

Roll No.

Total Pages : 2

BCA/M-23

20578

OPERATING SYSTEM

Paper-BCA-201

Time : Three Hours]

[Maximum Marks : 80

Note : Attempt *five* questions in all. Select *one* question from each unit while Question No. 1 is compulsory.

Compulsory Question

1. (a) Explain why we use distributed system? 4
- (b) Explain pre-emptive and non-preemptive scheduling. 4
- (c) Discuss Dining philosophers problem. 4
- (d) Explain Tree structure and Two level directory. 4

UNIT-I

2. (a) What do you mean by Operating system ? Explain the objectives and functions of operating system. 8
- (b) What do you mean by PCB ? What are the different elements of PCB ? 8
3. (a) What do you mean by Real Time Systems ? Give some examples of Real time systems. Also explain its advantages and disadvantages. 10
- (b) Explain different states of a process. 6

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UNIT-II

4. What do you mean by CPU Scheduling ? Explain shortest-Job-First Scheduling, Priority Scheduling and Multilevel Queue with feedback scheduling with examples. (2+4+4+6=16)
5. Explain various deadlock detection and recovery algorithms. 16

UNIT-III

6. (a) Explain the concept of Semaphores. What are its disadvantages ? 10
- (b) Explain the following storage placement policies in a variable's partition allocation schemes :
- (i) Best fit, (ii) First fit, (iii) Worst fit. 6
7. Explain various Page replacement algorithms with example. 16

UNIT-IV

8. Write short notes on
- (a) File attributes and File access methods. 4
- (b) Acyclic graph directory structure. 4
- (c) SCAN, HOOK and C-LOOK Scheduling algorithms with example. (2+2+4=8)
9. Explain various file allocation methods in detail. 16