



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

Time : 3 Hours

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 ls 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.



SECTION – C

Answer **any five** of the following :

($8 \times 5 = 40$)

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.
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