Phase Induction Motor
10. Single Phase Half Wave and Full Wave Rectifiers
11. Study of Passive Filters
12. Study of Voltage Regulator Circuits
13. Study of SMPS and UPS

TOTAL : 45 PERIODS

EIT016	COMPUTER CONCEPTS AND PROBLEM SOLVING LAB	L	T	P	C
		0	0	3	2

LIST OF EXERCISES

1. Word Processing
2. Spreadsheet
3. Power point
4. Factorial
5. Fibonacci
6. Prime Generation
7. Removal of duplicates from an ordered Array

8. Finding the kth smallest element.

TOTAL : 45 PERIODS

EIT017

C PROGRAMMING LABORATORY

L	T	P	C
0	0	3	2

LIST OF EXERCISES

Implementation of

1. Input / output function
2. Control Functions
3. Functions
4. Arrays
5. Pointers
6. Structures and Unions
7. Files

Using case studies on: Roots of a quadratic equation, Measures of location – Matrix Operations – Evaluation of trigonometric functions – Pay roll problems. String operations like substring, concatenation, finding a string from a given paragraph, finding the number of words in a paragraph.

TOTAL : 45 PERIODS

EEN021

TECHNICAL ENGLISH - II

L	T	P	C
4	0	0	4

UNIT I ENGLISH TODAY

12

British and American Words – Communicating across cultures - Dealing with Discrimination – non verbal communication – values, beliefs & practices, Body language, The importance of Listening, Speaking and Interpersonal communication – purpose of Messages in Organization.

UNIT II GRAMMAR (FOCUS ON LANGUAGE)

12

Identifying the lexical and contextual meaning of words – expanding nominal compounds – framing of questions ('Wh' pattern, yes/no questions, tag questions) Subject – verb agreement, use of articles, preposition and conditionals – impersonal passive – error detection and punctuation.

UNIT III RECEPTIVE SKILLS 1 & 2 – LISTENING AND READING

12

Gap filling activity while listening - intensive listening – listening to a discourse and filling up gaps in a worksheet – comprehension tasks based on listening. Reading the gist to identify the topic sentence – its role – sequencing of sentences – transcoding diagrams – understanding discourse coherence and cohesion.

UNIT IV PRODUCTIVE SKILL 1 – SPEAKING 12

Making Oral presentations – planning, kinds of presentation – adapting your ideas to audience, planning visual and other device to involve the audience – conducting language games to enrich spoken skills – facing interviews and negotiating benefits.

UNIT V PRODUCTIVE SKILL 2 – WRITING 12

One sentence definition of technical terms – descriptions, paragraph writing, process description, check list, job application & resume, business letters (Calling for quotation, placing orders, enquiry etc) – Instruction and recommendation.

TOTAL : 60 PERIODDS

REFERENCES:

1. Kitty O Locker, “Business Communication – Building critical Skills”, Mc-Graw Hill, Third Edition 2007
2. Bridha Prabhakar, G. Subramanian, “Technical English for Engineering Students”, Gems Publications, 2006.
3. Aysha Viswamohan, “English for Technical Communication”, Tata McGraw Hill, 2007

EMA007 APPLIED MATHEMATICS - II

L	T	P	C
3	1	0	4

UNIT I MULTIPLE INTEGRALS 12

Double integration- Cartesian and polar co-ordinates- Change of order of integration- Area as a double integral, Change of variables between Cartesian and polar coordinates- Triple integration- Volume as a triple integral

UNIT II FOURIER SERIES 12

Dirichlet’s condition-General Fourier series-Odd and even functions-Half range Fourier series- Parseval’s identity-Harmonic analysis

UNIT III COMPLEX DIFFERENTIATION 12

Functions of complex variable-analytic function- Necessary condition-Cauchy Riemann equation –Sufficient conditions(excluding proof) -Properties of analytic functions–Harmonic conjugate - Construction of analytic functions-Conformal Mapping- $w = z+a$, $w = az$, $w = 1/z$. $w = z^2$ - Bilinear Transformation.

UNIT IV **12**
 Registers and Counters: Registers, Shift Registers, Ripple Counters, Synchronous Counters, Ring Counters-Johnson Counter.

UNIT V **12**
 Asynchronous Sequential Circuit : Introduction, Analysis Procedure, Circuits with Latches, Design Procedure, Reduction of State and Flow Tables, Race – Free State Assignment Hazards, Design Example.

TOTAL : 60 PERIODS

REFERENCES:

1. M.Morris Mano, “Digital Design”, 3rd edition, Pearson Education, Delhi, 2007.
2. Donald P Leech, Albert Paul Malvino and Goutam Saha, “Digital Principles and Applications”, Tata Mc Graw Hill, 2007.

EIT022	OPERATING SYSTEMS	L	T	P	C
		4	0	0	4
UNIT I	INTRODUCTION				12
History of OS - Operating System Concepts - Functions - Structures- Types					
UNIT II	PROCESS MANAGEMENT				12
Processes - Inter process communication -Scheduling criteria - algorithms – Process Synchronization – Deadlocks					
UNIT III	MEMORY MANAGEMENT				12
Storage organization - contiguous – non-contiguous allocation - fixed partition multiprogramming - multiprogramming with variable partitions - Swapping – Virtual memory - Paging - Segmentation - Page replacement algorithms - Demand paging.					
UNIT IV	DEVICE AND FILE MANAGEMENT				12
I/O hardware - I/O Software - Disks – Disk Scheduling – File organization – File system implementation - allocation methods- Security - Protection mechanism.					
UNIT V	CASE STUDY				12
LINUX – Architecture - Kernel - Features - System calls - WINDOWS NT: Architecture – Features- Process Management					

TOTAL : 60 PERIODS

REFERENCES:

1. Silberschatz A, Galvin, P. Gagne G "Operating System Concepts", John Wiley & Sons, 7th Edition, Singapore, 2004.
2. Deitel, H.M., "Operating Systems", Pearson Education, 3rd edition, New Delhi, 2004.
3. Andrew S. Tanenbaum, "Modern Operating Systems", Pearson Education, 3rd Edition, New Delhi, 2007
4. Achyut S. Godbole, "Operating Systems", Tata Mc-Graw Hill, 2nd edition, New Delhi,

EIT023	DATA STRUCTURES	L	T	P	C
		3	1	0	4
UNIT I	PROBLEM SOLVING				12
Problem solving – Top-down Design – Implementation – Verification – Efficiency – Analysis – Sample algorithms.					
UNIT II	LISTS, STACKS AND QUEUES				12
Abstract Data Type (ADT) – The List ADT – The Stack ADT – The Queue ADT					
UNIT III	TREES				12
Preliminaries – Binary Trees – The Search Tree ADT – Binary Search Trees – AVL Trees – Tree Traversals – Hashing – General Idea – Hash Function – Separate Chaining – Open Addressing – Linear Probing – Priority Queues (Heaps) – Model – Simple implementations – Binary Heap					
UNIT IV	SORTING				12
Preliminaries – Insertion Sort – Shellsort – Heapsort – Mergesort – Quicksort – External Sorting					
UNIT V	GRAPHS				12
Definitions – Topological Sort – Shortest-Path Algorithms – Unweighted Shortest Paths – Dijkstra’s Algorithm – Minimum Spanning Tree – Prim’s Algorithm – Applications of Depth-First Search – Undirected Graphs – Biconnectivity – Introduction to NP-Completeness					

L:45 T:15 TOTAL : 60 PERIODS

REFERENCE:

1. R. G. Dromey, "How to Solve it by Computer" (Chaps 1-2), Prentice-Hall of India, 2002.
2. M. A. Weiss, "Data Structures and Algorithm Analysis in C", 2nd ed, Pearson Education Asia, 2002.
3. ISRD Group, "Data Structures using C", Tata McGraw Hill, 2007

4. Richard F. Gilberg, Behrouz A. Forouzan, "Data Structures – A Pseudocode Approach with C", ThomsonBrooks / COLE, 1998

EIT025

DIGITAL LABORATORY

L	T	P	C
0	0	3	2

LIST OF EXERCISES

1. Binary and BCD counter
2. Verification of NAND, NOR, XOR, AND, OR Gate Logic
3. Parity Generator
4. Multiplexer / Demultiplexers
5. Adder / Subtractor
6. Code Converters
7. Up / Down 4 bit Binary Counter
8. Up / Down 4 bit Decimal Counter
9. Shift Register
10. Ring Counter

TOTAL : 45 PERIODS

EIT026

OPERATING SYSTEMS LABORATORY

L	T	P	C
0	0	3	2

LIST OF EXERCISES

1. Concurrency in Unix/ C- creating child processes using fork, exec
2. Implementation of Interprocess communication
3. Implementation of Process Scheduling Algorithms
4. Implementation of Process Synchronization
5. Design and Implementation of Deadlock algorithms
6. Implementation of Memory Management Algorithms
7. Implementation of Page replacement Algorithms
8. File system implementation
9. Directory implementation
10. Implementation of Disk Scheduling Algorithms

TOTAL : 45 PERIODS

EIT027

DATA STRUCTURES LAB

L	T	P	C
0	0	3	2

LIST OF EXERCISES

Implement the following exercises using C:

1. Array implementation of List Abstract Data Type (ADT)
2. Linked list implementation of List ADT
3. Cursor implementation of List ADT
4. Array implementations of Stack ADT
5. Linked list implementations of Stack ADT

The following three exercises are to be done by implementing the following source files

- (a) Program for 'Balanced Paranthesis'
- (b) Array implementation of Stack ADT
- (c) Linked list implementation of Stack ADT
- (d) Program for 'Evaluating Postfix Expressions'

An appropriate header file for the Stack ADT should be #included in (a) and (d)

6. Implement the application for checking 'Balanced Paranthesis' using array implementation of Stack ADT (by implementing files (a) and (b) given above)
7. Implement the application for checking 'Balanced Paranthesis' using linked list implementation of Stack ADT (by using file (a) from experiment 6 and implementing file (c))
8. Implement the application for 'Evaluating Postfix Expressions' using array and linked list implementations of Stack ADT (by implementing file (d) and using file (b), and then by using files (d) and (c))
9. Queue ADT
10. Search Tree ADT - Binary Search Tree
11. Heap Sort
12. Quick Sort

TOTAL : 45 PERIODS

EMA008

MATHEMATICAL STRUCTURES.

L	T	P	C
3	1	0	4

UNIT I SET THEORY

12

Set theory: set notations basic set operations - Venn diagram - laws of set theory principles of inclusion and exclusion - partition - minsets – mathematical induction.

UNIT II PROPOSITIONAL CALCULUS

12

Propositions - Truth table-logical operators – Tautologies and contradiction- Logical equivalences and implications- laws of logic - normal forms- proofs in propositional calculus- Direct proof- conditional conclusion – indirect proof- Inconsistent set of premises.

