Elective C1. LAN, UNIX and C

UNIT 1: Introduction - evolution communication topology, Protocols, Services needs, characteristics. Designing LAN environment, geographic, sharing resources - information exchange, organizing a network. Digital communications - Transmission Links, transmission architecture, media and cable design, fiber optics Link components.

UNIT 2: Topology considerations - mesh, star, ring bus topologies, characteristics and control, matching topology to requirements, Analysis of topology.

UNIT 3: Network servers - resources sharing, print servers, terminal servers, disk server and file servers.

Case Study: Ethernet, IBM Token ring IBM'S pc network, wangnet. Lan control - ethernet, Protocol based, contention based, CSMA, ethernet, Protocol devices. Introduction to UNIX operating system. File system, Visual Editor, Essential UNIX commands system Administration, Bourne shell, C shell, Shell programming, system calls and the C Library, UNIX-C interface.

Disk Blocks, I-nodes, Process structure, process control: process creation, process termination. Process management, process scheduling.

UNIT 4: Variables and arithmetic - for statement - symbolic constants - arrays - Functions - External variables - variable - names - Datat types and sizes - constants, declarations arithmetic operators, relational operators and logical operators - type conversions - increment and decrement operators - procedures and order of evaluation. Statements and Blocks - IF... Else, while and For, Do...While, Break and Continue and Go to.

UNIT 5: Functions and program structure - External variables, Scope Variables, Static Variables, Register variables, Block structure and recursion.

Pointers and arrays - pointers and addresses - Multidimensional arrays - pointer arrays, pointers to pointers - pointers to functions - structures and functions - Arrays of structures - Table look up - Fields, Unions, Type definition.

Input and Output - Access to the standard library - file access - line input and output - simple programming examples.

Case Study: DOS

REFERENCES:

1. F.J. FORTIER : Handbook of LAN Technology. MGM 1989
2. B.TANGNEY ET AL : Local Area Networks and their Applications Prentice Hall, 1984.
3. MAURICE J. BACH : Design of the UNIX operations system, PHI
4. REBECCA THOMAS : Advanced programmer's Guide to UNIX system V, McGraw Hill
5. B.W.KERNIGHAN AND D.M.RITHIE: The Computer programming language C
6. THOMAS PLAM : Learning to program in C
7. BRUCE H. HUNTER: Understanding C
8. GOLTFRIED - SCHAUM'S SERIES : Programming in C: