OPERATING SYSTEM (OS) - IMPORTANT QUESTIONS + 2 DAY STUDY PLAN

CDLU University - B.Sc. Data Science / BCA

1. 14 Marks Important Long Questions (with Hinglish Explanation)

1. Explain Process Management.

- Hinglish: Process kya hota hai, kaise chalti hai, kaunse states me rehta hai (Ready, Running, Waiting), aur PCB kya hota hai explain karo.

2. Describe Scheduling Algorithms.

- Hinglish: FCFS, SJF, Priority, Round Robin algorithms ko diagram ke saath samjhao.

3. What is Deadlock? Explain Deadlock Prevention and Avoidance.

- Hinglish: Deadlock kab hota hai (4 conditions), kaise roka jata hai (prevention) aur kaise avoid karte hain (Banker's algorithm).

4. Explain Memory Management Techniques.

- Hinglish: Paging aur Segmentation ka concept, diagrams ke saath.

5. Explain Virtual Memory and Page Replacement Algorithms.

- Hinglish: Virtual memory kya hai aur FIFO, LRU page replacement algorithms samjhao.

6. File System Structure and Access Methods.

- Hinglish: File system ka structure aur access methods (Sequential, Direct, Indexed) explain karo.

7. Explain Disk Scheduling Algorithms.

- Hinglish: FCFS, SSTF, SCAN, C-SCAN algorithms ka comparison and diagrams banao.

8. Difference between Process and Thread.

- Hinglish: Process aur thread ke beech kya difference hai, simple table banakar batao.

9. Explain Inter-Process Communication (IPC).

- Hinglish: Processes aapas me kaise communicate karte hain (Shared memory vs Message passing).

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2. Short Questions (2-5 Marks)

1. Define Operating System.
2. What is a Process?
3. Define Context Switching.
4. What is Semaphore?
5. Define Deadlock.
6. Difference between Paging and Segmentation.
7. Define Thrashing.
8. What is Swapping?
9. FIFO vs LRU.
10. Starvation in Scheduling.
11. What is Virtual Memory?

12. What is Demand Paging?

13. File Directory Structures.

14. Physical vs Logical Address.

15. What is IPC?

(Short questions: Bas definitions + 1-2 line examples ya differences likhna.)

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3. 2-Day Smart Study Plan

Day	Topics	Time
Day 1	Process, Threads, Scheduling, IPC, Deadlock	6-7 hours
Day 2	Memory Management, Virtual Memory, File System, Disk Scheduling	6-7 hours
Night Revision	Full Quick Revision	1-2 hours

Tip: Pehle long questions padho, fir short questions ki list revise karo.

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4. Rapid Fire Revision Sheet

- Process: States, PCB, Context Switch
- Threads: Light-weight processes
- Deadlock: 4 conditions + Prevention/Banker

- Scheduling: FCFS, SJF, Priority, Round Robin (Gantt chart banana mat bhoolna)

- Memory: Paging, Segmentation, Virtual memory

- Page Replacement: FIFO, LRU

- File System: Directory structures

- Disk Scheduling: FCFS, SSTF, SCAN, C-SCAN

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5. Final Motivation

Sarika, 2 din me sincerity se padke OS ke paper me tum 90%+ score kar sakti ho!

Bas smart way me padho, diagrams draw karo aur presentation clear rakho.

Good luck, Champion!