MCA/D06
OPERATING SYSTEMS
MCA -304

Time : 3 Hours MM:50
Note:- Attempt any Five questions in all

1 What is an operating system? Explain the following:
(i) Simple Batch System
(ii) Multi-programmed Batch System
(iii) Time Sharing System
(iv) Distributed System
(v) Real Time System

2 Write short notes on :
(i) Sequential Access
(ii) Direct Access
(iii) Two Level Directory
(iv) Tree Structured Directory
(v) Acyclic-Graph Directory

3 Write short notes on following CPU scheduling Algorithms:
(i) First Come First Served
(ii) SJF
(iii) Priority Scheduling
(iv) Round Robin
(v) Multileveled Queue Scheduling

4 Find Average waiting time for following processes for SJF(with and without arrival time consideration) Round Robin with time slice 3 Unit.

Process	Arrival Time	CPU Burst
P1	0	3
P2	1	4
P3	2	2
P4	3	5
P5	4	3

3 Explain the disk scheduling in detail.
4 Write short notes on:
(i) Multiple Partition Allocation
(ii) External Fragmentation
(iii) Logical Vs Physical Address Space
(iv) Address Binding

5 What are various page replacement policies in memory management? Find the number of page fault for:

(i) LRU

(ii) Optimal of given series with frame size Four.

3 0 1 2 0 3 0 4 7 3 0 3 2 1 2 0 1 2 0 7

8 What is Deadlock? Explain the necessary condition of deadlock. Also explain Banker's algorithm with example.

9 Write short notes on:

(i) Segmentation

(ii) Starvation

(iii) Thrashing

(iv) Demand Paging

(v) Swapping