Exam. Code : 107205
Subject Code : 1805

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. How an operating system is used as resource manager ? Discuss the features of the distributed systems and time sharing systems.   15

2. (a) Discuss the concept of different states of process.   7½

   (b) Compare FCFS and Round robin process scheduling techniques.   7½

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

4. Compare the following techniques :—

   (a) Demand Paging and Segmentation   7½

   (b) LFU and Optimal page replacement Algorithm.   7½

5. What is the concept of virtual memory ? Discuss the benefits of virtual memory and use of thrashing.   15

6. Discuss the need of Disk Scheduling. How FCFS and C-LOOK algorithms schedule the disk requests ? Explain.   15

7. (a) How recovery from deadlock situation is carried out ? Explain.   5

   (b) Discuss the methods for the following :—

      (i) Deadlock Detection   5

      (ii) Deadlock Prevention.   5

8. Write short notes on the following :—

   (a) Scheduling criteria   7½

   (b) Disk Reliability   7½