Exam. Code : 107205
Subject Code : 1803

Bachelor of Computer Application (BCA) 5th Semester

OPERATING SYSTEM

Paper–III

Time Allowed—3 Hours] [Maximum Marks—75

Note :—Attempt any **five** questions. All questions carry equal marks.

1. Why an operating system is known as resource manager ? Differentiate the features of the parallel systems and time sharing systems. 15

2. (a) Discuss the concept of states of process. 7.5

   (b) Compare FCFS and SJF process scheduling techniques. 7.5

3. What is meant by critical section problem ? How it is managed ? Explain the role of semaphores for process synchronization. 15

4. Compare the following techniques :

   (a) Paging and Segmentation 7.5

   (b) LRU and optimal page replacement algorithm. 7.5

5. What is the need of virtual memory ? Discuss the benefits of virtual memory and use of swapping. 15

6. What is the need of Disk Scheduling ? How SCAN and C-LOOK algorithms schedule the disk requests ? Explain. 15

7. (a) How deadlock situation is handled by an operating system ? Explain. 5

   (b) Discuss the methods for the following :

      (i) Deadlock Detection 5

      (ii) Deadlock Recovery. 5

8. Write short notes on the following :

   (a) Thrashing 7.5

   (b) Banker's Algorithm. 7.5