

Roll No. ....

**3087**

**B. Tech. 4th Semester (CSE)  
Examination – July, 2021**

**OPERATING SYSTEM**

**Paper : PCC-CSE-206-G**

***Time : Three Hours ]***

***[ Maximum Marks : 75***

*Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.*

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

1. (a) What is the difference between multitasking and multiprogramming operating system ?
- (b) What is critical section problem ?
- (c) What is a process ? Explain state transition diagram ?

- (d) What is contiguous memory allocation ?
- (e) What is context switching ?
- (f) What is scheduler in operating system ?

2.5 × 6 = 15

#### SECTION – A

- 2. What is operating system ? Discuss the services provided by an operating system. 15
- 3. What do you understand by CPU scheduling ? What is scheduling criteria for FCFS, SJF, explain with example ? 15

#### SECTION – B

- 4. What is critical section problem ? Explain IPC (Inter Process Communication) Dining philosopher problem with implementation using semaphore. 15
- 5. What is deadlock ? What are the necessary conditions for a deadlock ? Explain the mechanism for deadlock recovery. 15

#### SECTION – C

- 6. What do you mean by page replacement ? Describe various page replacement algorithm. 15

- 7. What is memory management ? Explain the concept of virtual memory. 15

#### SECTION – D

- 8. What do you understand by file system structure ? Describe the various type of allocation methods. 15
- 9. Considering an ordered disk queue with request involving tracks : 23, 89, 132, 42, 187, there are 200 cylinder (0-199), if the disk head is initially at track 100, what is the total distance that the disk arm moves to satisfy all the pending request for FCFS, SSTF, scan, and C-Scan. 15