II ND YEAR

PAPER - 1ST

SECTION - A DATA STRUCTURE

- Dynamic Memory Allocation - Malloc (), Alloc ().
- Analysis of Algorithms.
- Arrays - Searching, Sorting, Insertion, Deletion, Merging.
- String, Manipulation.
- Linked Lists - Single & Double, Operations.
- Sparse Matrices, Operations.
- Stacks - Operations, Infix, Prefix & Postfix Notations.
- Queues - Operations, Circular & Deque.
- Trees - BS Tree, AVL - Tree, B - Tree, Heap Searching & Sorting Techniques.
- Graphs - Adjencency, DPS, BFS, Minimum Spanning Tree, Dgikistra & Kruskals Algorithms.

SECTION - B DISCREETE MATHEMATICS

Unit-I Boolean Algebra

- Introduction to Boolean Algebra
- Basic Postulates
- Canonical Forms - Sum of Products & Productof Sums.
- Karnaugh Maps
- Simpiification Using Karnaugh Maps.

Unit-II Circuit Design

- Introduction to Digital Logic
- Gates - Inverters, AND, OR, XOR, UNIVERSAL NAND GATE, UNIVERSAL NOR GATE, TRUTH TABLES AND LOGIC DIAGRAMS.
- Basic Circuits - Adders, Decoders, Encorder, Multiplexers, Flip-Flops etc.

SECTION - C UNIT-I / LINUX

- Basic Features, Advantages, Basic, Architecture of Unix / Linux System, Kernel, Shell.
- Linux File System - Boot Block, Super Block, Inode Table, Data Blocks, How Linux access files, storage files, Linux standard, directories, Commands for files and directories cd, ls, Cp, md, rm, mkdir, rmdir, more, less, creating and viewing files, using cat, checking disk free spaces, Linux system stratup and shut-down process.

UNIT - II / LINUX

- Understanding shells, Processes in linux, connecting processes with pipes, Redirecting input, output, Background processing, managing multiple processes, changing process priority, scheduling of processing at command, batch commands, kill, ps, who, sleep, Printing commands, find, sort, Cal, Banner, touch, file, file related commands-ws, sat, cut, grep, dd, Mathematical Commands-be, expr, factor, units.
- Basic Features, Advantages, Basic, Architecture of unix / Linux system, Kernel, Shell.
- Linux File System - Block, Super Block, Inode Table, Date Blocks, How Linux access files, storage files, Linuxstandard, directories, Commands for files and directories cd, ls, Cp, md, rm, mkdir, rmdir, more, less, creating and viewing files, using cat, checking disk free spaces, Linux system stratup a nd shut-down process.

UNIT - II / LINUX

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II ND YEAR

PAPER - II ND

SECTION - A OBJECT ORIENTED PROGRAMMING USING C++

Unit - I OOps Basics

- Objects,
- Classes
- Polymorphism
- Reusability
- Inheritance
- Message
- Passing
- Genericity

Unit - II C++ Programming Language

- History & Features, introduction of classes, Comprasion / Additional Featuresto C-Language.
- Object oriented features in c++
- Scope Resolution Operator
- Static Data Member
- Static Function
- Passing object of function
- Returing objects
- Constructors & Distructors
- Function overloding In C++, Operator Overloding in C++
- Inline Function, Friend Function
- Inheritance - Single, Multiple, Multilevel Virtual Functions
- Void Pointers
- Pure Virtual Functions
- Function Templets & Class Templets.

SECTION - B COMPUTER NETWORKING & INTERNET

UNIT - I

- Need & Advantages of Networks,Types : Server based, Peer based, Hybrid.
- Topology, Network media types, H/w protocol, Software protocol, digital singaling, analog signaling, bit synchronization, base band and broad band' transmission.

UNIT - II

- OSI and IEEE 802 Model, IEEE 802.3, IEEE 802.4 IEEE 802.5 & Fast Ethernet FDD!,ATM, LAN access techniques, Bit map protocol.

Unit - III

- Connectivity, Hubs, Repeaters, Bridges, Multiplexeres, Router, Gateways, Modern, Types of Modern, Modulation Schemes,

Unit - IV

- Internet V/s Intranet, growth of Internet, ISP, Connectivity, Dial up, Leased line, URL, Domain name Portals Application, POP & Web based e-mail, merits, IP addressing.
- Basics of sending & receiving e-Mails.

Unit - V

- Internet Chatting, WWW, HTTP, URL, HTML.
- Over view of e-commerce, Internet, e-business, Advantage of e-commerce.

PAPER -II ND

Section-C DIGITAL COMPUTER ORGANISATION

Unit - I

- **CUP ORGANIZAIION** : ALU & Control Circuit. Idea about Arithmetic, Circuits, Program control, Instruction Sequencing.

Unit - II

- **INPUT-OUTPUT ORGANIZATIONS** : I/O Interface, Properties of simple I/O devices and their controller, isolated Versus memory-mapped, I/O, Modes of Data transfer, Synchronous & Asynchronous Data transfer, Handshaking, Asynchronous serial transfer, I/O Processor.

Unit - III

- **MEMORY ORGANIZATION** : Memory Hierarchy, Auxiliary memory, Magnetic drum, Disk & Tape, Semi-conductor, memories, Associative, memory, virtual Memory, Address Space & Memory space, Address mapping, Page table, Page Replacement, Cache memory, Hit Ratio, Various mapping techniques, writing into Cache access.