K25U 2471

Reg. No. : .....

Name : .....

V Semester B.C.A. Degree (C.B.C.S.S. – O.B.E. – Regular/Supplementary/ Improvement) Examination, November 2025
(2019 to 2023 Admissions)
Core Course
5B12BCA : OPERATING SYSTEM

Time : 3 Hours Max. Marks : 40

SECTION – A
(Short Answer)

Answer **all** questions. **(6×1=6)**

1. Define system call.
2. What is pre-emptive scheduling ?
3. Mention any one method to prevent deadlock.
4. What is paging ?
5. List any two disk scheduling algorithms.
6. What is seek time ?

SECTION – B
(Short Essay)

Answer **any six** questions. **(6×2=12)**

7. Explain the basic structure of an operating system.
8. Differentiate between user mode and kernel mode.
9. Explain scheduling criteria with examples.
10. What are the different types of memory allocation schemes ?
11. Discuss segmentation in memory management.

P.T.O.

12. What is the purpose of file system structure ?

13. Describe the role of an I/O controller.

14. What is the purpose of an interrupt-driven I/O cycle ?

SECTION – C
(Essay)

Answer **any four** questions. **(4×3=12)**

15. Discuss OS functions related to process, memory and storage management.

16. Describe any three CPU scheduling algorithms.

17. Explain deadlock detection and recovery mechanisms.

18. Discuss demand paging with an example.

19. Explain directory structure and file protection.

20. Describe the transformation of I/O requests to hardware operations.

SECTION – D
(Long Essay)

Answer **any two** questions. **(2×5=10)**

21. Differentiate between modular and layered structure of operating systems.

22. Explain Round Robin scheduling with an example.

23. Describe methods for deadlock prevention and avoidance.

24. Explain disk space allocation methods and file sharing mechanisms.

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