

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