

Roll No.

Subject Code—2052

P.G.D.C.A. EXAMINATION

(Second Semester)

MS-08

OPERATING SYSTEM

Time : 3 Hours

Maximum Marks : 100

Note : Attempt any *Five* questions. All questions carry equal marks.

1. Write short notes on the following :
 - (a) Historical evolution of operating system
 - (b) System programs
 - (c) Operating system functions
 - (d) Interrupt mechanism. 20
2. (a) Explain various file allocation methods. 10
 - (b) What are file attributes and operations ? 5

- (c) Write short note on the file protection.

5

3. (a) For the given five processes arriving at time zero, in the order given with the length of CPU burst time in milliseconds :

Process	Burst Time
P1	10
P2	29
P3	3
P4	7
P5	12

Consider the FCFS, non pre-emptive SJF, RR (quantum = 10 milliseconds) scheduling algorithms for this set of processes. Draw the Gantt chart and calculate average waiting time and tell which algorithm would give the minimum average waiting time.

10

- (b) What is the difference between long term, middle term and short-term schedules ?

10

100

4. Differentiate between the following :

- (a) Paging and Segmentation
 - (b) Internal and External Fragmentation
 - (c) Contiguous and non-contiguous memory management.
- 20

5. Suppose the head of moving head disk with 200 tracks is currently serving the request for track 143 and has just finished the request for track 125. If the queue of requests is kept in :

FIFO order : 86, 147, 91, 177, 94, 150

What is the total head movement to satisfy these requests for the following scheduling schemes :

- (a) FCFS
 - (b) C-SCAN
 - (c) SSTF.
- 20

6. What is deadlock ? What are necessary conditions for occurring the deadlock ? Discuss the deadlock avoidance algorithm along with its pros and cons.

20

7. (a) Differentiate between MS-DOS and MS-Windows. 10

(b) What is mutual exclusion ? Discuss various algorithm and mechanism for dealing with it. 10

8. Write short notes on the following :

(a) Unix Operating System

(b) Demand Paging

(c) Thrashing

(d) Cache Memory. 20