Course Name:

Course Outcome

CO1- Understand the classification of operating system environment.
CO2- Understand the basic of process management.
CO3- Apply the concept of CPU process scheduling for the given scenarios.
CO4- Illustrate the process synchronization and concurrency process in operating system.
CO5- Analyze the occurrence of deadlock in operating system.
CO6- Describe and analyze the memory management and its allocation policies.
CO7- Understand the concepts of disk scheduling

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Mid Term Examination, Even Semester 2022-23
B. Tech. (CSE), II Year, III Semester
Operating Systems (BCSC0004)

Time: 2 Hours **Maximum Marks: 30**

Instruction for students:

Section – A 3 X 5 = 15 Marks

No.	Detail of Question	Marks	CO	BL	KL
1	Consider the following set of processes that need to be scheduled on a single CPU. All the times are given in milliseconds. Process Name | Execution Time | Arrival Time P1 | 6 | 0 P2 | 3 | 1 P3 | 1 | 2 P4 | 2 | 3 P5 | 1 | 5 Calculate the average process turnaround time (in msec) using the shortest Remaining Time First (SRTF) CPU scheduling algorithm?	3	3	A	P
2	Explain and describe Peterson's Solution for Process synchronization. How it satisfies all conditions of process synchronization?	3	4	E	M
3	Why Operating system called Resource Manager? Discriminate Micro and monolithic kernel on basic of structure, size and speed.	3	1	R, U	F
4	Differentiate between Multiprogramming, Multitasking and Multiprocessing.	3	1	An	C
5	Which scheduler decide the degree of multiprogramming? Explain Mid-term scheduler with diagram.	3	2	U	M

Section – B

5 X 3 = 15 Marks

No.	Detail of Question	Marks	CO	BL	KL
1	What is the purpose of System Call? Discuss the solution of Producer and Consumer problem with shared memory.	5	2	U	F
2	What are various process state? Explain and draw 7-State diagram. In what conditions process changes from running to ready state directly.	5	4	U, A	C
3	The following snapshot of the processes are mentioned with no I/O activities. Calculate Turnaround Time, Waiting Time and Response Time for all processes for Round Robin CPU Scheduling Algorithm.	5	3	A	P

Process	Arrival time	Burst Time	
P0	0	5	Time Slice= 2
P1	2	3	
P2	5	4	
P3	9	8	