

Roll No.

Total Pages : 02

BT-5/D-18

35016

OPERATING SYSTEM

IT-357

Time : Three Hours]

[Maximum Marks : 100

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. What are the various types of operating system ? Explain the various functions of operating system in detail with example.
2. (a) Explain various file properties and their access.
(b) Discuss designing of directory structure for operating system.

Unit II

3. What are various preemptive and non-preemptive CPU scheduling algorithms ? Explain with Gantt Chart. What is the need of multilevel feedback queue scheduling ?

4. Find average waiting time for the following processes for SJF (with and without arrival time consideration) Round Robin with time slice 2 unit :

| Process | Arrival Time | CPU Burst |
|---------|--------------|-----------|
| P1 | 0 | 5 |
| P2 | 1 | 2 |
| P3 | 2 | 1 |
| P4 | 3 | 3 |

Unit III

5. What are the three types of file organizations ? List out the various disadvantages of linked list being used for disk space management.
6. What are the various mechanism and policies for Protection ? Explain in detail the use of Access Matrix with suitable example.

Unit IV

7. (a) Discuss hardware and software concept of distributed system.
(b) Explain in detail NFS architecture and protocols.
8. Explain the salient features of UNIX operating system. What are the various advantages of client-server model ?