Assignment-5

(Transaction, Recovery, Concurrency, File Organisation, Query Optimisation)

1. Define a transaction. Explain ACID properties with suitable examples.

2. What is schedule in DBMS? Differentiate between serializable, and conflict serializable schedules.

3. Explain the concept of view serializability. How is it different from conflict serializability?

4. What are cascading rollbacks? Explain with an example.

5. What is Two-Phase Locking (2PL) protocol?

6. Write the purpose of backup and recovery in DBMS. Mention two recovery techniques.

7. Discuss the different file organization techniques used in DBMS. Compare heap file, sequential file, and hashed file organizations.

8. Explain various query optimization techniques used by modern relational DBMSs. Why is cost-based optimization preferred?

9. Explain the deadlock. What are the different techniques to handle deadlocks?

10. Discuss timestamp-based concurrency control.

11. Discuss the role of hashing in data retrieval.

12. Define indexing. Why is it used?

13. What is query optimization?