

# Lecture Plan

**Subject: Operating Systems (CSC15102) [L-T-P = 3-1-0]**

**Class: V Semester B.Tech. (Computer Science & Engineering)**

Sl. No.	Name of the Topics	Number of Lectures
1.	<b>Introduction to Operating System</b> (Introduction, Categories of OS, Computer System Architecture, Interrupts, Storage Structure, Hardware Protection)	4
2	<b>Operating System Structures</b> (OS Structure, OS Components, OS Services, System Calls, System Structures, Virtual Machines, System Design Goal, SYSGEN)	4
3	<b>Process Management</b> (Process Concept, Process State, PCB, Process Scheduling, Schedulers, Process Creation, Process Termination, Co-operating Process, Producer Consumer Problem, Inter-process Communication, Client Server Communication, Threads, Process Synchronization, Critical Section Problem, Bakery Algorithms, Semaphores, Reader's Writer's Problem, Dining Philosopher's Problem)	8
4	<b>CPU Scheduling</b> (CPU Scheduler, Scheduling Criteria, Scheduling Algorithms: FCFS, SJF, Priority Scheduling, Round Robin Scheduling, Multilevel Queue Scheduling, Multilevel Feedback Queue Scheduling)	5
5	<b>Deadlock</b> (Introduction, Deadlock Prevention, Deadlock Avoidance, Resource Allocation Graph Algorithms, Deadlock Detection, Prevention and Recovery)	5
6	<b>Memory Management</b> (Memory Hierarchy, Memory Types, Main Memory Architecture, Cache Memory, Address Binding, Dynamic Loading, Linking, Overlays, Logical Vs Physical Addresses, Swapping, Contiguous Memory allocation, Fragmentation, Segmentation, Virtual Memory, Paging, Demand Paging, Page Replacement Algorithms, Thrashing)	8
7	<b>Secondary Storage Structure</b> (Disk Structure, Disk Scheduling, Disk Management, Swap Space Management, Stable Storage Implementation)	4
8	<b>File System Implementation</b> (File System Interface, File System & Directory Structure, Implementation of File System & Directory, Allocation Methods, Free Space Management)	4
<b>TOTAL</b>		<b>42</b>