PRN:		Course Code :	UAM302

Second Year **B. Tech** End Semester Examination Winter 2023

Operating Systems

Day and Date: Friday, 01/12/2023 Max Marks: **100**

Time : 10.30 am to 1.30 PM Duration: **03** hrs

Instructions: All questions are compulsory.

			Marks	Bloom's Level	CLO
Q.1		**Attempt the following**			
	a)	What is Operating System and services given by OS in detail.	08	I	I
	b)	Explain Batch Processing System, Multiprogramming System with diagram.	08	II	II
		OR			
	b)	Maximize all types of OS with example of each.	08	VI	I
Q.2		**Attempt the following**			
	a)	Simplify Process State Transition Diagram with detailed example of each state.	08	IV	III
	b)	Determine Context Switching with Process Scheduling.	08	V	III
		OR			
	b)	Classify all types of Schedulers in detail.	08	IV	I
Q.3		**Attempt any two from the following**			
	a)	Solve FCFS Scheduling Algorithm with Example.	08	VI	I
	b)	Select RR Scheduling Algorithm and extend it.	08	III	II
	c)	Find Average waiting Time and Turn Around Time for following.	08	I	II

Process	Arrival Time	Execution Time	Service Time
P0	0	5	0
P1	1	3	5
P2	2	8	14
P3	3	6	8

Q.4		**Attempt any two from the following**			
	a)	Extend Inter process Communication and Structure of Process	08	II	II
	b)	Distinguish Semaphore and its types.	08	IV	I
	c)	Design Dining Philosophers Problem with diagram.	08	VI	III
Q.5		**Attempt any Two of the following**			
	a)	Illustrate what is Deadlock, necessary conditions for Deadlock.	09	II	III
	b)	Identify any condition of Deadlock and resolve it.	09	III	III
	c)	Discuss Deadlock Detection, Prevention and Avoidance in OS.	09	VI	II
Q.6		**Attempt any Two of the following**			
	a)	What is Memory Management? Measure each block in detail.	09	I	I
	b)	Solve Single Partition and Multiple Partition.	09	VI	I
	c)	Summarize the Paging in OS with its diagram.	09	II	II

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