

Roll No.

Total Pages : 3

PMCA/M-20

10625

OPERATING SYSTEMS

Paper–CS-DE-15

Time Allowed : 3 Hours]

[Maximum Marks : 80

Note : Attempt **five** questions in all, selecting at least **one** question from each Unit. Question No. **1** is compulsory. All questions carry equal marks.

Compulsory Question

1. Explain the following : 4×4=16
- (a) What is the difference between a System call and a System program?
 - (b) What are the necessary conditions for occurrence of a Deadlock?
 - (c) Discuss the relative advantages and disadvantages of Sector sparing and Sector slipping.
 - (d) What is Windows explorer? Discuss its basic features.

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UNIT-I

2. (a) Differentiate between the following : 10
- (i) Time-sharing and Real-time systems.
 - (ii) Multiprogramming and Multiprocessor systems.
- (b) Discuss various services provided by Operating systems. 6
3. What are different levels of Scheduling? Explain various CPU Scheduling algorithms using suitable examples. 16

UNIT-II

4. What is Deadlock? How is it different from Starvation? Discuss the algorithms to avoid a deadlock using example. 16
2. (a) Differentiate between the following : 8
- (i) Page, frame and segment.
 - (ii) Static and dynamic allocation.
- (b) Explain various page replacement algorithms using examples. 8

UNIT-III

6. (a) Discuss FCFS, SSTF and SCAN disk scheduling algorithms. 10
- (b) Briefly discuss various attributes and operations of a File. 6
7. What is the goal of Protection? Discuss the questions that may arise about revocation of access rights in Dynamic protection. Also explain various schemes for implementing revocation for capabilities in Unix. 16

UNIT-IV

8. Discuss various features and accessories of Window Operating System. 16
9. (a) Discuss the features of Linux and compare it with other Operating systems. 8
- (b) Explain the following in Linux using syntax and examples : 8
- (i) cd
 - (ii) more
 - (iii) is
 - (iv) rmdir.