1. Herbert Schildt, "the Java 2 : Complete Reference", Fourth edition, TMH, 2002 (Unit IV, Unit-V)(Chapters 1-11,13,17)
2. Ira Pohl, "Object oriented programming using C++", Pearson Education Asia, 2003
3. Bjarne Stroustrup, "The C++ programming language", Addison Wesley, 2000
4. John R.Hubbard, "Progranning with C++", Schaums outline series, TMH, 2003
5. H.M.Deitel, P.J.Deitel, "Java : how to program", Fifth edition, Prentice Hall of India private limited.
6. E.Balagurusamy " Object Oriented Programming with C++", TMH 2/e

EIT033	DATABASE MANAGEMENT SYSTEMS	L	T	P	C
		4	0	0	4

UNIT I INTRODUCTION AND CONCEPTUAL MODELING 12

Introduction to File and Database systems- Database system structure – Data Models – Introduction to Network and Hierarchical Models – ER model – Relational Model – Relational Algebra and Calculus.

UNIT II RELATIONAL MODEL 12

SQL – Data definition- Queries in SQL- Updates- Views – Integrity and Security – Relational Database design – Functional dependences and Normalization for Relational Databases (up to BCNF).

UNIT III DATA STORAGE AND QUERY PROCESSING 12

Record storage and Primary file organization- Secondary storage Devices- Operations on Files- Heap File- Sorted Files- Hashing Techniques – Index Structure for files –Different types of Indexes- B-Tree - B+Tree – Query Processing.

UNIT IV TRANSACTION MANAGEMENT 12

Transaction Processing – Introduction- Need for Concurrency control- Desirable properties of Transaction- Schedule and Recoverability- Serializability and Schedules – Concurrency Control – Types of Locks- Two Phases locking- Deadlock- Time stamp based concurrency control – Recovery Techniques – Concepts- Immediate Update- Deferred Update - Shadow Paging.

UNIT V CURRENT TRENDS 12

Object Oriented Databases – Need for Complex Data types- OO data Model- Nested relations- Complex Types- Inheritance Reference Types - Distributed databases- Homogenous and Heterogenous- Distributed data Storage – XML – Structure of XML- Data- XML Document- Schema- Querying and Transformation. – Data Mining and Data Warehousing.

TOTAL : 60 PERIODS

REFERENCES:

1. Abraham Silberschatz, Henry F. Korth and S. Sudarshan- "Database System Concepts", Fourth Edition, McGraw-Hill, 2002.
2. Ramez Elmasri and Shamkant B. Navathe, "Fundamental Database Systems", Third Edition, Pearson Education, 2003.
3. Raghu Ramakrishnan, "Database Management System", Tata McGraw-Hill Publishing Company, 2003.
4. Hector Garcia–Molina, Jeffrey D.Ullman and Jennifer Widom- "Database System Implementation"- Pearson Education- 2000

EIT034	COMPUTER ARCHITECTURE	L	T	P	C
		4	0	0	4

UNIT I BASIC STRUCTURE OF COMPUTERS 12

Functional units - Basic operational concepts - Bus structures - Software performance – Memory locations and addresses – Memory operations – Instruction and instruction sequencing – Addressing modes – Assembly language – Basic I/O operations – Stacks and queues.

UNIT II ARITHMETIC UNIT 12

Addition and subtraction of signed numbers – Design of fast adders – Multiplication of positive numbers - Signed operand multiplication and fast multiplication – Integer division – Floating point numbers and operations.

UNIT III BASIC PROCESSING UNIT 12

Fundamental concepts – Execution of a complete instruction – Multiple bus organization – Hardwired control – Microprogrammed control - Pipelining – Basic concepts – Data hazards – Instruction hazards – Influence on Instruction sets – Data path and control consideration – Superscalar operation.

UNIT IV MEMORY SYSTEM 12

Basic concepts – Semiconductor RAMs - ROMs – Speed - size and cost – Cache memories - Performance consideration – Virtual memory- Memory Management requirements – Secondary storage.

UNIT V I/O ORGANIZATION 12

Accessing I/O devices – Interrupts – Direct Memory Access – Buses – Interface circuits – Standard I/O Interfaces (PCI, SCSI, USB).

TOTAL : 60 PERIODS

REFERENCES:

1. Carl Hamacher, Zvonko Vranesic and Safwat Zaky, 5th Edition "Computer Organization", McGraw-Hill, 2002.

2. William Stallings, "Computer Organization and Architecture – Designing for Performance", 6th Edition, Pearson Education, 2003.
3. David A.Patterson and John L.Hennessy, "Computer Organization and Design: The hardware / software interface", 2nd Edition, Morgan Kaufmann, 2002.
4. John P.Hayes, "Computer Architecture and Organization", 3rd Edition, McGraw Hill, 1998.

EIT036	OBJECT ORIENTED PROGRAMMING LABORATORY	L	T	P	C
		0	0	3	2

C++

1. Programs Using Functions
 - Functions with default arguments
 - Implementation of Call by Value, Call by Address and Call by Reference
2. Simple Classes for understanding objects, member functions and Constructors
 - Classes with primitive data members
 - Classes with arrays as data members
 - Classes with pointers as data members – String Class
 - Classes with constant data members
 - Classes with static member functions
3. Compile time Polymorphism
 - Operator Overloading including Unary and Binary Operators.
 - Function Overloading
4. Runtime Polymorphism
 - Inheritance
 - Virtual functions
 - Virtual Base Classes
 - Templates
5. File Handling
 - Sequential access
 - Random access

JAVA

6. Simple Java applications
 - for understanding reference to an instance of a class (object), methods
 - Handling Strings in Java
7. Simple Package creation.
 - Developing user defined packages in Java
8. Interfaces
 - Developing user-defined interfaces and implementation
 - Use of predefined interfaces
9. Threading
 - Creation of thread in Java applications
 - Multithreading
10. Exception Handling Mechanism in Java
 - Handling pre-defined exceptions

- Handling user-defined exceptions

EIT037 DATABASE MANAGEMENT SYSTEMS LABORATORY L T P C
0 0 3 2

1. Data Definition Language (DDL) commands in RDBMS.
2. Data Manipulation Language (DML) and Data Control Language (DCL) commands in RDBMS.
3. High-level language extension with Cursors.
4. High level language extension with Triggers
5. Procedures and Functions.
6. Embedded SQL.
7. Database design using E-R model and Normalization.
8. Design and implementation of Payroll Processing System.
9. Design and implementation of Banking System.
10. Design and implementation of Library Information System.

TOTAL: 45 PERIODS

EIT038 ALGORITHMS DESIGN LABORATORY L T P C
0 0 3 2

1. Apply the divide and Conquer technique to arrange a set of numbers using merge sort method.
2. Perform Strassen's matrix multiplication using divide and conquer method.
3. Solve the knapsack problem using greedy method.
4. Construct a minimum spanning tree using greedy method.
5. Construct optimal binary search trees using dynamic programming method of problem solving.
6. Find the solution for traveling salesperson problem using dynamic programming approach.
7. Perform graph traversals.
8. Implement the 8-Queens Problem using backtracking.
9. Implement knapsack problem using backtracking.
10. Find the solution of traveling salesperson problem using backtracking

TOTAL: 45 PERIODS

EMA009 PROBABILITY AND STATISTICS L T P C
4 0 0 4

UNIT I STATISTICS 12
 Introduction - Classification and tabulation of statistical data – Diagrammatic and graphical representation of data.

UNIT II MEASURES OF CENTRAL TENDANCY 12
 Mean , Median and Mode (Revision) – Range – Quartile deviation – Mean deviation – Standard Deviation – Measures of Skewness

UNIT III CORRELATION AND REGRESSION 12
 Karl Pearson’s Coefficient of correlation – Spearman’s Rank correlation – Regression lines and co-efficients.

UNIT IV PROBABILITY & DISTRIBUTIONS 12
 Basic concepts - Conditional Probability- Addition and multiplication theorem – Random variables - Characteristics and applications of Binomial, Poisson and Normal distributions - simple problems.

UNIT V TESTING OF HYPOTHESIS 12
 Concept of hypothesis – level of significance – testing difference between mean, proportions (Large and Small)- Chi-square distribution- Applications of test of independence of attributes and Goodness of fit – Testing of population variance. Statistical Quality Control: Introduction- Control charts for variables and attributes: - \bar{X} , R, np, p & c charts.

TOTAL : 60 PERIODS

REFERENCES:

1. S.C. Gupta & V.K. Kapoor, “Fundamentals of Mathematical Statistics”, Sultan Chand and Sons, New Delhi, 2002
2. Veerarajan T., “Probability, Statistics and Random Processes”, Tata McGraw-Hill, New Delhi, 2002.
3. Ronald E. Walpole et al “Probability & Statistics for Engineers & Scientists”, Pearson Education, 2002.
4. Jay L.Devore, “Probability and Statistics for Engineering and the Sciences”, Thomson Asia Pvt Ltd., Singapore, 2002.

EIT041	MICROPROCESSOR AND INTERFACING	L	T	P	C
		3	1	0	4

UNIT I 8-BIT MICROPROCESSOR 9

3 1 0 4

UNIT I JAVA BASICS-REVIEW 9
Java Streaming – Components and events handling – Threading concepts – Networking-features – Byte code interpretation – Media Techniques.

UNIT II JAVA DATA STRUCTURES 9
Lists – Linear Structures – Ordered Structures – Sorting – Trees.

UNIT III ADVANCED NETWORKING AND BEANS 9
Client-Sever computing – Sockets – Content and Protocols handlers – Developing distributed applications – RMI – Remote objects – Object serialization – Bean Concepts – Events in Bean Box – Bean customization and persistence.

UNIT IV JAVA DATABASE PROGRAMMING 9
Connecting to Databases – JDBC principles – Databases access – Interacting – Database search – Accessing Multimedia databases – Database support in Web applications.

UNIT V RELATED JAVA TECHNIQUES 9
3D graphics – JAR file format and creation – Internationalization – Swing Programming – Advanced Java Scripting Techniques.

L:45 T:15 TOTAL:60 PERIODS

REFERENCES:

1. Ken Arnold, James Gosling and David Holmes, “The JAVA Programming Language”, 3rd edition, Tata Mc-Graw Hill, 2007
2. Elliotte Rusty Harold, “Java Network Programming”, O’Reilly publishers, 2000
3. Patrick Naughton, “Complete Reference: Java2”, 7th edition, Tata Mc-Graw Hill, 2003
4. H.M.Deitel, P.J.Deitel, “Java : how to program”, Fifth edition, Prentice Hall of India private limited.2005

EIT043 COMPUTER NETWORKS L T P C
4 0 0 4

UNIT I DATA COMMUNICATIONS 12
Components – Direction of Data flow – networks – Components and Categories – types of Connections – Topologies –Protocols and Standards – ISO / OSI model – Transmission Media – Coaxial Cable – Fiber Optics – Line Coding – Modems – RS232 Interfacing sequences.

UNIT II DATA LINK LAYER 12

Error – detection and correction – Parity – LRC – CRC – Hamming code – low Control and Error control - stop and wait – go back-N ARQ – selective repeat ARQ- sliding window – HDLC. - LAN - Ethernet IEEE 802.3 - IEEE 802.4 - IEEE 802.5 - IEEE 802.11 – FDDI - SONET – Bridges.

UNIT III NETWORK LAYER 12

Internetworks – Packet Switching and Datagram approach – IP addressing methods – Subnetting – Routing – Distance Vector Routing – Link State Routing – Routers.

