



UNIT – III: Transaction Management

Multiple Choice Questions (MCQs)

1. A transaction is defined as:

- A) Collection of unrelated operations
- B) Logical unit of database work
- C) Data backup process
- D) Query optimization method

Answer: B

2. Which property ensures all operations occur completely or not at all?

- A) Consistency
- B) Isolation
- C) Atomicity
- D) Durability

Answer: C

3. ACID stands for:

- A) Atomicity, Consistency, Isolation, Durability
- B) Accuracy, Control, Integrity, Data
- C) Access, Consistency, Isolation, Database
- D) Atomicity, Connectivity, Isolation, Durability

Answer: A

4. Which transaction property maintains database correctness?

- A) Consistency
- B) Durability
- C) Isolation
- D) Atomicity

Answer: A

5. Durability means:

- A) Transactions are temporary
- B) Changes remain after commit
- C) Transactions are canceled
- D) Data is encrypted

Answer: B

6. Concurrency control ensures:

- A) Data security
- B) Correct simultaneous execution

- C) Fast backup
 - D) Network availability
- Answer: B

7. Serializability means:
- A) Transactions execute randomly
 - B) Concurrent execution produces serial results
 - C) Transactions stop automatically
 - D) Data is replicated
- Answer: B

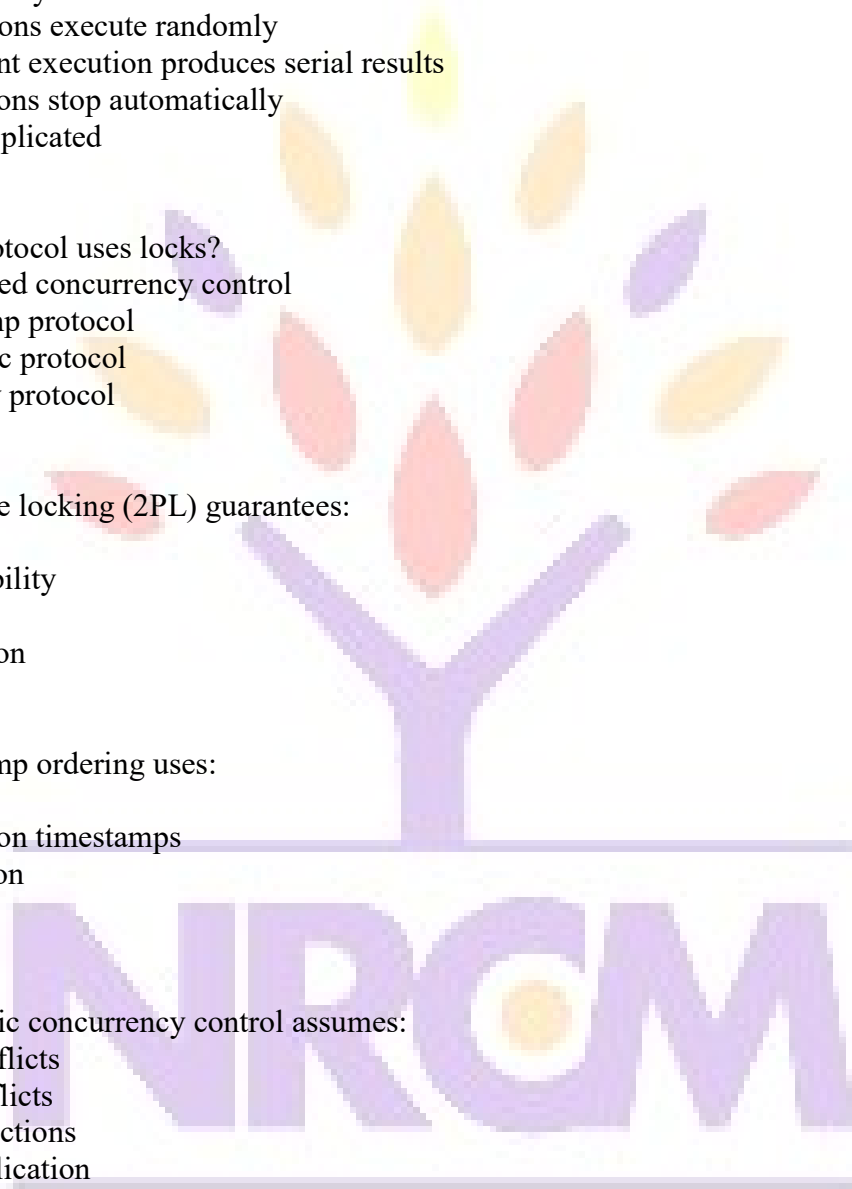
8. Which protocol uses locks?
- A) Lock-based concurrency control
 - B) Timestamp protocol
 - C) Optimistic protocol
 - D) Recovery protocol
- Answer: A

9. Two-phase locking (2PL) guarantees:
- A) Security
 - B) Serializability
 - C) Backup
 - D) Replication
- Answer: B

10. Timestamp ordering uses:
- A) Locking
 - B) Transaction timestamps
 - C) Replication
 - D) Backup
- Answer: B

11. Optimistic concurrency control assumes:
- A) High conflicts
 - B) Low conflicts
 - C) No transactions
 - D) Data duplication
- Answer: B

12. Deadlock occurs when:
- A) Transactions wait indefinitely
 - B) Database crashes
 - C) Data is deleted
 - D) Query executes slowly
- Answer: A



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13. Deadlock prevention avoids:

