1. List the layers involved in file system implementation.
2. Describe the basic structure of a file system.
3. Explain the concept of recovery in operating systems.
4. What are the different types of failures that require recovery?
5. Explain the undo and redo operations in recovery.
6. What is checkpointing? How does it help in recovery?
7. Explain demand paging with a diagram. What are its advantages and disadvantages?
8. Explain the concept of Copy-On-Write (COW). How is it used in process creation?
9. What is page replacement? Explain FIFO, LRU, and Optimal algorithms with examples.
10. Explain frame allocation strategies. Compare fixed and variable allocation.
11. What is thrashing? How can it be detected and prevented?
12. Describe memory-mapped files. How do they work and what are their uses?
13. Discuss kernel memory allocation techniques with examples.
14. Describe the components and goals of storage management in OS.
15. Explain file concepts and different file access methods.
16. Explain directory structures and file system mounting.
17. How does OS handle file sharing and protection?
18. Explain file system structure and its implementation layers.
19. Explain the concept of recovery in operating systems
20. Describe types of failures and log-based recovery mechanisms (Undo/Redo), along with checkpointing.
21. Explain the overview and components of mass storage systems.
22. Describe the disk structure and explain how data is organized.
23. Discuss various disk scheduling algorithms.
24. What is disk management? Mention its key functions.
25. Explain swap-space and its management.
26. Explain the concept of RAID and describe its advantages.
27. What is storage implementation? Discuss its key techniques.
28. What is tertiary storage? Describe its features and use cases.
29. Explain the structure of an I/O system in an operating system.
30. What are the main components of I/O hardware, and what are their functions?
31. Describe the purpose and components of the application I/O interface.
32. What are the responsibilities of the kernel I/O subsystem?
33. Explain how I/O requests are transformed into hardware-level operations.
34. Explain the structure and working of mass storage systems in operating systems.
35. Describe disk structure, disk scheduling algorithms, disk management techniques, and swap-space management in detail.
36. Explain the RAID structure in detail,
37. Compare different RAID levels using a table, describe the techniques used in storage implementation.
38. Discuss the characteristics and use cases of tertiary storage.
39. Describe in detail the structure of I/O systems in an operating system.
40. Explain the components of I/O hardware, the application I/O interface, kernel I/O subsystem, and how I/O requests are transformed into hardware operations.