

Syllabus of lateral entry B.Tech in Computer Engineering
(Mizoram University Engineering Entrance Examination)

Computer Organization & Architecture: Evolution of Computers; Numbers representation – Binary, Octal, Decimal, Hexadecimal; CPU – ALU, Control Unit, Architectures; Memory – Storage units, RAM, different ROMs, cache, Hard Disks; IO Devices – Keyboard, Monitor, Printers.

Computer Networks: Concepts; Network Architectures; Protocols, interfaces and services; OSI reference Model – Layers and their tasks; Networks – Telephone, internet, LAN, WAN, cable; Error control; Connection-oriented & Connectionless networks; Switching – Circuit, Message and Packet; Applications of Networks.

Object Oriented Methodologies: Overview – Need and advantages, characteristics, comparisons with procedural oriented; Concepts – Objects, classes, data encapsulation, inheritance, polymorphism, operator and function (method) overloading; Analysis and Design applications;

Database Management Systems: Introduction; Data models, schema and instances; Architecture; ER diagram, DDL and DML; SQL – SELECT, INSERT DELETE, UPDATE, ALTER, views etc; Functional Dependencies; Normalisation; Transaction Processing; Concurrency Control; Security and Integrity; Distributed databases;

Operating Systems: Introduction – Concepts, structure; Processes – Creation, scheduling algorithms, IPC, Memory management – replacement algorithms, paging, segmentation, virtual memory; Files – Files & Directories, File systems, security; I/O – Devices, serial & parallel, clocks, transfer modes (Programmed, Interrupt, DMA); Deadlocks; Distributed operating Systems.

Data structure and C Programming: Introductions; Functions – calling with/ without arguments, pass by values/ references, returning values; declarations and definitions of identifiers; Operators – Arithmetic, relational, logical, assignment, conditional, ternary; variables – declarations, usage, scope; statements and conditions; loop control – while, for, do-while; structures and unions; sample programs. sorting, searching, link list, arrays.