

3087

B.Tech. (CSE) 4th Semester (G-Scheme)

Examination, July-2022

OPERATING SYSTEM

Paper- PCC-(CSE-206-G)

*Time allowed : 3 hours]*

*[Maximum marks : 75*

**Note :** *Attempt any five questions in all. Question number 1 is compulsory. Select one question from each section.*

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?  $6 \times 2.5 = 15$

#### Section - A

2. What is operating system? Explain different types of operating system. 15
3. What is Process Scheduling? What is the Scheduling criteria for SRTF and Round Robin Scheduling? 15

**Section - B**

4. What is Semaphores? Implement Readers-Writers problem using Semaphores. 15
5. What is deadlock? What are the conditions to Prevent deadlock in system? 15

**Section - C**

6. What is Paging? Describe various page replacement algorithm? 15
7. (a) What is memory management? Explain Contiguous and Non-Contiguous memory allocation? 8  
(b) Explain Internal and External fragmentation with example. 7

**Section - D**

8. What is File management system in operating system? Explain all File access methods. 15
9. What is Disk scheduling? Explain FCFS, SSTF Scan and C-Scan disk scheduling algorithm with example? 15