UNIT IV TRANSPORT LAYER 12

Duties of transport layer – Multiplexing – Demultiplexing – Sockets – User Datagram Protocol (UDP) – Transmission Control Protocol (TCP) – Congestion Control – Quality of services (QOS) – Integrated Services.

UNIT V APPLICATION LAYER 12

Domain Name Space (DNS) – SMTP – FTP – HTTP - WWW – Security – Cryptography.

TOTAL: 60 PERIODS

REFERENCES:

1. Behrouz A. Forouzan, “Data communication and Networking”, Tata McGraw-Hill, 2004.
2. James F. Kurose and Keith W. Ross, “Computer Networking: A Top-Down Approach Featuring the Internet”, Pearson Education, 2003.
3. Andrew S. Tanenbaum, “Computer Networks”, PHI, Fourth Edition, 2003.
4. William Stallings, “Data and Computer Communication”, Sixth Edition, Pearson Education, 2000.

EIT045	MICROPROCESSORS AND INTERFACING LABORATORY	L	T	P	C
		0	0	3	2

1. Write an assembly language program to perform arithmetic operations on block of data using Hexadecimal numbers.
2. Write an assembly language program to perform arithmetic operations on block of data using BCD numbers.
3. Write an assembly language program to perform byte and string manipulation.
4. Write an assembly language program to interface Programmable Peripheral Interface.
5. Write an assembly language program to interface Programmable Timer.
6. Write an assembly language program to interface Programmable Communication Interface.

7. Write an assembly language program to interface Keyboard/Display Controller.
8. Write a program to Perform Power on Self Test.
9. Write a program for floppy disk trouble shooting.
10. Write a program for printer trouble shooting.

TOTAL:45 PERIODS

EIT046

JAVA PROGRAMMING LABORATORY

L	T	P	C
0	0	3	2

1. Implementation of Interfaces and packages.
2. Implementation of Multithreading and Exception Handling concepts.
3. Implementation of Applets.
4. Front End Development using swing and AWT.
5. Message transfer using TCP/IP Protocol.
6. Developing a simple Application using Servlets.
7. Developing a simple Application using JSP.
8. Developing a simple Application using JDBC.

TOTAL:45 PERIODS

EIT047

COMPUTER NETWORKS LABORATORY

L	T	P	C
0	0	3	2

(All the programs are to be written using C)

1. Simulation of ARP / RARP.
 2. Write a program that takes a binary file as input and performs bit stuffing and CRC Computation.
 3. Develop an application for transferring files over RS232.
 4. Simulation of Sliding-Window protocol.
 5. Simulation of BGP / OSPF routing protocol.
 6. Develop a Client – Server application for chat.
 7. Develop a Client that contacts a given DNS Server to resolve a given host name.
 8. Write a Client to download a file from a HTTP Server.
- Study of Network Simulators like NS2/Glomosim / OPNET

TOTAL:45 PERIODS

EIT051

SOFTWARE ENGINEERING

L	T	P	C

UNIT I SOFTWARE PROCESS 9

Introduction –S/W Engineering Paradigm – life cycle models (water fall, incremental, spiral, WINWIN spiral, evolutionary, prototyping, object oriented) - system engineering – computer based system – verification – validation – life cycle process – development process –system engineering hierarchy.

UNIT II SOFTWARE REQUIREMENTS 9

Functional and non-functional - user – system –requirement engineering process – feasibility studies – requirements – elicitation – validation and management – software prototyping – prototyping in the software process – rapid prototyping techniques – user interface prototyping - S/W document. Analysis and modeling – data, functional and behavioral models – structured analysis and data dictionary.

UNIT III DESIGN CONCEPTS AND PRINCIPLES 9

Design process and concepts – modular design – design heuristic – design model and document. Architectural design – software architecture – data design – architectural design – transform and transaction mapping – user interface design – user interface design principles. Real time systems - Real time software design – system design – real time executives – data acquisition system - monitoring and control system. SCM – Need for SCM – Version control – Introduction to SCM process – Software configuration items.

UNIT IV TESTING 9

Taxonomy of software testing – levels – test activities – types of s/w test – black box testing – testing boundary conditions – structural testing – test coverage criteria based on data flow mechanisms – regression testing – testing in the large. S/W testing strategies – strategic approach and issues - unit testing – integration testing – validation testing – system testing and debugging.

UNIT V SOFTWARE PROJECT MANAGEMENT 9

Measures and measurements – S/W complexity and science measure – size measure – data and logic structure measure – information flow measure. Software cost estimation – function point models – COCOMO model- Delphi method.- Defining a Task Network – Scheduling – Earned Value Analysis – Error Tracking - Software changes – program evolution dynamics – software maintenance – Architectural evolution. Taxonomy of CASE tools.

L:45 T:15 TOTAL:60 PERIODS

REFERENCES:

1. Roger S.Pressman, Software engineering- A practitioner's Approach, McGraw-Hill International Edition, 6th edition, 2007.
2. Ian Sommerville, Software engineering, Pearson education Asia, 6th edition, 2001.
3. Pankaj Jalote- An Integrated Approach to Software Engineering, Springer Verlag, 1997.

4. James F Peters and Witold Pedryez, "Software Engineering – An Engineering Approach", John Wiley and Sons, New Delhi, 2000.
5. Ali Behforooz and Frederick J Hudson, "Software Engineering Fundamentals", Oxford University Press, Noida, 2003.

EIT052	WEB TECHNOLOGY	L	T	P	C
		4	0	0	4

UNIT I INTRODUCTION 12

Internet Principles – Basic Web Concepts – Client/Server model – Retrieving data from Internet – HTML and Scripting Languages – Standard Generalized Mark-up Language –Next Generation Internet – Protocols and applications.

UNIT II COMMON GATEWAY INTERFACE PROGRAMMING 12

HTML forms – CGI Concepts – HTML tags Emulation – Server-Browser communication – E-mail generation – CGI Client side Applets – CGI Server Side Applets – Authorization and security.

UNIT III SOCKET PROGRAMMING 12

Streaming – Networking principles – sockets – protocol handlers – content handlers – multicasting – Remote Method Invocation – activation – Serialization - Marshal Streams.

UNIT IV SERVER SIDE PROGRAMMING 12

Dynamic web content – cascading style sheets – DHTML – XML - Server side includes - communication – Active and Java Server Pages - Firewalls – proxy servers.

UNIT V ONLINE APPLICATIONS 12

Simple applications – On-line databases – monitoring user events – plug-ins – database connectivity – Internet Information Systems - EDI application in business – Internet commerce – Customization of Internet commerce

TOTAL:60 PERIODS

REFERENCES:

1. Rashim Mogha, Preetham.V.V., "Java Web Services Programming", Wiley Dreamtech, New Delhi, 2002.
2. Deitel , "XML How to Program", first edition, Pearson Education, USA, 2002.
3. Jason Hunter, William Crawford, "Java Servlet Programming", O' Reilly Publications, USA, 1998.
4. Bhanu Pradhap, " Understanding Active Server Pages ", Cyber Tech Publications ,New Delhi, 2001.

5. James Conard, Patrick Dengler, Brain Franics Et Al, "Introducing .NET ", Shroff Publishers, New Delhi, 2001.

EIT053	EMBEDDED SYSTEMS	L	T	P	C
		3	1	0	4
UNIT I	INTRODUCTION TO EMBEDDED SYSTEMS				9
	Definition and Classification – Overview of Processors and hardware units in an embedded system – Software embedded into the system – Exemplary Embedded Systems – Embedded Systems on a Chip (SoC) and the use of VLSI designed circuits				
UNIT II	DEVICES AND BUSES FOR DEVICES NETWORK				9
	I/O Devices - Device I/O Types and Examples – Synchronous - Iso-synchronous and Asynchronous Communications from Serial Devices - Examples of Internal Serial-Communication Devices Parallel Port Devices - Sophisticated interfacing features in Devices/Ports- Timer and Counting Devices - '12C', 'USB', 'CAN' and advanced I/O Serial high speed buses- and advanced buses.				
UNIT III	PROGRAMMING CONCEPTS				9
	Programming in assembly language (ALP) vs. High Level Language - C Program Elements, Macros and functions -Use of Pointers - Multiple function calls in a Cyclic Order in the Main Function Pointers – Function Queues and Interrupt Service Routines Queues Pointers –Cross compiler – Optimization of memory codes.				
UNIT IV	78910--987U89100-0-00000P8(9)				9
	Definitions Of Process, Tasks And Threads – Clear Cut Distinction Between Functions – Isrs And Tasks By Their Characteristics – Operating System Services- Device Management – File System Organisation And Implementation – I/O Subsystems – Interrupt Routines Handling In RTOS, Real Time Operating Systems, Inter Process Communication And Synchronisation — Remote Procedure Calls.				
UNIT V	REAL TIME OPERATING SYSTEMS – PART - 2				9
	Study of Micro C/OS-II or Vx Works or Any other popular RTOS – RTOS System Level Functions — Case Studies of Programming with RTOS – Understanding Case Definition – Multiple Tasks and their functions – Creating a list of tasks – Functions and IPCs – Exemplary Coding Steps.				

L:45 T:15 TOTAL:60 PERIODS

REFERENCES:

1. Rajkamal, Embedded Systems Architecture, Programming and Design, TATA McGraw-Hill, First reprint Oct. 2003
2. Steve Heath, Embedded Systems Design, Second Edition-2003, Newnes,
3. David E.Simon, An Embedded Software Primer, Pearson Education Asia, New Delhi, 2004.
4. Wayne Wolf, Computers as Components; Principles of Embedded Computing System Design – Harcourt India, Morgan Kaufman Publishers, New Delhi, 2006

EIT055	SOFTWARE LABORATORY	L	T	P	C
		0	0	3	2

1. Study of case tools such as rational rose or equivalent tools

2. Requirements

Implementation of requirements engineering activities such as elicitation, validation, management using case tools

3. Analysis and design

Implementation of analysis and design using case tools.

4. Study and usage of software project management tools such cost estimates and scheduling

5. Documentation generators - Study and practice of Documentation generators.

6. Data modeling using automated tools.

7. Practice reverse engineering and re engineering using tools.

8. Exposure towards test plan generators, test case generators, test coverage and software metrics.

9. Meta modeling and software life cycle management.

TOTAL; 45 PERIODS

EIT056	WEB TECHNOLOGY LABORATORY	L	T	P	C
		0	0	3	2

Creating applications using web development tools

1. HTML & VB Script
2. XML - DTD
3. XML - XSL
4. XML - CSS
5. Translating EDIfact document to XML
6. Active Server Pages

- 7. Java Server Pages
- 8. Java Servlets
- 9. .NET Platform
- 10. C# in .NET Platform

TOTAL; 45 PERIODS

EIT057	EMBEDDED SYSTEMS LABORATORY	L	T	P	C
		0	0	3	2

- 1. Study of 8051 Microcontroller kit and simulator
- 2. Arithmetic operations , Addition, Subtraction, Multiplication and Division
- 3. Interrupt programming
- 4. Design of moving display
- 5. Parallel interfacing , testing of I/O ports
- 6. Keyboard/display interface
- 7. Traffic light controller interface
- 8. ADC/DAC interface
- 9. Serial interfacing , Kit to PC communication
- 10. Interfacing a LCD display

TOTAL; 45 PERIODS

EIT061	FUNDAMENTALS OF DIGITAL SIGNAL PROCESSING	L	T	P	C
		3	1	0	4

UNIT I SIGNALS AND SYSTEMS 9

Basic elements of digital signal Processing –Concept of frequency in continuous time and discrete time signals – Sampling theorem –Discrete time signals. Discrete time systems – Analysis of Linear time invariant systems –Z transform –Convolution and correlation.

