SE – 236

# II Semester B.C.A. Examination, June/July 2025
## (SEP)
## 24BCA23 : OPERATING SYSTEMS

Time : 3 Hours Max. Marks : 80

***Instruction*** *: Answer* ***all*** *Sections.*

SECTION – A

Answer **any eight** of the following : **(2×8=16)**

1. Define an operating system.
2. What is a system call ?
3. Mention any four types of scheduling algorithm.
4. Define semaphore.
5. What is segmentation ?
6. Write the difference between file and directory.
7. Mention any two disk scheduling algorithms.
8. What is the use of 1s and pwd commands in Linux ?
9. List any two internal and external Linux commands.
10. Define swapping in memory management.

SECTION – B

Answer **any four** of the following : **(6×4=24)**

11. Explain the services provided by an operating system.
12. What is multithreading ? Explain the different multithreading models.
13. Describe Peterson's solution to the critical section problem.
14. Explain SJF and RR scheduling algorithm.
15. Explain contiguous memory allocation.
16. Write a note on Linux file-related and directory-related commands.

P.T.O.

## SECTION – C

Answer **any five** of the following : **(8×5=40)**

17. What is a Process Control Block (PCB) ? What are the information stored in PCB ?

18. Explain the different methods for handling deadlocks.

19. Describe paging and the structure of a page table.

20. Explain file system implementation methods and directory structures.

21. What is virtual memory ? Explain demand paging and page replacement.

22. Explain the architecture of Linux and discuss any six commonly used Linux commands.

23. Explain SCAN and C-SCAN disk scheduling algorithms in detail.