IMPORTANT SUBJECTS FOR INTERVIEWS

**(** INTERNSHIP / PLACEMENT **)**

***OPERATING SYSTEMS :-***

* Operating Systems and its types.
* Process Management (Attributes,States of Process)
* CPU Scheduling Algorithms(FCFS, SJE, SRTE, Round Robin, Priority Scheduling)
* Process Synchronisation (Necessary Conditions, Bakery Algorithm, Producer-Consumer Problem, Dining Philosopher Problem, Read-Write Problem)
* Mutex and Semaphores (Important)
* Threads (Important)
* Deadlocks (Necessary Conditions, Banker's Algorithm, Deadlock Prevention, Avoidance, Recovery, Correction)
* Memory Management (Multi-partition, External and Internal Fragmentation, Paging, Segmentation)
* Virtual Memory (Demand Paging, Page replacement algorithms, Thrashing)
* File allocation(Continuous, Linked and Index File allocation)
* Disk Scheduling Algorithms (FIFO, SCAN, C-SCAN, LOOK, C-LOOK)

***COMPUTER NETWORKS :-***

* OSI Model (Functions of different layers)
* TCP/IP Protocol Suite
* Data Link Layer (Error detection techniques, Framing)
* Network Layer (Routing protocols, IPv4 and IPv6 - Supernetting and Subnetting)
* Transport Layer (3 way Handshake, TCP packet components, UDP packet components, Advantages

***OBJECT ORIENTED PROGRAMMING (C++) :-***

* Basic Concepts of OOPS (Important)
* Types of polymorphism
* Virtual Functions -Run-time Polymorphism
* Inheritance (Types, Virtual Class, Dreaded Diamond Problem)
* Constructors and Destructors (Private Constructors and Destructors, VirtualDestructors)
* Smart pointers
* Singleton class
* Friend function and friend class

***DATABASE MANAGEMENT SYSTEM :-***

* SQL Queries
* Normalization (Meaning, Reason of normalizing tables, Different Normal Forms)
* Lossless and Lossy Decomposition
* Different types of keys in a table (Primary, Composite, Candidate, Super Key)
* ER model (Meaning and Components)
* File Structure (B-trees, Indexing)
* Concurrency issues