UNIT II FAST FOURIER TRANSFORMS 9

Introduction to DFT – Efficient computation of DFT Properties of DFT – FFT algorithms – Radix-2 and Radix-4 FFT algorithms – Decimation in Time – Decimation in Frequency algorithms – Use of FFT algorithms in Linear Filtering and correlation.

UNIT III IIR FILTER DESIGN 9
 Structure of IIR – System Design of Discrete time IIR filter from continuous time filter – IIR filter design by Impulse Invariance. Bilinear transformation – Approximation derivatives – Design of IIR filter in the Frequency domain.

UNIT IV FIR FILTER DESIGN 9
 Symmetric & Antisymmetric FIR filters – Linear phase filter – Windowing technique – Rectangular, Kaiser windows – Frequency sampling techniques – Structure for FIR systems.

UNIT V FINITE WORD LENGTH EFFECTS 9
 Quantization noise – derivation for quantization noise power – Fixed point and binary floating point number representation – comparison – over flow error – truncation error – co-efficient quantization error - limit cycle oscillation – signal scaling – analytical model of sample and hold operations – Application of DSP – Model of Speech Wave Form – Vocoder.

L:45 T:15 TOTAL:60

REFERENCES:

1. John G Proakis and Dimtris G Manolakis, "Digital Signal Processing Principles, Algorithms and Application", PHI/Pearson Education, 2000, 3rd Edition.
2. Alan V Oppenheim, Ronald W Schafer and John R Buck, "Discrete Time Signal Processing", PHI/Pearson Education, 2000, 2nd Edition.
3. Johnny R.Johnson, "Introduction to Digital Signal Processing", Prentice Hall of India/Pearson Education, 2002.
4. Sanjit K.Mitra, "Digital Signal Processing: A Computer – Based Approach", Tata McGraw-Hill, 2001, Second Edition.

EIT062	UNIX INTERNALS	L	T	P	C
		4	0	0	4

UNIT I GENERAL OVERVIEW OF THE SYSTEM 12
 History – System structure – User perspective – Operating system services – Assumptions about hardware. Introduction to the Kernel : Architecture of the UNIX operating system – Introduction to system concepts – Kernel data structures – System administration – Summary and Preview.

UNIT II BUFFER CACHE 12
 Buffer headers – Structure of the buffer pool – Advantages and disadvantages of the buffer cache. Internal representation of files : Inodes – Structure of a regular file – Directories – Conversion of a path name to an Inode – Super block – Other file types.

UNIT III SYSTEM CALLS FOR FILE SYSTEM 12

Open – Read – Write – File and record locking – Adjusting the position of file I/O –LSEEK – Close – File creation – Creation of special files – Pipes – Dup – Mounting and unmounting file systems

UNIT V THE STRUCTURE OF PROCESSES 12

Process states and transitions – Layout of system memory – The context of a process – Saving the context of a process. Process Control: Process creation – Signals – Process termination – Awaiting process termination – Invoking other programs – The shell – System boot and the INIT process.

UNIT V PROCESS SCHEDULING AND MEMORY MANAGEMENT POLICIES 12

Process Scheduling – Memory Management Policies : Swapping – A hybrid system with swapping and demand paging. The I/O Subsystem : Driver Interfaces– Disk Drivers-Terminal Drivers.

TOTAL:60 PERIODS

REFERECES:

1. Maurice J. Bach, “The Design of the Unix Operating System”, Prentice Hall of India, 2004.
2. Vahalia, “Unix Internals: The New Frontiers”, Pearson Education Inc, 2003.

EIT063	TCP/IP AND SOCKET PROGRAMMING	L	T	P	C
		3	1	0	4

UNIT I ROUTING 9

Datalink layer protocols- Internet Protocol, Header, Routing, Subnetting and Supernetting, ARP and RARP, Internet Control Message Protocol (ICMP), Internet Group Message Protocol (IGMP), IP Routing, Dynamic Routing Protocols, IPV6

UNIT II TRANSPORT LAYER 9

End-to-end issues- Flow control- Congestion control- Error control- User Datagram protocol- Transmission Control Protocol- Services and Leader connection Establishment and Termination, Interactive Dataflow, Timeout and Retransmission - SCTP

UNIT III SOCKET PROGRAMMING 9

Socket Abstraction, Endpoint Address Creation, Connection, Sending and Receiving Options using Socket Calls in Programs

UNIT IV SOCKET PROGRAMMING APPLICATIONS 9

TCP Echo Client Server, UDP Echo Client Server, FTP, Remote Login (Telnet, Rlogin), Internet Management (SNMP, SNMPV2)

UNIT V ADVANCED NETWORKING CONCEPTS 9

Wireless networks- mobile IP- sensor networks- applications

L:45 T:15 TOTAL:60 PERIODS

REFERENCES:

1. ehrouz A.Forouzan, "TCP/IP Protocol Suite", second edition, Tata McGraw Hill, New Delhi, 2003.
2. Douglas E.Comer, "Internetworking with TCP/IP, Principles, Protocols and Architecture", fourth edition, Prentice Hall, New Delhi, 2004.

EIT064	MOBILE COMMUNICATION	L	T	P	C
		4	0	0	4

UNIT I INTRODUCTION 12

Mobile Communication, Mobile Computing, Mobile Computing Architecture, Mobile Devices, Mobile System Networks, Data Dissemination, Mobility Management, Security. Introduction to Cellular Systems, Global System for Mobile Communication (GSM), General Packet Radio Services(GPRS) and their architectures

UNIT II WIRELESS MEDIUM ACCESS CONTROL 12

Interference in Cellular Systems, Frequency Management, Channel Assignment, Location management in cellular networks, Medium Access Control, Introduction to CDMA based systems, Spread Spectrum in CDMA systems, Coding Methods in CDMA

UNIT III MOBILE IP NETWORK LAYER 12

Mobile IP Protocol Overview, Route Optimization, Mobility support for IPV6, Connectivity with 3G Networks, Packet Delivery and Handover Management, location Management, Registration, Tunneling and Encapsulation, Route Optimization, Dynamic Host Control protocol

UNIT IV MOBILE TRANSPORT LAYER 12

Conventional TCP/IP protocols, Indirect TCP, Snooping TCP, Mobile TCP, Other methods of TCP layer transmission for Mobile networks
MOBILE OPERATING SYSTEMS:Palm OS, Windows CE, Symbion OS, Linux for Mobile Devices

UNIT V DATA SYNCHRONIZATION 12

Synchronization, Synchronization software, Synchronization Protocols, SyncML – Synchronization Language for Mobile Computing, Synchronized Multimedia markup Language. MOBILE INTERNET: The WAP Architecture, Wireless Application Environment, Wireless Markup Language, WAP Binary XML Content Format, WAP Gateway, Wireless Gateway, Transcoding, InfoPyramid Framework, ProxiNet Transcoding Gateway

TOTAL:60 PERIODS

REFERENCES:

1. Raj Kamal, "Mobile Computing", Oxford University Press, New Delhi, 2007.
2. Jochen H. Schller, "Mobile Communications", second edition, Pearson Education, New Delhi, 2007.
3. Jon W. Mark, Weihua Zhuang, "Wireless Communications and Networking", Prentice Hall, New Delhi, 2007.
4. Dharma Prakash Agarval, Qing , An Zeng, "Introduction to Wireless and Mobile systems", Thomson Asia Pvt Ltd, Singapore, 2005.

EIT066	UNIX INTERNALS LABORATORY	L	T	P	C
		0	0	3	2

The students are to take up mini projects along with the following list of experiments

1. Study of basic Unix commands and System calls
2. System calls for file systems
3. Study of kernel data structures
4. Awk programming
5. Shell programming

TOTAL: 45 PERIODS

EIT067	TCP/IP AND SOCKET PROGRAMMING LABORATORY	L	T	P	C
		0	0	3	2

1. Study of Socket Interface
2. Implementation of UDP
3. Implementation of TCP
4. Implementation of FTP
5. Implementation of Telnet
6. Implementation of Distance vector algorithm
7. Implementation of link state vector algorithm

8. Simulation of RIP
9. Simulation of ICMP
10. Study of IPV6

TOTAL: 45 PERIODS

EIT071

PROJECT WORK -1

L T P C
0 0 24 12

The project will be one semester duration. The student will be sent to different organizations involved in science communication activities as per interest and specialization of students, mostly located in the place of the study. They will have to carry out a research project related to the area of interest and submit a research project report at the end of the semester . The students shall defend their dissertation in front of experts during viva-voce examinations.

EIT081

INFORMATION CODING TECHNIQUES

L T P C
3 0 0 3

UNIT I INFORMATION ENTROPY FUNDAMENTALS

9

Relation between information and probability - mutual and self information entropy - Shannon's theorem - Code design - Shannon-Fano coding - Huffman coding - Implementation of Huffman code.

UNIT II DATA AND VOICE CODING

9

Context dependent coding - arithmetic codes - overall efficiency consideration – Voice coding, Delta – Modulation and Adaptive Delta Modulation - linear predictive coding - silence coding - sub-band coding.

UNIT III IMAGE AND VIDEO COMPRESSION

9

Direct cosine transform -Walsh transform - Hadamard transform - quantization loss - loss estimation – JPEG components and standards – Interframe coding - motion compensation techniques.

UNIT IV IMAGE ENCODING

9

Objective and Subjective fidelity criteria - Basic encoding process - The mapping -The quantizer -The coder - differential encoding - Contour encoding - Runlength encoding - Image encoding relative to fidelity criterion - Differential pulse code modulation

UNIT V ERROR CONTROL CODING

9

Backward error correction - Linear block codes – BCH codes – Golay codes – efficiency of LBC – performance of simple ARQ, go back-n and selective repeat schemes – Forward correction codes – Convolution coding – decoding algorithms – Viterbi decoding – optimum decoding – performance measures.

TOTAL:45 PERIODS

REFERENCES:

1. Viterbi, "Information Theory and Coding", McGraw Hill, 1996
2. Proakis, "Digital Communication", McGraw Hill, 1997
3. Sam.K.shanmugam, "Digital and Analog Communication Systems", Johnwiley, 1996
4. Rafael E. Gonzalez, and Paul Wintz, "Digital Image Processing", Addison Wesley Publishing Company, 1987.
5. Anil K Jain, "Fundamentals of Digital Image Processing ", Prentice Hall of India, 1995.

