Reg. No.:

Name :

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Mid-Term Examinations, November 2021

Programme	:	**B.Tech. - BCE, BCG**	Semester	:	**Fall 2021-2022**
Course	:	**Operating System**	Code	:	**CSE3003**
Faculty	:	**Dr. Abha Trivedi**	Slot/Class No.	:	**B21+B22+B23/0437**
Time	:	**1½ hours**	Max. Marks	:	**50**

Answer all the Questions

Q. No.	Question Description	Marks
1.	Multiprocessor systems have advantages and disadvantages both. Justify, if agree with the statement.	**(5+5)**
2.	Give reasons why cache memory is useful. What problems do it solve? If a catch can be made as large as the device for which it is catching why not make it that large and eliminate the device?	**10**
3.	What is the use of job queues, ready queues and device queues?	**10**
4.	For the following set of process find average turnaround time, waiting time and response time using Gantt chart: a) Preemptive SJF Scheduling (SRTF)	**(5+5)**

Process No.	Arrival Time	Burst Time
P1	5	10
P2	3	5
P3	0	18
P4	6	4

b) Preemptive Priority Scheduling (Lesser the number- higher the priority)

Priority	Process No.	Arrival Time	Burst Time
3	P1	5	10
1	P2	3	5
4	P3	0	5
2	P4	4	6

5. Whether the given codes when executed by processes P_0 and P_1 efficiently follow Critical Section protocols or not? Justify your answer by taking possible cases. Initial values of flag are false **10**

```
P0
flag [0] = T
while(flag [1]);
   Critical Section
flag[0]  = F
```

```
P1
flag[1] = T
while(flag [0]);
   Critical Section
flag[1]  = F
```

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