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(An Autonomous Institution)

Code No: 6EC03   **Date: 07-Aug-2023 (FN)**

B.Tech II-Year II- Semester External Examination, Aug - 2023 (Supplementary)
OPERATING SYSTEMS (CSE and IT)

Time: 3 Hours   **Max.Marks:75**

Note: a) No additional answer sheets will be provided.
   b) All sub-parts of a question must be answered at one place only, otherwise it will not be valued.
   c) Missing data can be assumed suitably.

Bloom's Cognitive Levels of Learning (BCLL)

Remember	L1	Apply	L3	Evaluate	L5
Understand	L2	Analyze	L4	Create	L6

Part - A   Max.Marks:25
ANSWER ALL QUESTIONS

		BCLL	CO(s)	Marks
1	Define Kernel.	L1	CO1	[2M]
2	Define Thread.	L1	CO2	[2M]
3	Write about race condition.	L1	CO3	[2M]
4	List few Page Replacement Strategies.	L1	CO4	[2M]
5	Illustrate about File pointer.	L4	CO5	[2M]
6	Define Access Control list.	L1	CO6	[3M]
7	Define a scheduler.	L1	CO2	[3M]
8	Illustrate about Critical Section Problem.	L4	CO3	[3M]
9	Define a page fault.	L1	CO4	[3M]
10	Categorize the conditions necessary for a deadlock situation to arise.	L6	CO3	[3M]

Part – B   Max.Marks:50
ANSWER ANY FIVE QUESTIONS. EACH QUESTION CARRIES 10 MARKS.

			BCLL	CO(s)	Marks
11.	a)	Explain the structure of Operating System.	L2	CO1	[5M]
	b)	Explain about operating systems services.	L2	CO1	[5M]
12.	a)	Apply Round Robin CPU Scheduling Algorithm for given Problem. Time slice=3ms.	L3	CO2	[5M]

Process	P1	P2	P3	P4
Process Time	10	5	18	6
Arrival Time	5	3	0	4

			BCLL	CO(s)	Marks
	b)	Define Process? Explain process State diagram.	L1	CO2	[5M]
13.	a)	Discuss the Peterson's solution for the race condition with algorithm.	L2	CO3	[5M]
	b)	Define Semaphore? Give the implementation of producer-consumer Problem using Semaphore.	L1, L2	CO3	[5M]
14.	a)	Apply FIFO replacement algorithm to the reference string- 1,2,3,2,1,5,2,1,6,2,5,6,3,1,3,6,1,2,4,3.and find out how many page faults are produced. Assume there are three frames.	L3	CO4	[5M]
	b)	Explain briefly about Demand Paging.	L2	CO4	[5M]

| 15. | a) | Explain about File Allocation Methods in details. | L2 | CO5 | [5M] |
| | b) | Explain different types of disk-scheduling algorithms in detail. | L2 | CO5 | [5M] |

| 16. | a) | Explain how Access Control List can be useful for Managing File access? | L2 | CO6 | [5M] |
| | b) | Explain the Trojan House and Trap doors threats. | L2 | CO6 | [5M] |

17.	a)	Explain about System Programs.	L2	CO1	[4M]
	b)	Write a short note on Threads.	L1	CO2	[3M]
	c)	Discuss the Concept of deadlock in detail.	L2	CO3	[3M]

18.	a)	Illustrate about Contiguous Memory Allocation.	L4	CO4	[4M]
	b)	Explain the concept of File with example.	L2	CO5	[3M]
	c)	Explain about Kernel I/O Subsystem.	L2	CO6	[3M]

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