

Roll No.
Printed Pages : 2

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BT-4 / M-18
OPERATING SYSTEM
Paper-CSE-210 N

Time allowed : 3 hours] [Maximum marks : 75

Note :- Attempt five questions in all by selecting at least one question from each unit. All questions carry equal marks.

Unit-I

1. (a) How can you classify operating systems? Explain in detail. 7.5
- (b) Explain various modes of operating systems along with its architecture. 7.5
2. (a) Discuss the storage structure and hierarchy in a computer system. 7.5
- (b) Comment on the need of protection of a system. How it can be achieved? Explain. 7.5

Unit-II

3. (a) What is inter-process communication? How synchronization can be achieved with the help of Peterson's algorithm? 7.5
- (b) What is a semaphore? How semaphores can be implemented? Discuss various types of semaphores along with their usage. 7.5
4. Comment on the need of CPU-Scheduling. Explain various CPU scheduling algorithms using suitable examples. 15

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Unit-III

5. (a) What is segmentation? Discuss segmentation hardware with the help of diagram. What type of fragmentation can be caused by segmentation? 7.5
- (b) Write and explain Bunker's algorithm with the help of an appropriate example. 7.5
6. (a) What is demand paging? Explain its advantages and disadvantages. Explain with suitable example. 7.5
- (b) How a system can recover from a deadlock situation? Explain. 7.5

Unit-IV

7. (a) Explain various directory structures used by operating systems in detail. Also give advantages and disadvantages of each of them. 7.5
- (b) Find the total head movement when head starts at cylinder 50 in case of (i) FCFS (ii) SSTF (iii) SCAN (iv) C-SCAN (v) LOOK (vi) C-LOOK Disk queue is: 90, 170, 30, 55, 68, 98, and 89. 7.5
8. (a) Explain various file allocation method. 7.5
- (b) Explain various protection issues and protection measures in detail. 7.5

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