

**BONAM VENKATA CHALAMAYYA INSTITUTE OF TECHNOLOGY & SCIENCE
(AUTONOMOUS)**

II - B. Tech II-Semester Regular Examinations (BR23), May - 2025

OPERATING SYSTEMS (Minor in CSE)

Time: 3 hours

(CE, EEE, ECE)

Max. Marks: 70

*Question Paper consists of Part-A and Part-B
Answer **ALL** the question in **Part-A and Part-B***

PART-A (10X2 = 20M)

	Marks	CO	BL
1. a) Outline the functions of operating system	(2M)	CO1	BL2
b) Give the examples of operating system	(2M)	CO1	BL1
c) Define the process	(2M)	CO2	BL1
d) Outline the multithreading models	(2M)	CO2	BL2
e) Inspect the critical section problem	(2M)	CO4	BL4
f) Mention the methods for handling deadlocks	(2M)	CO4	BL1
g) What is paging?	(2M)	CO3	BL1
h) What is virtual memory?	(2M)	CO3	BL1
i) List out the file access methods	(2M)	CO5	BL1
j) Why does the OS manage the free space?	(2M)	CO5	BL1

PART-B (5X10 = 50M)

2	Explain the overview of computer system.	10(M)	CO1	BL2
	(OR)			
3	Distinguish the operating system structures.	10(M)	CO1	BL4
4a.	Interpret the process states.	5(M)	CO2	BL5
b.	Discuss about FCFS scheduling algorithm.	5(M)	CO2	BL2
	(OR)			
5	Explain the concept of threads.	10(M)	CO2	BL2
6	Apply the Peterson's solution for process synchronization.	10(M)	CO3	BL3
	(OR)			
7	Explain deadlock prevention and describe how it differs from deadlock avoidance.	10(M)	CO3	BL2
8a.	Explain the concept of contiguous memory allocation.	5(M)	CO4	BL2
b.	Discuss its advantages and disadvantages.	5(M)	CO4	BL2
	(OR)			
9	Explain about the demand paging. Calculate page faults using page replacement algorithms.	10(M)	CO4	BL2
10a	Explain the directory structure.	5(M)	CO5	BL2
b.	Describe directory implementation.	5(M)	CO5	BL2
	(OR)			
11	Explain the file system operations.	10(M)	CO5	BL2
