

Unit 4 - Data Storage and Indexing

1. What are the different physical storage media used for data storage?

Compare different physical storage media used for data storage.

2. Explain the following terms – Seek time, Rotational latency, Data transfer rate

3. What is RAID? Explain striping, mirroring and parity

4. How records are organized in files?

5. Explain fixed length records and variable length records

6. What is data dictionary? How it can be stored?

7. Explain buffer replacement policies.

8. What is use of indexing? Compare primary index with secondary index.

9. Explain clustering index with non-clustering index.

10. Compare dense and sparse indexing techniques

11. Explain multi-level indexing with example.

12. What is hashing? What is use of hashing in database?

13. Explain hash file organization.

14. Write note on 'hash function'

15. How bucket overflow can be handled in hashing?

Explain types of hashing – open hashing and closed hashing.

16. Compare static hashing and dynamic hashing

17. Explain extendable hashing with example.

18. Compare ordered indexing with hashing.

19. Explain bitmap index with example.

20. Explain B-tree indexing with example.

21. Explain B + tree indexing with example.

22. Construct B-Tree of order 5 with following data: 1 12 8 2 25 5 14 28 17 7
52 16 48 68 3 26 29 53 55 45

23. Construct B-Tree of order 5 with following data: 3, 7, 9, 23, 45, 1, 5, 14, 25, 24,
13, 11, 8, 19, 4, 31, 35, 56, 6, 12

24. Construct B+ -Tree of order 5 with following data: 1 12 8 2 25 5 14 28 17 7
52 16 48 68 3 26 29 53 55 45

25. Construct B+ -Tree of order 5 with following data: 3, 7, 9, 23, 45, 1, 5, 14, 25, 24, 13, 11, 8, 19, 4, 31, 35, 56, 6, 12