

Syllabus for Junior Manager (Diploma Level)

INFORMATION TECHNOLOGY

Object Oriented Programming in C++: Principles of Object Oriented Programming, Classes & Objects, Functions, Constructors & Destructors, Inheritance, Polymorphism, Encapsulation, Pointers in C++, Array, String.

Database Management System: Database system concepts, Database Model, Types of Database, Relational Data Model, ER Diagram & Normalization, SQL, Query Processing & Transaction Processing, Concurrency, Lock Based Protocols.

Operating System: Introduction to Operating System, Evolution, Generations, Components & Services, Process Management, Scheduling Algorithms, Memory Management, I/O management, File System Management, Security & protection.

Data Structure: Introduction To Data Structure, Principles of Programming & Analysis of Algorithms, Sorting & Searching Algorithms, Stacks, Linked Lists, Type of Lists, Queues, Trees, Tree Types & Traversal Methods, Graphs and Hashing.

Microprocessor and Assembly Language Programming: Basics of Microprocessor, 16 bit Microprocessor, Instruction set, Assembly language programming.

Data Communication & Computer Networks: Basic Network concepts, Network Topologies, Networking Devices, Transmission media, OSI Model, TCP/IP Fundamentals.

Basics of Multimedia and Web Development: Multimedia Basics, Audio Fundamentals, Image Fundamentals, Image and Graphics, World Wide Web & its Evolution, HTML, CSS.

Computer Organization and Architecture: Software & Hardware Organization of Computers, Addressing Modes, CPU Design, Memory organization, I/O Organization, DMA Data Transfers.

Basic Electronics: Introduction to Digital Electronics, Number System, Logic Gates & Boolean Algebra, Flip-Flops, Memories, Semiconductors, Rectifiers & Filters, Transistors.

Software Development: Software Development Process, Analysis & Design models, Software Testing Fundamentals.

Computer Hardware and Maintenance: Motherboard & its Components, Memory & Storage Devices, I/O Devices & Interface, Power Supply, Troubleshooting & Maintenance.