EIT082

NETWORK SECURITY

L	T	P	C
3	1	0	4

UNIT I CONVENTIONAL AND MODERN ENCRYPTION 9

Services – Attacks – Steganography - Classical Encryption Techniques – DES – Differential and Linear Cryptanalysis – Modes of operation – Encryption Algorithms – Triple DES – Blowfish – CAST128

UNIT II PUBLIC KEY ENCRYPTION 9

Uniqueness – Number Theory concepts – Primality – Modular Arithmetic – Fermat & Euler Theorem – Euclid Algorithm – RSA Algorithm – Elliptic Curve Cryptography – DiffieHellmanKeyExchange

UNIT III AUTHENTICATION AND SECURITY PRACTICE 9

Digests – Requirements – MAC – Hash function – Security of Hash and MAC – Birthday Attack – MD5 – SHA – RIPEMD – Digital Signature Standard - Authentication applications – Kerberos – Kerberos Encryption Techniques – PGP– IP Security Architecture– Web security – SSL – TLS – SET

UNIT IV PUBLIC- KEY INFRASTRUCTURE 9

Legislation - Regulation and Guidelines, Non-repudiation - Certification Policies and Practices- Public-Key Infrastructure Assessment and Accreditation

UNIT V SYSTEM SECURITY & STANDARDS 9

Intruders and Intrusion – Viruses and Worms – OS Security – Firewalls – Design Principles – Packet Filtering – Application gateways – Trusted systems – Counter Measures. Blueprint for Security – Information Security Policy – Standards and Practices – ISO 17799/BS 7799 – NIST Models – VISA International Security Model – Design of Security Architecture – Planning for Continuity.

L:45 T:15 TOTAL:60 PERIODS

REFERENCES:

REFERENCES:

1. Eric Pulier, Hugh Taylor, " Understanding Enterprise SOA", Dreamtech press, New Delhi, 2005.
2. Chris Peiris and Dennis Mulder, "Pro WCF Practical Microsoft SOA implementation", Apress, Berkeley, CA, USA, 2007.
3. Greg Lomow, Eric Newcomer, "Understanding SOA with Web Services", Pearson Education, New Delhi, 2005.
4. Dan Woods, Thomas Mattern, "Enterprise SOA: Designing it for Business Innovation", Shroff publishers, 2006.

EIT092	ENTERPRISE RESOURCE PLANNING	L	T	P	C
		3	0	0	3

UNIT I INTRODUCTION 9
ERP: An Overview, Enterprise – An Overview, Benefits of ERP, ERP and Related Technologies, Business Process Reengineering (BPR), Data Warehousing, Data Mining, OLAP, SCM

UNIT II ERP IMPLEMENTATION 9
ERP Implementation Lifecycle, Implementation Methodology, Hidden Costs, Organizing the Implementation, Vendors, Consultants and Users, Contracts with Vendors, Consultants and Employees, Project Management and Monitoring

UNIT III THE BUSINESS MODULES 9
Business modules in an ERP Package, Finance, Manufacturing, Human Resources, Plant Maintenance, Materials Management, Quality Management, Sales and Distribution

UNIT IV THE ERP MARKET 9
ERP Market Place, SAP AG, Peoplesoft, Baan, JD Edwards, Oracle, QAD, SSA

UNIT V ERP – PRESENT AND FUTURE 9
Turbo Charge the ERP System, EIA, ERP and e-Commerce, ERP and Internet, Future Directions

TOTAL: 45 PERIODS

REFERENCES:

1. Alexis Leon, "ERP Demystified", Tata McGraw Hill, New Delhi, 2000
2. Joseph A Brady, Ellen F Monk, Bret Wagner, "Concepts in Enterprise Resource Planning", Thompson Course Technology, USA, 2001.
3. Vinod Kumar Garg and Venkitakrishnan N K, "Enterprise Resource Planning – Concepts and Practice", PHI, New Delhi, 2003

EIT093	XML AND WEB SERVICES	L	T	P	C
		3	1	0	4

UNIT I INTRODUCTION 9

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

UNIT II XML TECHNOLOGY 9

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

UNIT III SOAP 9

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

UNIT IV WEB SERVICES 9

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

UNITV XML SECURITY 9

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

L:45 T:15 TOTAL:60 PERIODS

REFERENCES:

1. Frank. P. Coyle, XML, Web Services And The Data Revolution, Pearson Education, 2002.
2. Ramesh Nagappan , Robert Skoczylas and Rima Patel Sriganesh, “ Developing Java Web Services”, Wiley Publishing Inc., 2004.
3. Sandeep Chatterjee, James Webber, “Developing Enterprise Web Services”, Pearson Education, 2004.
4. McGovern, et al., “Java Web Services Architecture”, Morgan Kaufmann Publishers,2005.

EIT095	SERVICE ORIENTED ARCHITECTURE LABORATORY	L	T	P	C
		0	0	3	2

1. Client side / Server side scripting programs for the Web Pages.
2. Experiments with Active / JAVA server pages.
3. Socket Programming.
4. JAVA Servlets.
5. On-line Transactions – Database connectivity

TOTAL : 45 PERIODS

EIT096	XML AND WEB SERVICES LABORATORY	L	T	P	C
		0	0	3	2

1. Create an XML document to store an address book.
2. Create an XML document to store information about books and create the DTD files.
3. Create an XML schema for the book’s XML document from exercise 2.
4. Create an XML document to store resumes for a job web site and create the DTD file
5. Present the book’s XML document using cascading style sheets (CSS).

6. Write an XSLT program to extract book titles, authors, publications, book rating from the book's XML document and use formatting.
7. Use Microsoft DOM to navigate and extract information from the book's XML document.
8. Use Microsoft DSO to connect HTML form or VB form to the book's XML document and display the information.
9. Create a web service for temperature conversion with appropriate client program.
10. Create a web service for currency conversion (at five currencies) with appropriate client program

TOTAL : 45 PERIODS

EIT0101	PROJECT WORK II	L T P C
		0 0 24 12

The project will be one semester duration. The student will be sent to different organizations involved in science communication activities as per interest and specialization of students, mostly located in the place of the study. They will have to carry out a research project related to the area of interest and submit a research project report at the end of the semester . The students shall defend their dissertation in front of experts during viva-voce examinations.

ELECTIVES			
EIT501	MULTIMEDIA SYSTEMS	L T P C	
		4 0 0 4	

UNIT I	INTRODUCTION TO MULTIMEDIA	12
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Introduction to making Multimedia- Multimedia Skills and training- Text: Using text in Multimedia-Computer and Text- Font Editing and Design Tools- Hypermedia and Hypertext

UNIT II	MULTIMEDIA FILE HANDLING	12
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Sound – Images – Animation - Video

UNIT III	DIGITAL VIDEO AND IMAGE COMPRESSION	12
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Evaluating a compression system - Redundancy and visibility-Video compression techniques- Standardization of an algorithm - The JPEG image compression standard- ITU –T Standards - MPEG motion video compression standard-DVI Technology.

UNIT IV	HARDWARE, SOFTWARE AND MULTIMEDIA AUTHORIZING TOOLS	15
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Multimedia Hardware: Macintosh and Windows production platforms-Hardware Peripherals: Memory and Storage Devices, Input Devices, Output Devices, Communication Devices .Basic Software Tool

UNIT V	MULTIMEDIA AND INTERNET	12
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Internetworking –connections -Internet services -Tools for WWW - Designing WWW.

TOTAL : 60 PERIODS

REFERENCES:

1. Multimedia: Making It Work, Tay Vaughan, 7th Edition, Tata Mc-Graw Hill.2008.
2. Multimedia Systems, John F.Koegel Buford, Pearson edition, 2003. (unit III).
3. Ranjan Parekh, Principles of Multimedia, TMH, 2006.
4. Multimedia: Computing, Communication and applications, Ralf Steinmetz and Klara Nahrstedt, Pearson Edition, 2001.

EIT502	CLIENT SERVER COMPUTING	L	T	P	C
		4	0	0	4
UNIT I	INTRODUCTION				12
	Client Server Computing era, Real Client/Server, Fat Servers or fat clients, 2 tier Vs 3 tier, Intergalactic client server, client server for different models, building blocks				
UNIT II	CLIENT/SERVER OPERATING SYSTEMS				12
	Anatomy of Server programs, Server needs from OS, Server scalability, Client anatomy, Client needs from OS, Client OS trends , MAC OS, Linux OS, Win OS, Server OS trends , NetWare, Win 2000 Server, OS/2 warp server				
UNIT III	CLIENT SERVER MIDDLEWARE				12
	NOS Middleware, global directory services, X.500, LDAP, distributed time services, distributed security services, RPC messaging and peer to peer , Sockets, NetWare, NetBIOS, remote procedure call, messaging and queuing, MOM Vs RPC, Evolution of the NOS, DCE , The enterprise NOS, the internet as NOS				
UNIT IV	CLIENT SERVER TRANSACTION PROCESSING				12
	ACID Properties, Transaction Models, TP Monitor, TP Monitor and OS, TP Monitor and Transaction Management, TP Monitor Client/ Server Interaction types, Transactional RPC, Queues, TP Lite or TP Heavy, TP Lite versus TP Heavy – Managing Heterogeneous networks, Process Management, client/server invocations, Performance				
UNIT V	CLIENT SERVER AND INTERNET				12
	Client server and internet, Web client server, 3 tier client server web style, CGI , the server side of web, CGI and State, SQL database servers, Middleware and federated databases, data				

TOTAL : 60 PERIODS

REFERENCES:

1. Harold Kooritz & Heinz Wehrich "Essentials of Management", Tata McGraw-Hill, 1998.
2. Joseph L Massie "Essentials of Management", Prentice Hall of India, (Pearson) Fourth Edition, 2003.
3. Tripathy PC And Reddy PN, " Principles of Management", Tata McGraw-Hill, 1999.
4. Decenzo David, Robbin Stephen A, "Personnel and Human Resources Management", Prentice Hall of India, 1996

EIT504	OBJECT ORIENTED ANALYSIS AND DESIGN	L	T	P	C
		4	0	0	4

UNIT I INTRODUCTION 12

Object model – Elements – Class and object – Nature of object/class – Relationship among objects – Relationship among classes – Quality classes and objects. Classification and Process - Classification – classical categorization –Conceptual clustering.

UNIT II ANALYSIS AND DESIGN 12

Prototype theory – Analysis and design – Activities – Classical approaches – First principles – The Micro development process – The Macro Development process. UML Notations – UML model – Introduction –Use case – Usage –Class diagrams – Perspectives.

UNIT III UML MODELS 12

Perspectives – Associations – Attributes – Operations – CRC cards – Usage – Interaction diagrams – Sequence diagrams – Collaboration diagrams – Package diagrams – Concurrent state diagram – Activity diagram – Decomposing and activity – Domain model – Specification model – System design – Detailed design – Coding

UNIT IV OBJECT ORIENTED TECHNIQUES 12

Object Oriented model traditional techniques - Current techniques - Approach to identify attribute – Service – Method. Behaviour Specifications – Static behaviour specification techniques Control – Documenting control.

UNIT V STATIC AND DYNAMIC BEHAVIOR 12

Documenting static behaviour - Dynamic behaviour identification - Specification techniques - Documenting - Event specifications - Identifying relationships.

TOTAL:60 PERIODS

REFERENCES:

1. Martin Fowler, Kendall Scott, "UML Distilled - Applying the standard object modeling language", Addison Wesley, 1997.
2. Richard C Lee, William M Tepfenhart, "UML and C++ - A practical guide to object oriented development", PH, 1997.
3. Grady Booch, "Object Oriented Analysis and Design with applications" II Edition Addison Wesley, 1994.
4. James Martin & James J. Odell, "Object Oriented Methods - A foundation", Prentice Hall, 1997.

