CS405 Operating Systems – Unit 4 Important Questions

Very High Probability

1. Explain Critical Section Problem.
2. Conditions for Critical Section Solution.
3. Explain Binary and Counting Semaphore.
4. Explain WAIT and SIGNAL Operations.
5. Explain Deadlock and its four necessary conditions.
6. Explain Deadlock Prevention.
7. Explain Deadlock Avoidance.
8. Explain Deadlock Recovery.

High Probability

9. Explain Mutual Exclusion.
10. Explain IPC.
11. Explain Dining Philosopher Problem.
12. Explain Reader Writer Problem.
13. Explain Interrupt Driven I/O.
14. Explain DMA.

Expected Short Notes

15. Polling
16. I/O Buffering
17. Resource Allocation Graph
18. Kernel I/O Subsystem
19. Synchronization
20. Concurrent I/O

Unit 4 Priority Order

Tier-1 (Must Prepare)

✅ Critical Section Problem
✅ Semaphore (Binary & Counting)
✅ WAIT & SIGNAL
✅ Deadlock (All Topics)
✅ Mutual Exclusion

Tier-2

✅ IPC
✅ Dining Philosopher
✅ Reader Writer
✅ Interrupt Driven I/O
✅ DMA

Tier-3

✅ Polling
✅ I/O Buffering
✅ Kernel I/O Subsystem
✅ Concurrent I/O