TB214605W

Reg. No :.....

Name :.....

B. Voc. DEGREE (C.B.C.S.) EXAMINATION, MARCH 2023

(2021 Admissions Regular, 2020 Admissions Supplementary / Improvement, 2019 &2018 Admissions Supplementary)

SEMESTER IV - SKILL (SOFTWARE DEVELOPMENT)

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 cache memory
2. Explain System Programs.
3. What are the advantages of distributed systems?
4. Define starvation.
5. Explain process control block.
6. Define context switch?
7. Define Starvation in deadlock?
8. Define entry section and exit section.
9. Describe Reference String.
10. Explain external fragmentation?
11. Define a file.
12. Define latency time?

Part B

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

13. Explain the different user interfaces provided by the Operating System
14. Distinguish between SJF scheduling and SRTN scheduling
15. Discuss the structure of a PCB
16. Explain in detail the critical section problem
17. What are semaphores? Explain its types
18. Define page fault? Briefly explain the steps for servicing a page fault.
19. Explain about contiguous memory allocation?
20. Explain LOOK disk scheduling algorithm
21. Illustrate the working of SCAN disk scheduling algorithm

Part C

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

22. Explain the FCFS, preemptive and non-preemptive versions of Shortest-Job First and Round Robin (time slice = 2) scheduling algorithms with Gantt charts for the four Processes given. Compare their average turnaround and waiting time.

Process	Arrival Time	Burst Time
P1	0	8
P2	1	4
P3	2	9
P4	3	5

23. Define deadlock? Explain the methods adopted to prevent a deadlock
24. Explain about given memory management techniques. (i) Contiguous allocation (ii) Non-Contiguous allocation
25. On a disk with 200 cylinders, numbered 0 to 199, compute the number of tracks the disk arm must move to satisfy the entire request in the disk queue. Assume the last request received was at track 100. The queue in FIFO order contains requests for the following tracks. 55, 58, 39, 18, 90, 160, 150, 38, Perform the computation to find the seek time for the following disk scheduling algorithms. a) FCFS b) SSTF c) SCAN