

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2026**(Regular/Improvement/Supplementary)****COMPUTER SCIENCE****GBCS6B12T: OPERATING SYSTEMS****Time: 2 Hours****Maximum Marks: 60****SECTION A: Answer the following questions. Each carries two marks.****(Ceiling 20 marks)**

1. What do you mean by shell programming?
2. Differentiate between logical address space and physical address space.
3. What is dynamic loading?
4. Write any *four* shells available in UNIX.
5. What is preemptive scheduling? Name any two preemptive scheduling algorithms.
6. Write input and output commands used in shell scripting with example.
7. Differentiate between authentication and authorization.
8. Define process. Write down the states of process.
9. Write the functions of operating system.
10. Give the name of any *two* mobile operating systems.
11. What is trashing? Write any *one* cause for trashing.
12. Define security policy.

SECTION B: Answer the following questions. Each carries five marks.**(Ceiling 30 marks)**

13. What is deadlock? Explain how it can be prevented.
14. Explain different types of operating systems.
15. What is meant by virtual memory? Explain the advantages of using virtual memory.
16. Discuss Dining Philosopher's problem.
17. Explain the concept of paging.
18. What is a kernel in Linux system? Explain the responsibilities of kernel.
19. Explain different types of operators used in shell programming with example.

SECTION C: Answer any one question. The question carries ten marks.

20. Explain the architecture of mobile operating system with its block diagram.
21. Consider the following set of processes with the arrival times and CPU burst times given in milliseconds. Find the average waiting time and average turnaround time using SJF scheduling algorithm.

Process ID	Arrival Time	Burst Time
P0	1	3
P1	0	5
P2	3	2
P3	4	3
P4	2	1

(1 × 10 = 10 Marks)