EIT505	SOFTWARE PROJECT MANAGEMENT	L	T	P	C
		4	0	0	4
UNIT I	INTRODUCTION TO SOFTWARE PROJECT MANAGEMENT				12
	Project Definition – Contract Management – Activities Covered by Software Project Management – Overview Of Project Planning – Stepwise Project Planning.				
UNIT II	PROJECT EVALUATION				12
	Strategic Assessment – Technical Assessment – Cost Benefit Analysis – Cash Flow Forecasting – Cost Benefit Evaluation Techniques – Risk Evaluation. – software effort estimation				
UNIT III	ACTIVITY PLANNING				12
	Objectives – Project Schedule – Sequencing and Scheduling Activities – Network Planning Models – Forward Pass – Backward Pass – Activity Float – Shortening Project Duration – Activity on Arrow Networks – Risk Management – Nature Of Risk – Types Of Risk – Managing Risk – Hazard Identification – Hazard Analysis – Risk Planning and Control.				
UNIT IV	MONITORING AND CONTROL				12
	Resource allocation - identifying and scheduling resources – publishing resource and cost schedule – scheduling sequence - Creating Framework – Collecting The Data – Visualizing Progress – Cost Monitoring – Earned Value – Prioritizing Monitoring – Getting Project Back To Target – Change Control – Managing Contracts – Introduction – Types Of Contract – Stages In Contract Placement – Typical Terms Of A Contract – Contract Management – Acceptance.				
UNIT V	MANAGING PEOPLE AND ORGANIZING TEAMS				12
	Introduction – Understanding Behavior – Organizational Behaviour - Selecting The Right Person For The Job – Instruction In The Best Methods – Motivation – The Oldman – Hackman Job Characteristics Model – Working In Groups – Becoming A Team – Decision Making – Leadership – Organizational Structures – Stress – Health And Safety – Case Studies.				

TOTAL : 60PERIODS

REFERENCES:

1. Gopaldaswamy Ramesh, "Managing Globle Software Projects" Tata McGraw Hill Publishing Company Ltd, New Delhi, 2002
2. Bob Hughes and Mike Cotterell "Software Project Management"2nd edition, Tata McGraw Hill Publishing Company Ltd., New Delhi, 2002.
3. Pressman, Roger, "Software Engineering ", A Practitioner's approach, 7th edition, Tata McGraw Hill, 2006

EIT506

DATA WAREHOUSING

L	T	P	C
4	0	0	4

UNIT I INTRODUCTION TO DATA WAREHOUSING 12

Introduction , Definition and description , Need for Data Ware Housing, Need for strategic information , Failures of past Decision Support Systems , OLTP vs DWH – DWH Requirements – Trends in DWH – DWH Framework, Information Systems Framework (Zachman Framework) – Applications of DWH.

UNIT II DATA WAREHOUSING ARCHITECTURE & DESIGN 12

Reference Architecture , Components of Reference Architecture – Data Ware House Building Blocks – Implementation , Physical Design Process, DWH Deployment Process.
DATABASE DESIGN : Dimensional Modeling , Basics , STAR Schema, Star Schema keys , Advantages of STAR Schema.

UNIT III INTRODUCTION TO DATA MINING 12

Data Mining Tasks – Data Mining Vs KDD – Issues in Data Mining – DM Metrics – Data Mining and Databases – Data Mining Architecture – Future Trends. Data Cleaning – Data Transformation – Data Reduction.

UNIT IV DATA MINING PRIMITIVES & LANGUAGES 12

Data Mining primitives – Data Mining Query Languages. Association Rules – Mining Single Dimensional Boolean Association Rules from Transactional Databases – Mining Multi Dimensional Association from Data Ware Houses.

UNIT V CLASSIFICATION, PREDICTION & CLUSTER ANALYSIS 12

Issues regarding classification and prediction – Decision Tree – Bayesian Classification – Classifier Accuracy. Types of Data – Partitioning Methods – Hierarchical Methods. Mining Event Sequences – Visual DM – Text Mining – Web Mining.

TOTAL:60PERIODS

REFERENCES:

1. Paulraj Ponniah, "Data WareHousing Fundamentals ", John Wiley & Sons, 1st edition, 2003.
2. M.H.Dunham , "Data Mining : Introductory and Advanced Topics", Prentice Hall , 2003
3. Arun k Pujari , "Data Mining Techniques", University Press, 1st edition, New Delhi, 2003.
4. Mehmed Kantardzic, "Data Mining Concepts , Methods and Algorithms ", John Wiley & Sons , 1st edition, New Delhi, 2003.

EIT507	SIGNALS AND SYSTEMS	L	T	P	C
		4	0	0	4

UNIT I INTRODUCTION 12
Representation and classification of continuous time (CT) and discrete time (DT) signals, basic CT and DT signals, basic operations on CT and DT signals, description of CT and DT systems

UNIT II CONTINUOUS TIME SIGNALS AND SYSTEMS 12
Linear time invariant (LTI) systems, convolution integral, causality and stability, CT system representation by differential equations

UNIT III FOURIER ANALYSIS OF THE CT, DT SIGNALS AND SYSTEMS 12
Continuous Time Fourier Series (CTFS) and Fourier transform (CTFT), properties, inverse CTFT, frequency domain characterization of linear time invariant systems Fourier series representation of DT periodic signals (DTFS), properties, representation of DT aperiodic signals by Discrete Time Fourier Transform (DTFT), Properties, inverse DTFT, frequency response of systems characterized by difference equations

UNIT IV SAMPLING AND RECONSTRUCTION OF SIGNALS 12
Sampling theorem, effect of under sampling, aliasing error, sampling methods, impulse, natural and flat top sampling, reconstruction of sampled signals, sample and hold, decimation and interpolation, discrete time processing of CT signals

UNIT V DISCRETE TIME SIGNALS AND Z TRANSFORM 12
Linear Shift Invariant (LSI) systems, convolution sum, causality and stability, DT system representation by difference equations The WAP Architecture, Wireless Application Environment, Wireless Markup Language, WAP Binary XML Content Format, WAP Gateway, Wireless Gateway, Transcoding, InfoPyramid Framework, ProxiNet Transcoding Gateway, Z

transforms and its properties, inverse Z-transform, analysis of LSI systems using Z-transform, stability and causality

TOTAL: 60 PERIODS

REFERENCES:

1. Alan V Oppenheim, Alan S Willsky., and Hamid Nawab S., "Signals and Systems", second edition, Prentice Hall, New Delhi, 2005.
2. Simon Haykin and Barry Van Veen, "Signals and Systems", second edition, John Wiley & Sons Inc., New York, 2003.
3. Ashok Ambardar, "Introduction to Analog and Digital Signal Processing", second edition, Thomson learning, New Delhi, 2004.
4. Dimitris G Monalakis, John G Proakis, "Digital Signal Processing, Principles, Algorithms and Applications", fourth edition, Pearson Education, New Delhi, 2006.

EIT508	WIRELESS TECHNOLOGY	L	T	P	C
		4	0	0	4
UNIT I	WIRELESS MEDIUM				12
Air Interface Design – Radio propagation mechanism – Pathloss modeling and Signal Coverage – Effect of Multipath and Doppler – Channel Measurement and Modelling – Simulation of Radio Channel					
UNIT II	WIRELESS MEDIUM ACCESS				12
Fixed Assignment Access for Voice Networks – Random Access for Data Networks – Integration of Voice and Data Traffic					
UNIT III	WIRELESS NETWORK OPERATION				12
Wireless Network Topologies – Cellular Topology – Cell fundamentals – Signal to Interference Ratio – Capacity Expansion – Mobility Management – Resources and Power Management – Security in Wireless Networks.					
UNIT IV	WIRELESS WAN				12
GSM and TDMA Technology – Mobile Environment – Communication in the Infrastructure – CDMA Technology – IS95 – IMT2000 – Mobile Data Networks – CDPD Networks – GPRS – Mobile Application Protocol					
UNIT V	WIRELESS LANS AND HIPERLANS				12
Introduction to wireless LANs – IEEE 802.11 – WPAN IEEE 802.15 – Wireless Home Networking – Concepts of Bluetooth Technology – Wireless Geolocation.					

TOTAL: 60 PERIODS

REFERENCES:

1. Kaveth Pahlavan, K.Prasanth Krishnamurthy, "Principles of Wireless Networks" Pearson Education Asia, 1st edition, New Delhi, 2002
2. William Stallings, "Wireless Communications and Networks", Prentice Hall, 2nd Edition, New Delhi, 2002.

3. Neeli Prasad, Anand Prasad, "WLAN System & Wireless IP for Next Generation Communications", Artech House, 1st edition, USA, 2002
4. Assuncion Santamaria, Francisco Lopez-Hernandez, "Wireless LAN Standards and Applications", Artech House, 1st Edition, USA, 2001

EIT509	PROFESSIONAL ETHICS	L	T	P	C
		4	0	0	4
UNIT I	ENGINEERING ETHICS				12
Senses of 'engineering ethics' – variety of moral issues – types of inquiry – moral dilemmas – moral autonomy – Kohlberg's theory – Gilligan's theory – consensus and controversy – professions and professionalism – professional ideals and virtues – theories about right action – self-interest – customs and religion – uses of ethical theories.					
UNIT II	ENGINEERING AS SOCIAL EXPERIMENTATION				12
Engineering as experimentation – engineers as responsible experimenters – codes of ethics – a balanced outlook on law – the Challenger case study.					
UNIT III	ENGINEER'S RESPONSIBILITY FOR SAFETY				12
Safety and risk – assessment of safety and risk – risk benefit analysis – reducing risk – the Three Mile Island and Chernobyl case studies.					
UNIT IV	RESPONSIBILITIES AND RIGHTS				12
Collegiality and loyalty – respect for authority – collective bargaining – confidentiality – conflicts of interest – occupational crime – professional rights – employee rights – intellectual property rights (IPR) – discrimination					
UNIT V	GLOBAL ISSUES				12
Multinational corporations – environmental ethics – computer ethics – weapons development – engineers as managers – consulting engineers – engineers as expert witnesses and advisors – moral leadership – sample code of conduct					
TOTAL : 60 PERIODS					

REFERENCES:

1. Mike Martin and Roland Schinzinger, "Ethics in Engineering", McGraw Hill, New York, 1996.
2. Charles D Fleddermann, "Engineering Ethics", Prentice Hall, New Mexico, 1999.
3. Laura Schlesinger, "How Could You Do That: The Abdication of Character, Courage, and Conscience", Harper Collins, New York, 1996.
4. Stephen Carter, "Integrity", Basic Books, New York, 1996.
5. Tom Rusk, "The Power of Ethical Persuasion: From Conflict to Partnership at Work and in Private Life", Viking, New York, 1993

EIT510	PC TESTING AND TROUBLESHOOTING	L	T	P	C
		4	0	0	4

UNIT I PC HARDWARE INTRODUCTION & OVERVIEW 12

Personal computing History, Types of systems, Documentation – Technical Reference Manuals – Hardware Maintenance Manuals. System Teardown and Inspection : Hand Tools, Soldering and Desoldering Tools, Loop Back Connectors, Meters, Logic Probes and Logic Pulsers, Outlet Tester and Chemicals, Disassembly Procedures.

