

OS – Module 2 – Important Questions (**Lengthy Module**)

1. Define Process
2. Define Process Scheduling
3. Define Deadlock
4. Define Thread
5. Define co-operating processes
6. Define Race Condition
7. Define Critical Section
8. List scheduling queues (**Job Queue , Ready Queue , Device or I/O Queue**)
9. List types of schedulers (**short-term scheduler, long-term scheduler & medium-term scheduler**)
10. List CPU scheduling algorithms (**FCFS , SJF, SRTN, Priority-based, Round-Robin, Multi-level queue , Multi-level feedback queue**)
11. Explain process states with a diagram (**new , ready , running, waiting , terminated**) – 6 Marks
12. Explain Process Control Block (PCB) with a block diagram – 6 or 7 Marks
13. Explain Context Switching with diagram – 6 or 7 marks
14. Concept of CPU Burst & I/O Burst
15. Compare Thread & Process
16. Write advantages of using multiple threads – 6 marks
17. Explain types of schedulers with a block diagram – 6 Marks
18. Differentiate Pre-emptive and non pre-emptive scheduling – 2 or 4 marks
19. Explain various Scheduling Criteria – **NB – 6 Marks**
20. Explain Scheduling algorithms with examples (FCFS , SJF , SRTN, Priority-based , Round-Robin) - **Sometimes problems may be asked to find out average waiting time - NB (6 to 9 Marks)**
21. **Explain multi-level queue & multi-level feedback queue scheduling**
22. Explain critical section problem
23. List and explain the requirements for the solution to a critical section problem (**Mutual Exclusion, Progress & Bounded Waiting**)
24. List and explain necessary conditions for deadlock (**Mutual exclusion, Hold & Wait , No pre-emption , circular wait**) – NB 6 marks
25. Explain Resource Allocation Graph (**RAG**) – **NB 6 or 7 Marks**
26. Dead Lock Handling Methods (**Deadlock Prevention , Deadlock Avoidance , Deadlock detection & recovery**) - Individual methods may be asked as essay questions – **NB 6 to 8 marks**