- A) Circular waiting
- B) Recovery
- C) Replication
- D) Backup

Answer: A

14. Which state indicates successful completion?

- A) Abort
- B) Commit
- C) Rollback
- D) Wait

Answer: B

15. Rollback means:

- A) Save changes
- B) Undo transaction changes
- C) Delete database
- D) Lock records

Answer: B

16. Distributed transactions execute across:

- A) Single system
- B) Multiple sites
- C) One table
- D) One user

Answer: B

17. Isolation property prevents:

- A) Backup failure
- B) Interference among transactions
- C) Data deletion
- D) Replication

Answer: B

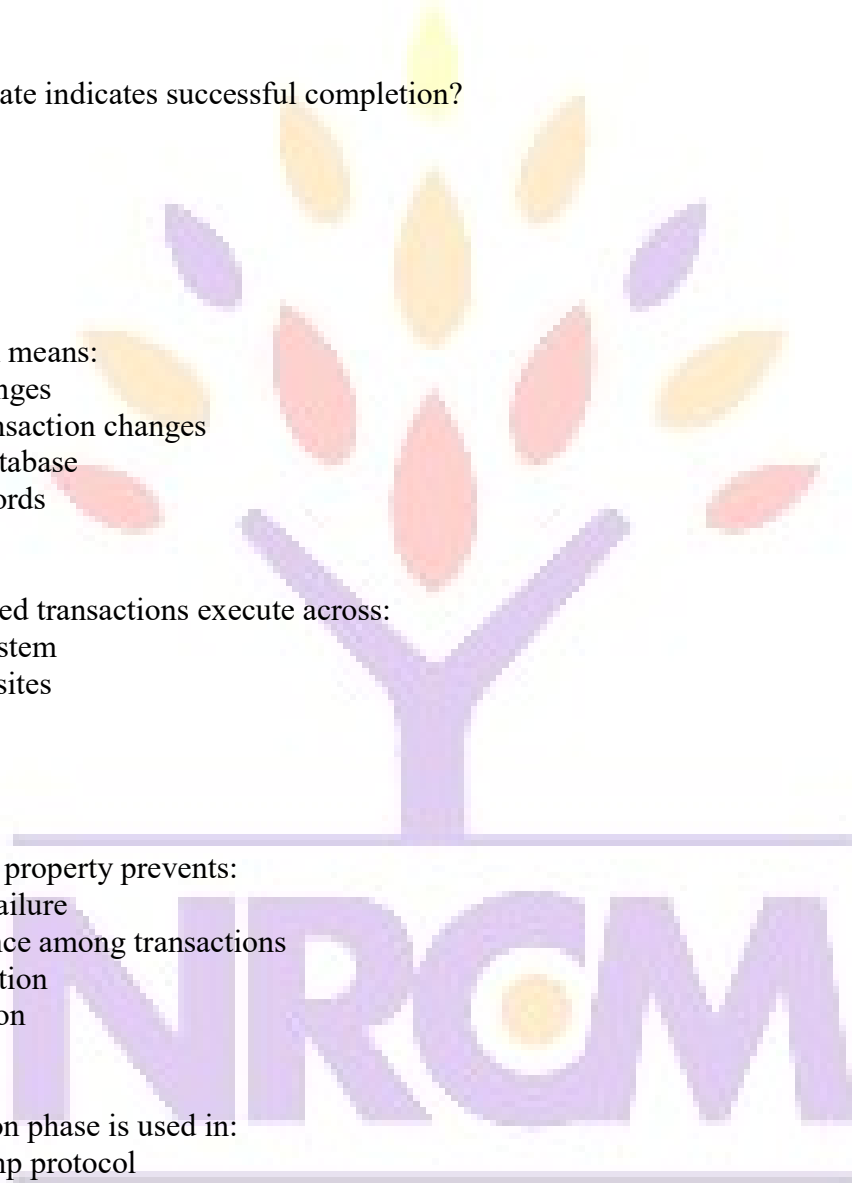
18. Validation phase is used in:

- A) Timestamp protocol
- B) Optimistic concurrency control
- C) Locking protocol
- D) Recovery protocol

Answer: B

19. Shared locks allow:

- A) Reading only
- B) Writing only
- C) Delete only



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D) Backup only

Answer: A

20. Exclusive locks allow:

A) Simultaneous writing

B) Read and write by one transaction

C) Read only

D) No access

Answer: B

Fill in the Blanks

1. A transaction is a logical unit of _____.

Answer: work

2. ACID property "A" stands for _____.

Answer: Atomicity

3. Atomicity means all operations happen completely or _____.

Answer: none

4. Consistency maintains database _____.

Answer: correctness

5. Isolation prevents concurrent transaction _____.

Answer: interference

6. Durability ensures committed data remains _____.

Answer: permanent

7. Concurrency control manages simultaneous _____.

Answer: transactions

8. Serializability ensures equivalent _____ execution.

Answer: serial

9. Two-phase locking protocol is abbreviated as _____.

Answer: 2PL

10. Timestamp ordering assigns unique _____ to transactions.

Answer: timestamps

11. Optimistic concurrency control performs _____ before commit.

Answer: validation

12. Deadlock occurs due to circular _____.

Answer: waiting

13. Transaction completion is indicated by _____.

Answer: commit

14. Undoing transaction changes is called _____.

Answer: rollback

15. Shared lock permits _____ operations.

Answer: read

16. Exclusive lock permits _____ operations.

Answer: write

17. Distributed transactions execute across multiple _____.

Answer: sites

18. Deadlock detection identifies waiting _____.

Answer: cycles

19. Concurrency control improves database _____.

Answer: performance

20. Timestamp protocol avoids using _____.

Answer: locks



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