UNIT II PRIMARY SYSTEM COMPONENTS 12

Types of Motherboards, ROM BIOS Compatibility. Bus Slots and I/O Cards. The Processor Bus, the Memory Bus and the Address Bus, Expansion Slots. Types of I/O Buses : The ISA Bus, EISA Bus, VESA Bus and PCI Bus. I/O port Addresses and DMA Channels. PC System Memory : Base Memory, Upper Memory Area, Extended Memory, Expanded Memory, Total Installed Memory Versus Total Usable Memory. Physical Memory and Testing Memory.

UNIT III DISK DRIVES 12

Types of Floppy Drives, Handling Recording Problems, Analysis Floppy Disk Construction, Drive Installation Procedure Trouble Shooting and Correcting Problems, Repairing Floppy Drives. Hard Disk Drives : Hard disk Interfaces and Installation procedure Hard Disk Trouble Shooting and Repair.

UNIT IV SYSTEM ASSEMBLY AND MAINTENANCE 12

System upgrades – Upgrades system Memory, Speeding up a system, upgrading the DOS Version. Preventive Maintenance : Active and Passive Preventive Maintenance Procedure – Power – Protection Systems – Surge suppressions, Phone line surge protectors, Line conditioners, Backup Power, dedicated data backup hardware.

UNIT V DIAGNOSTIC TOOLS AND TROUBLESHOOTING 12

Software and Hardware Diagnostic Tools: The power On self test (POST), General purpose Diagnostic Programs – AMI Diag, Checkit Pro-Norton Diagnostics, Qaplus, Norton utilities, Anti-Virus Tools. Operating System and Trouble Shooting : DOS Components, The Basic process, How DOS Loads and starts, File Management, DOS File spared allocation, The DEBUG Program, Memory Resident Software Conflicts.

TOTAL :60 PERIODS

REFERENCES:

1. Scott Mueller “Upgrading and Repairing PCs”, 14th Edition, Pearson Education, New Delhi, 2002.

UNIT I	INTRODUCTION	12
Organizational behaviour- Foundations of Individual behavior-Perception and Individual decision making-values, attitude and job satisfaction.		
UNIT II	GROUPS IN ORGANISATION	12
Foundations of group behaviour- Understanding work teams- Communication – Leadership.		
UNIT III	ORGANISATION SYSTEM	12
Foundations of organization structure – Technology – Work design and stress – Human resource policies and practices – Organisational Culture.		
UNIT IV	BUSINESS PROCESS RE-ENGINEERING AND IT	12
Basic concepts and the need for BPR-Principles of BPR and the role of IT- BPR and restructuring the organization.		
UNIT V	NETWORK ORGANIZATIONS	12
Networked organization- virtual corporations.		

TOTAL:60 PERIODS

REFERENCES:

1. Stephen P.Robbins “Organizational behavior”, PHI, 12th edition, 2006.
2. Turban,Mclean,wetherbe, ”Information Technology for management” John Wiely and Sons, 2001.
3. Ravi Kalakota and Marcia Robinson, “E-Business; Roadmap for Success; Pearson Education, 2000.
4. Vikram Sethi & William R King, “Organizational transformation through business process reengineering”, Pearson education, 2006.

EIT514	IMAGE PROCESSING	L	T	P	C
		4	0	0	4

UNIT I	DIGITAL IMAGE FUNDAMENTALS AND TRANSFORMS	12
Elements of visual perception – Image sampling and quantization Basic relationship between pixels – Basic geometric transformations-Introduction to Fourier Transform and DFT – Properties of 2D Fourier Transform – FFT – Separable Image Transforms -Walsh – Hadamard – Discrete Cosine Transform, Haar, Slant – Karhunen – Loeve transforms.		
UNIT II	IMAGE ENHANCEMENT TECHNIQUES	12
Spatial Domain methods: Basic grey level transformation – Histogram equalization – Image subtraction – Image averaging –Spatial filtering: Smoothing, sharpening filters – Laplacian filters – Frequency domain filters : Smoothing – Sharpening filters – Homomorphic filtering.		
UNIT III	IMAGE RESTORATION:	12

Model of Image Degradation/restoration process – Noise models – Inverse filtering -Least mean square filtering – Constrained least mean square filtering – Blind image restoration – Pseudo inverse – Singular value decomposition.

UNIT IV IMAGE COMPRESSION 12

Lossless compression: Variable length coding – LZW coding – Bit plane coding- predictive coding-DPCM.

Lossy Compression: Transform coding – Wavelet coding – Basics of Image compression standards: JPEG, MPEG,Basics of Vector quantization.

UNIT V IMAGE SEGMENTATION AND REPRESENTATION 12

Edge detection –Thresholding - Region Based segmentation – Boundary representation: chain codes- Polygonal approximation –Boundary segments –boundary descriptors: Simple descriptors-Fourier descriptors - Regional descriptors –Simple descriptors- Texture

TOTAL : 60 PERIODS

REFERENCES:

1. Rafael C Gonzalez, Richard E Woods 2nd Edition, Digital Image Processing - Pearson Education 2003.
2. William K Pratt, Digital Image Processing John Willey (2001)
3. Image Processing Analysis and Machine Vision – Millman Sonka, Vaclav hlavac, Roger Boyle, Broos/colic, Thompson Larniy (1999).
4. A.K. Jain, PHI, New Delhi (1995)-Fundamentals of Digital Image Processing.
5. Chanda Dutta Magundar – Digital Image Processing and Applications, Prentice Hall of India, 2000

EIT515	MANAGEMENT INFORMATION SYSTEMS	L	T	P	C
		3	0	0	3

UNIT I INTRODUCTION 9

Overview – Structure of MIS – Survey of Information System Technology – Hardware, Software and Communication or Information – Storage and Retrieval of Data – Transactions Processing , Office Automation and Information Processing Control Function.

UNIT II CONCEPTIONAL FOUNDATIONS 9

Design making Process – Concept of Information – Human as Information Processors – System Concepts – Concepts of Planning and Control – Organizational Structure and Management Concepts.

UNIT III INFORMATION BASED SUPPORT SYSTEMS 9

Support System for Planning , Control and Decision making – Support System for Management for Knowledge work – Decision Support Systems.

UNIT IV INFORMATION SYSTEM REQUIREMENTS 9

Developing a long range Information System – Plan Strategies for the determination of Information requirement – Database requirement – User interface requirements.

UNIT V DEVELOPMENT, IMPLEMENTATION AND MANAGEMENT OF INFORMATION SYSTEM RESOURCES 9

Developing and Implementing Application Systems – Quality Assurance and Evaluation of Information Systems – Organization and Management of the Information Resources – Further Development and their Organizational and Social Implications

TOTAL:45 PERIODS

REFERENCES:

1. Gordan B Davis and Megrette H Olson, "Management Information Systems", McGraw Hill, 1997
2. Murdick and Ross, "Information System for Modern Management", Prentice Hall of India, 1997.
3. David Kroenke, "Management Information Systems", McGraw Hill International Editions, 1989.

EIT516 ARTIFICIAL INTELLIGENCE L T P C
3 0 0 3

UNIT I INTRODUCTION 9

Intelligent Agents – Agents and environments - Good behavior – The nature of environments – structure of agents - problem solving agents – example problems – searching for solutions – uniformed search strategies - searching with partial information.

UNIT -II SEARCHING TECHNIQUES 9

Informed search and exploration – Informed search strategies – heuristic function – local search algorithms and optimistic problems – local search in continuous spaces – online search agents and unknown environments - Constraint satisfaction problems (CSP) – Backtracking search and Local search for CSP – Structure of problems - Adversarial Search — Alpha – Beta Pruning – imperfect real-time decision

UNIT III KNOWLEDGE REPRESENTATION 9

First order logic – representation revisited – Syntax and semantics for first order logic – Using first order logic – Knowledge engineering in first order logic - Inference in First order logic – propositional versus first order logic –forward, backward chaining –Resolution - Knowledge representation - Actions - Simulation and events - Mental events

UNIT IV LEARNING 9

Learning from observations - forms of learning - Inductive learning - Learning decision trees - Ensemble learning - Knowledge in learning – Logical formulation of learning – Explanation based learning –Statistical learning methods - Learning with complete data - Learning with hidden variable - EM algorithm - Instance based learning - Neural networks - Active reinforcement learning - Generalization in reinforcement learning.

UNIT V APPLICATIONS 9

Communication – Communication as action – Formal grammar for a fragment of English – Syntactic analysis – Augmented grammars – Semantic interpretation – Ambiguity and disambiguation – Discourse understanding – Grammar induction - Probabilistic language processing - Probabilistic language models – Information retrieval – Information Extraction – Machine translation.

TOTAL: 45 PERIODS

REFERENCES:

1. Stuart Russell, Peter Norvig, “Artificial Intelligence – A Modern Approach”, 2nd Edition, Pearson Education / Prentice Hall of India, 2004.
2. Nils J. Nilsson, “Artificial Intelligence: A new Synthesis”, Harcourt Asia Pvt. Ltd., 2000.
3. Elaine Rich and Kevin Knight, “Artificial Intelligence”, 2nd Edition, Tata McGraw-Hill, 2003.

EIT517 ADVANCED DBMS L T P C
3 0 0 3

UNIT I DATABASE MANAGEMENT 9

Relational Data Model – SQL - Database Design - Entity-Relationship Model – Relational Normalization – Embedded SQL – Dynamic SQL – JDBC – ODBC.

UNIT II ADVANCED DATABASES 9

Object Databases - Conceptual Object Data Model – XML and Web Data – XML Schema – Distributed Data bases – OLAP and Data Mining – ROLAP and MOLAP

UNIT III QUERY AND TRANSACTION PROCESSING 9

Exception handling – Security Distributed shared Memory – Introduction – Architecture – Issues – Granularity Structure – Consistency Models – Replacement Strategy – Thrashing.

UNIT III SYNCHRONIZATION 9

Introduction – Clock Synchronization – Event ordering – Mutual Exclusion – Deadlock – Election Algorithms.

UNIT IV RESOURCE MANAGEMENT 9

Introduction – Features – Task Assignment approach – Load-Balancing Approach - Load - Sharing Approach Process Management – Introduction – Process Migration – Threads.

UNIT V DISTRIBUTED FILE SYSTEMS 9

Introduction – Features – File Models – Accessing Models – Sharing Semantics – Caching Schemes – File Replication – Fault Tolerance – Atomic Transactions – Design Principles Naming – Introduction – Features – Terminologies – Concepts.

TOTAL: 45 PERIODS

REFERENCES:

1. Pradeep K. Sinha, “Distributed Operating Systems, Concepts and Design” Prentice Hall of India, New Delhi, 2001.
2. Andrew S. Tanenbaum “Distributed Operating Systems”, Pearson Education, New Delhi, 2002
3. Mukesh Singhal and Nirajan G.Shivaratri “Advanced Concepts in Operating Systems”, Tata McGraw Hill Publishing Company Ltd., New Delhi, 2001

EIT519	DECISION SUPPORT SYSTEMS	L	T	P	C
		3	0	0	3

UNIT I DECISION-MAKING AND COMPUTERIZED SUPPORT 9

Management Support Systems: An Overview, Decision Making, Systems, Modeling, and Support.

