

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

MCA I Year I Semester Regular & Supplementary Examinations January/ February-2025
OPERATING SYSTEMS

Time: 3 Hours

Max. Marks: 60

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

UNIT-I

- 1 a Define Operating System. Mention what are the goals of an OS. CO1 L1 6M
b Discuss various types of system calls. CO2 L2 6M

OR

- 2 a What are the system programs and explain in detail? CO1 L1 6M
b Explain about operating system structure. CO1 L2 6M

UNIT-II

- 3 a Explain different process state with neat diagram. CO2 L2 6M
b Give below Processes table, calculate the average waiting time for the algorithms: First Come First Serve (FCFS). CO2 L4 6M

Process	ArrivalTime	BrustTime
P1	0	7
P2	2	4
P3	4	1
P4	5	4
P5	3	4

OR

- 4 a What is Semaphore and explain in detail. CO2 L1 6M
b Discuss about SJF CPU scheduling algorithm in detail. CO4 L6 6M

UNIT-III

- 5 a Write short note on Contiguous Allocation. CO3 L6 6M
b Write a brief description on Segmentation with Paging. CO4 L6 6M

OR

- 6 a Write a short note on Page Replacement Algorithms. CO4 L6 6M
b Given page reference string: 1,2,3,2,1,5,2,1,6,2,5,6,3,1,3,6,1,2,4,3. Compare the number of page faults for LRU and Optimal page replacement algorithm. CO3 L2 6M

UNIT-IV

- 7 a Define file. Explain the different file accessing methods. CO5 L5 6M
b Explain file system allocation methods. CO4 L2 6M

OR

- 8 a Explain about disk structure in detail. CO4 L2 6M
b Explain about RAID structure in detail. CO4 L2 6M

UNIT-V

- 9 a What is deadlock with clear example? CO5 L1 6M
b Explain methods for handling deadlocks. CO5 L2 6M

OR

- 10 a Explain deadlock prevention method with example. CO2 L2 6M
b How can you explain the cryptography as a security tool? CO5 L2 6M

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