Reg. No:

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B. Tech II Year I Semester Supplementary Examinations November-2022
PRINCIPLES OF OPERATING SYSTEMS
(Computer Science & Information Technology)

Time: 3 hours   Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

1	a	Explain the various types of System calls with an example for each.	L3	6M
	b	Discuss about the functionality of system boot with respect to operating system.	L2	6M

OR

2	a	Difference between Monolithic kernel and Micro kernel.	L4	6M
	b	Analyze the important services of an operating system.	L3	6M

UNIT-II

3	a	Describe the Inter Process Communication in client-server systems.	L3	6M
	b	What is CPU scheduling? Explain types of Scheduling and Scheduling Criteria in detail.	L2	6M

OR

4	a	Discuss about Multilevel Queue Scheduling and First come First Serve with example.	L3	6M
	b	Briefly explain about the Process scheduling.	L2	6M

UNIT-III

5	a	What is Process synchronization? Explain Critical-section problem with solution.	L1	6M
	b	Explain about Synchronization Hardware.	L3	6M

OR

6		List and explain Dead lock detection with Example.	L4	12M

UNIT-IV

7		Consider the following page reference string:1,2,3,4,2,1,5,6,1,2,3,7,6,3,2,1,2,3,6.How many page faults would occur for the LRU,FIFO,LFU and Optimal page replacement algorithms, assuming two and five frames.	L4	12M

OR

8	a	What is Page replacement? Explain page replacement algorithms with example.	L3	6M
	b	Difference between paging and segmentation.	L4	6M

UNIT-V

9	a	Explain the different disk scheduling algorithms with neat diagrams.	L2	6M
	b	Compare the C-LOOK and C-SCAN disk scheduling algorithms.	L4	6M

OR

10		Suppose that a disk drive has 5000 cylinders, numbered 0 to 4999. The drive is currently serving a request at cylinder 143, and the previous was at cylinder 125. The queue of pending requests, in FIFO order, is: 86, 1470, 913, 1774, 948, 1509, 1022, 1750, 130 Starting from the current head position, what is the total distance (in cylinders) that the disk arm moves to satisfy all the pending requests for each of the following disk-scheduling algorithms? i) FCFS ii) SSTF iii) SCAN iv) LOOK v) C-SCAN and vi) C-LOOK.	L3	12M

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