UNIT II DECISION SUPPORT SYSTEMS 9

An Overview, Data Management: Warehousing, Access, and Visualization , Modeling and Analysis , Knowledge based Decision Support and Artificial Intelligence , User Interface and Decision Visualization Applications , Constructing a Decision Support System and DSS Research.

UNIT III COLLABORATION, COMMUNICATION, AND ENTERPRISE SUPPORT SYSTEMS 9

Networked Decision Support: The Internet, Intranets, and Collaborative Technologies, Group Decision Support Systems, Executive Information and Support Systems.

UNIT IV FUNDAMENTALS OF EXPERT SYSTEMS AND INTELLIGENT SYSTEMS 9

Fundamentals of Expert Systems, Knowledge Acquisition and Validation, Knowledge Representation, Inferences, Explanations, and Uncertainty, Building Expert Systems: Process and Tools.

UNIT V CUTTING-EDGE DECISION SUPPORT TECHNOLOGIES 9

Neural Computing: The Basics, Neural Computing Applications, Genetic Algorithms, Fuzzy Logic, and Hybrid Intelligent Systems , Intelligent Agents and Creativity , Implementing and Integrating Management Support Systems , Organizational and Societal Impacts of Management Support Systems.

TOTAL: 45 PERIODS

REFERENCES:

1. Efraim Turban, Jay E. Aronson, "Decision Support Systems and Intelligent Systems", Prentice Hall, New Delhi, 2004
2. George Marakas, "Decision Support Systems in the 21st Century", Prentice Hall, New Delhi, 2003
3. Robert J Thierauf, "User Oriented Decision Support Systems", Prentice Hall, New Delhi, 1998

EIT520	INTERNET PROGRAMMING	L	T	P	C
		3	0	0	3
UNIT I	BASIC NETWORK AND WEB CONCEPTS				9
Internet standards – TCP and UDP protocols – URLs – MIME – CGI – Introduction to SGML.					
UNIT II	JAVA PROGRAMMING				9
Java basics – I/O streaming – files – Looking up Internet Address - Socket programming – client/server programs – E-mail client – SMTP - POP3 programs – web page retrieval – protocol handlers – content handlers - applets – image handling - Remote Method Invocation.					
UNIT III	SCRIPTING LANGUAGES				9
HTML – forms – frames – tables – web page design - JavaScript introduction – control structures – functions – arrays – objects – simple web applications					
UNIT IV	DYNAMIC HTML				9

Dynamic HTML – introduction – cascading style sheets – object model and collections – event model – filters and transition – data binding – data control – ActiveX control – handling of multimedia data

UNIT V SERVER SIDE PROGRAMMING 9

Servlets – deployment of simple servlets – web server (Java web server / Tomcat / Web logic) – HTTP GET and POST requests – session tracking – cookies – JDBC – simple web applications – multi-tier applications.

TOTAL : 45 PERIODS

REFERENCES:

1. Deitel, Deitel and Nieto, "Internet and World Wide Web – How to program", Pearson Education Publishers, 2000.
2. Elliotte Rusty Harold, "Java Network Programming", O'Reilly Publishers, 2002
3. R. Krishnamoorthy & S. Prabhu, "Internet and Java Programming", New Age International Publishers, 2004.
4. Thomno A. Powell, "The Complete Reference HTML and XHTML", fourth edition, Tata McGraw Hill, 2003.
5. Naughton, "The Complete Reference – Java2", Tata McGraw-Hill, 3rd edition, 1999.

EIT521	COMPILER DESIGN	L	T	P	C
		3	0	0	3

UNIT I INTRODUCTION TO COMPILERS: 9

Compilers, Analysis of the Source Program, The Phases of a Compiler, Cousins of the Compiler, The Grouping of Phases, Compiler-Construction Tools, Translators-Compilation and Interpretation, A simple one-pass compiler

UNIT II LEXICAL ANALYSIS: 9

Need and role of lexical analyzer-Lexical errors, Input Buffering - Specification of Tokens, Recognition of Tokens, A Language for Specifying Lexical Analyzers, Finite Automata, From a Regular Expression to an NFA, Design of a Lexical Analyzer Generator

UNIT III SYNTAX ANALYSIS: 9

Need and role of the parser- Context Free Grammars-Top Down parsing - Recursive Descent Parser - Predictive Parser - LL(1) Parser -Shift Reduce Parser - LR Parser - LR (0) item - Construction of SLR Parsing table -Introduction to LALR Parser, YACC- Design of a syntax analyzer for a sample language

UNIT IV SYNTAX DIRECTED TRANSLATION AND TYPE CHECKING: 9

Syntax-Directed Definitions, Construction of Syntax Trees, Bottom-Up Evaluation of S-Attributed Definitions, L-Attributed Definitions, Top Down Translation, Bottom-Up Evaluation of Inherited Attributes, Forms of intermediate code -Translation of Assignment, Boolean Expression and Control statements - Back patching type systems - Specification of a simple type checker - equivalence of type expressions - type conversions

TOTAL: 45 PERIODS

REFERENCES:

1. Watts Humphery, "Managing Software Process ", Addison - Wesley, 2000.
2. Philip B Crosby, " Quality is Free: The Art of Making Quality Certain ", Mass Market, 2004.
3. Roger Pressman, "Software Engineering ", Sixth Edition, McGraw Hill, 2006.

EIT523	MIDDLEWARE TECHNOLOGIES	L	T	P	C
		3	0	0	3

UNIT I INTRODUCTION 9

Software Components – objects – fundamental properties of Component technology – modules – interfaces – callbacks – directory services – component architecture – components and middleware.

UNIT II JAVA COMPONENT TECHNOLOGIES 9

Threads – Java Beans – Events and connections – properties – introspection – JAR files – reflection – object serialization – Enterprise Java Beans – Distributed Object models – RMI and RMI-IIOP.

UNIT III CORBA TECHNOLOGIES 9

Java and CORBA – Interface Definition language – Object Request Broker – system object model – portable object adapter – CORBA services – CORBA component model – containers – Application server – model driven architecture.

UNIT IV COM AND .NET TECHNOLOGIES 9

COM – Distributed COM – object reuse – interfaces and versioning – dispatch interfaces – connectable objects – OLE containers and servers – Active X controls – .NET components - assemblies – appdomains – contexts – reflection – remoting.

UNIT V COMPONENT FRAMEWORKS AND DEVELOPMENT 9

Connectors – contexts – EJB containers – CLR contexts and channels – Black Box component framework – directory objects – cross-development environment – component-oriented programming – Component design and implementation tools – testing tools - assembly tools.

TOTAL: 45 PERIODS

REFERENCES:

1. Clemens Szyperski, "Component Software: Beyond Object-Oriented Programming", Addison Wesley, 2nd Edition 2002.
2. Ed Roman, "Enterprise Java Beans", 3rd Edition, Wiley, 2004.
3. Andreas Vogel, Keith Duddy, "Java Programming with CORBA", John Wiley & Sons 1998
4. Corry, Mayfield, Cadman, "COM/DCOM Primer Plus", Tec media, 1st Edition, 1999

EIT524	ARCHITECTURE OF UNIX & WINDOWS	L	T	P	C
		3	0	0	3

UNIT I INTRODUCTION TO UNIX 9
 Introduction- The file system-Shell programming- Filters- Communication and Scheduling- File system commands- System Administration.

UNITII DESIGN ASPECTS OF UNIX 9
 Architecture of UNIX OS ,UNIX Kernel, Kernel data structures- The buffer Cache- Internal Representation of files- The structure of Processor- Process control-Network communication.

UNIT III INTRODUCTION TO WINDOWS 9
 Introduction-Operating System as resource manager, Multitasking, Multithreading, Monolithic & Microkernel Architecture, Client-server Model, Windows NT-client server Architecture.

UNIT IV PROCESS & THREADS 9
 Process address space, process objects, thread objects, synchronization of threads, process structure, windows NT implementation of process & threads, Object Model Operating Systems Architecture: Executive Object, Object management, Object protection, Windows NT object implementation.

UNIT V VIRTUAL MEMORY MANAGEMENT & KERNAL 9
 Virtual memory Management: Virtual memory, Memory sharing, Memory Protection, Virtual memory implementation of window NT. Kernel Functions: Context switching & Scheduling, Interrupt and Exception handling, Kernel features of windows/NT operating systems. I/O Systems: Object model, Uniform driver model, Asynchronous operation, I/O processing, Layered driver model,

TOTAL : 45 PERIODS

REFERENCES:

1. Sumicarl Das, "UNIX Concepts & Application:, Tata Mc Graw Hill ,2nd edition, New Delhi, 2000.
2. Jeny peek, Grace Todino, "Learning the Unix Operating System", O' Reily Publications, 5th edition, New Delhi, 2001.
3. Charlie Russel, Sharon Crawford, " Microsoft Windows XP Professional Resource Kit", Microsoft, 3rd edition New Delhi, 2005.
4. Shelley O'Hara, "Easy Microsoft Windows XP, Tata Mc Graw Hill, 4th edition, New Delhi, 2006.

EIT525	ADVANCED COMPUTER ARCHITECTURE	L	T	P	C
		3	0	0	3

UNIT I INTRODUCTION 9
 Basics of architectural classification-Flynn's, Feng's, Handler's, Shore classification-Data flow Vs control flow-Uniform memory access-Non uniform memory access.

UNIT II MEMORY ORGANIZATION 9

Memory hierarchy-Optimization-Virtual memory-Memory management schemes-Cache memory-Performance evaluation and enhancement.

UNIT III PIPELINING & VECTOR PROCESSING 9

Principles of pipelining-Instruction-Arithmetic pipeline-Internal forwarding and short circuiting-Hazard detection and resolution. Vector Processing - Requirements-Issues-Vectorization and optimization methods.

UNIT IV RISC COMPUTING 9

RISC Architecture-Instruction execution charts-Register file-register optimization-RISC pipelining-RISC vs CISC.

UNIT V SUPERSCALAR PROCESSORS 9

Overview-design issues-Case study: Pentium processor, AMD architecture.

TOTAL : 45 PERIODS

REFERENCES:

1. Kai Hwang and Feye A Briggs, "Computer Architecture and Parallel Processing", McGraw Hill, 2nd edition, Singapore, 2004.
2. William Stallings, "Computer Organization and Architecture", PHI/ Pearson Education, 6th edition, New Delhi, 2004.
3. Hennessey and Patterson, " Computer Architecture, a Quantitative Approach", Harcourt India Private Limited, 1st edition, USA, 2002
4. Andrew S Tanenbaum, "Structured Computer Organization", Pearson Education Asia, 4th Edition, New Delhi, 2003.

EIT526

NETWROK PROTOCOLS

L	T	P	C
3	0	0	3

UNIT I INTRODUCTION 9

Internetworking concepts and architectural model- classful Internet address – CIDR-Subnetting and Supernetting –ARP- RARP- IP – IP Routing –ICMP – Ipv6

UNIT II TCP 9

Services – header – connection establishment and termination- interactive data flow- bulk data flow- timeout and retransmission – persist timer - keepalive timer- futures and performance

UNIT III IP IMPLEMENTATION 9

