TB254276V

Reg. No :.....

Name :.....

BACHELOR'S DEGREE (C.B.C.S) EXAMINATION, MARCH 2025

2019, 2020, 2021, 2022 ADMISSIONS SUPPLEMENTARY

B.VOC S.W.D SEMESTER IV - SKILL

VSD4S04B18 - Operating Systems

Time : 3 Hours **Maximum Marks : 80**

Part A

I. Answer any Ten questions. Each question carries 2 marks **(10x2=20)**

1. Define GUI.
2. Define Multi-programming.
3. Define Operating system?
4. Define context switch?
5. Distinguish between CPU bounded, I/O bounded processes
6. Describe the use of a Program Counter.
7. Name some classic problems of synchronization?
8. Define Critical section problem
9. Define virtual memory.
10. Define TLB.
11. List the operations on file.
12. Distinguish file from dictionary

Part B

II. Answer any Six questions. Each question carries 5 marks **(6x5=30)**

13. Discuss in detail about Distributed systems
14. Distinguish between SJF scheduling and SRTN scheduling
15. Explain FCFS scheduling algorithm with example
16. What are semaphores? Explain its types
17. Explain dining philosopher's problem
18. Explain segmentation method
19. Explain the process of paging with a neat diagram
20. Explain the different file attributes
21. Illustrate the working of SCAN disk scheduling algorithm

Part C

III. Answer any Two questions. Each question carries 15 marks **(2x15=30)**

22. Consider following processes with length of CPU burst time in milliseconds

Process	Burst time
P1	5
P2	10
P3	2
P4	1

All process arrived in order P1, P2, P3, P4 all at time zero

a) Draw Gantt charts illustrating execution of these processes for SJF and round robin (quantum=2)

b) Calculate waiting time for each process for each scheduling algorithm

c) Calculate average waiting time for each scheduling algorithm

23. Define deadlock? Explain the methods adopted to prevent a deadlock
24. Why are segmentation and paging sometimes combined into one scheme? Explain with case study of Intel Pentium
25. What are files and explain the attributes, operations and access methods for files?