

EST Syllabus [40 Marks]

Pre MST

UNIX and LINUX: Introduction, Difference between UNIX and LINUX, Architecture and features of LINUX.

Shell: Introduction and Types.

Overview: Introduction to OS, Functions of OS, Types of OS, Characteristics of OS.

System Call: Introduction, Execution, Types, Dual Mode Operation.

Process Management: Process, Process Flow Diagram, Schedulers, Context Switching and Dispatcher.

Process Scheduling: First Come First Serve (FCFS), Shortest Job First (SJF), Shortest Remaining Time First (SRTF), Longest Job First (LJF), Longest Remaining Time First (LRTF), Round Robin (RR), Priority Scheduling, Multilevel Queue Scheduling, Multilevel Feedback Queue Scheduling.

Fork System Call Implementation and Examples

Deadlock: Introduction, Resources Allocation Graph, Characteristics, Deadlock Prevention, Deadlock Avoidance, Deadlock Detection, Deadlock Recovery.

Independent and Concurrent Process

Post MST

Process Synchronization: Process Synchronization, Mutual Exclusion, Progress, Bounded Waiting, Critical Section, Race Condition, Locking, Peterson Solution, Semaphores, Producer Consumer Problem, Dining-Philosophers Problem.

Memory Management: Introduction to Memory, Memory Management: Partition Allocation Method (Contiguous and Non-Contiguous), Contiguous Allocation: Fixed Partitioning and Variable Partitioning, Non-Contiguous Allocation: Paging, Demand Paging.

Page Replacement Algorithms: FIFO, OPR, LRU, Virtual Memory.

Disk Scheduling Algorithms: FCFS, SSTF, SCAN, C-SCAN, LOOK, C-LOOK.