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 contigious memory allocation ?

(e) What is context switching ?

(f) What is scheduler in operating system ?

$2.5 \times 6 = 15$

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