

NOVEMBER 2019

50416/SAE5A

Time : Three hours

Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer any TEN questions.

1. What is a microkernel operating system?
2. What is a process?
3. Define deadlock.
4. What are semaphores?
5. What you mean by dynamic loading?
6. Specify the main significance of memory-management unit.
7. Define swapping.
8. What is a pure demand paging?
9. What is a file?
10. What are the different accessing methods of a file?
11. What are database security threats?
12. Mention any two Authentication factors.

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PART B — (5 × 5 = 25 marks)

Answer any FIVE questions.

13. Discuss about  
(a) Hard real-time systems (b) Soft real-time.
14. Explain in detail about First-Come, First-Served (FCFS) Scheduling with examples.
15. Write a short note on Resuming Processes within a monitor.
16. Explain how to avoid Deadlocks.
17. Discuss about  
(a) Swapping (b) Fragmentation.
18. Write the File structure that the operating system can understand.
19. What is Program threat? List some of the well known program threats.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions.

20. Discuss briefly the Process Scheduling Queues with a neat diagram.
21. Explain briefly the Classical Problem of Synchronization.

22. (a) Discuss in detail about paging and its Address Translation.  
(b) Write the advantages and disadvantages of Paging.
23. Explain  
(a) Page Buffering Algorithm.  
(b) Least Frequently Used algorithm.  
(c) Most Frequently Used algorithm.
24. Explain briefly the concept of Kernel I/O Subsystem.