

# Syllabus of Entrance Exam for M.Sc.(IT)

## Data Representation

Data types, number systems, fixed point representation, 1's and 2's complements, Binary fixed point representation, arithmetic operation on binary operation, overflow and underflow, codes, ASCII, EBCDIC codes, Grey codes, Excess-3, BCD codes, Error detection and correcting codes. Logic gates AND, OR, NOT, gates and their truth tables, NOR, NAND and XOR gates, Boolean algebra, basic Boolean Law, demorgan's theorem, Map Simplification, Minimizing technique, K-Map, Sum of product, Product of sum. Combinational and sequential circuits, binary adder, subtractor, Flip flop, shift register, encoder, decoder, comparator, Multiplexer, Demultiplexer.

## Computer Fundamentals

Computers – Introduction, Development of Computers, Types of Computers, Generations of Computers; Input Device; Output Devices; Central Processing Unit; Storage Devices; Computer Softwares. Operating System – Introduction, Uses of OS, Functions of OS, Booting process, Types of Reboot, Booting from different OS, Types of OS, DOS, Windows, Linux.

## Programming language C & C++

Overview of C, Data Types, Constants and Variables, Operators and Expressions, Control Structures and Loops, functions, Storage class, Arrays & Pointers, Structures and Unions. Introduction to OOPS, Data Structure - Stack, queues, link lists, tree, sorting and searching.

## Communication, Networks and Internet

Communication – Introduction, Communication process, Communication Types, Communication Protocols, Communication Channels/Media. Introduction to Network and Types; Topology. Brief overview of the OSI and TCP/IP model, switching, IP Addressing. Internet – Introduction, Internet Service Provider, ARPANET and Internet, Services Available on Internet - File Transfer Protocol, HTTP, E-mail, WWW, Website, Webpage, Applications of Internet.

## Office Automation

**Word** : Creating and Formatting, Advanced Features, Mail Merge, Table & Charts. **Excel** : Worksheet Basics, Working with Formula & Cell referencing, Graphs & Charts, Function and Macros. **Power Point** : Creating a presentation, Modifying visual Elements, Adding objects, Applying Transitions, animations and linking, Preparing handouts, presenting a slide show.

## Data Base Management System

Purpose of database systems, views of data, Database Languages, Database Administrator and User, Database System Structure, Data Models, concept of Keys, Relational Algebra, Normalization, SQL.

*Sumar*  
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