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TB243939P

Reg. No :.....

Name :.....

BACHELOR'S DEGREE (C.B.C.S) EXAMINATION, NOVEMBER 2024

2018, 2019, 2020, 2021, 2022 ADMISSIONS SUPPLEMENTARY

SEMESTER III - CORE COURSE (COMPUTER APPLICATIONS)

CA3B06B18 - Operating Systems

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

Part A

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

1. What are the advantages of distributed systems?
2. Describe the operating system functions?
3. What do you mean by multiuser operating system?
4. Define Turnaround Time.
5. What is scheduler?
6. Define degree of multiprogramming?
7. Define Critical section problem
8. What are the methods for avoiding deadlocks?
9. List the need of inverted page table.
10. What do you mean by Best Fit?
11. List any six types of file.
12. List the various file attributes.

Part B

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

13. Discuss in detail about Distributed systems
14. Explain the various scheduling criterias
15. Briefly explain the different process schedulers
16. How can a deadlock be detected? Explain
17. Explain mutual exclusion principle
18. Discuss dynamic storage allocation problem
19. Explain about contiguous memory allocation?
20. Explain consistency semantics
21. Explain in detail the advantages of a two-level directory over single level directory

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. What is a deadlock? Explain the methods adopted to prevent a deadlock
24. Explain any three Page replacement algorithms with example reference string. Mention the merits and demerits of each of the algorithm.
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