

23U627

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Name:

Reg.No:

SIXTH SEMESTER B.Sc./B.C.A. DEGREE EXAMINATION, APRIL 2026

(CBCSS - UG)

(Regular/Supplementary/Improvement)

CC19UBCS6B12 / CC19UBCA6B12 - OPERATING SYSTEMS

(Computer Science / Computer Application - Core Course)

(2019 Admission onwards)

Time : 2.00 Hours

Maximum : 60 Marks

Credit : 3

Part A (Short answer questions)

Answer ***all*** questions. Each question carries 2 marks.

1. Describe the term degree of multiprogramming.
2. Explain different types of OS.
3. Describe a thread. Write the benefits of multithreaded programming.
4. Explain a critical section problem.
5. Describe file permissions in Linux.
6. Explain the use of cat command using an example.
7. Explain Turnaround time.
8. Explain starvation. How it can be resolved?
9. Explain a short note on semaphore.
10. Describe internal fragmentation and external fragmentation. How external fragmentation can be solved?
11. Explain the need and working principle of virtual memory.
12. Describe authorization.

(Ceiling: 20 Marks)

Part B (Short essay questions - Paragraph)

Answer ***all*** questions. Each question carries 5 marks.

13. Explain PCB and its importance in process execution.
14. Explain the commands used for Navigating the Linux File system.
15. Explain a shell program to print even numbers between 0 and 100.
16. Explain different methods for allocation in a File System.

17. Compute the page fault for reference string 1, 2, 3, 4, 5, 3, 4, 1, 6, 7, 8, 7, 8, 9, 7, 8, 9, 5, 4, 4, 5, 3. How many page faults would occur for the following replacement algorithms? Assume four frames and all frames are initially empty. a) LRU replacement. b) FIFO replacement. c) Optimal replacement
18. Describe Belady's anomaly.
19. Describe the features and architecture of Android OS.

(Ceiling: 30 Marks)

Part C (Essay questions)

Answer any *one* question. The question carries 10 marks.

20. Explain how to detect and recover from deadlocks.
21. Make a Comparison between preemptive and non-preemptive scheduling.

(1 × 10 = 10 Marks)
