## OPERATING SYSTEM                    Credit : 5

1. Introduction : Introduction to OS, Operating system functions, evaluation of O.S., Different types of O.S.,

Batch multi programmed, Time-sharing, Real-time, Distributed, Parallel.

2. Process : Concept of processes, process scheduling, operations on processes, inter-process communication,

communication in Client-Server-Systems, overview & benefits of threads.

3. Process Scheduling : Scheduling criteria, preemptive & non-preemptive scheduling, scheduling algorithms.

4. Process Synchronization : Background, critical section problem, critical region, synchronization hardware,

classical problems of synchronization, semaphores.

5. Deadlocks : System model deadlock characterization, methods for handling deadlocks, deadlock prevention,

deadlock avoidance, deadlock detection, recovery from deadlock.

6. Memory Management : Background, logical vs. physical address space, swapping contiguous memory

allocation paging segmentation.

7. Virtual Memory : Background, demand paging, page replacement, page replacement algorithms, allocation of

frames, thrashing.

8. File Systems : File concept, access methods, directory structure.

9. Disk Management : Disk structure, disk scheduling (FCFS, SSTF, SCAN, C-SCAN)