1. What is a transaction system?
a) A system for handling financial transactions only
b) A system for managing database operations that ensures ACID properties
c) A system for conducting online surveys
d) A system for managing network security

Explanation: Option b is correct. A transaction system is a software system that manages database transactions ensuring Atomicity, Consistency, Isolation, and Durability (ACID properties).

2. Which testing method is used to ensure serializability of transactions?
a) Functional testing
b) Integration testing
c) Serializability testing
d) Unit testing

Explanation: Option c is correct. Serializability testing ensures that transactions executed concurrently produce the same result as if they were executed serially, maintaining database consistency.

3. What does a conflict serializable schedule ensure?
a) It ensures that transactions do not conflict with each other
b) It ensures that transactions are executed in a serial manner
c) It ensures that transactions can be interleaved without causing conflicts
d) It ensures that transactions are rolled back in case of failure

Explanation: Option c is correct. Conflict serializable schedules allow transactions to be

interleaved without causing conflicts, maintaining consistency.

4. What is recoverability in transaction processing?
a) The ability to recover data from a corrupted database
b) The ability to recover transactions after they have been committed
c) The ability to recover transactions to a consistent state after a failure
d) The ability to recover lost transactions

Explanation: Option c is correct. Recoverability ensures that transactions can be rolled back to a consistent state after a system failure or crash.

5. What is log-based recovery in transaction processing?
a) Recovering transactions by reading log files and applying changes to the database
b) Recovering transactions by rolling back to a previous checkpoint
c) Recovering transactions by re-executing them from the beginning
d) Recovering transactions by restoring from a backup

Explanation: Option a is correct. Log-based recovery involves using log files to replay or undo transactions to restore the database to a consistent state after a failure.

6. What is the purpose of checkpoints in transaction processing?
a) To mark the end of a transaction
b) To mark the beginning of a transaction
c) To reduce the time needed for recovery after a failure
d) To prevent deadlocks

Explanation: Option c is correct. Checkpoints are used to reduce the time required for recovery by providing a consistent starting point for the recovery process.

7. How are deadlocks handled in transaction processing?
a) By aborting one or more transactions involved in the deadlock
b) By rolling back all transactions involved in the deadlock
c) By waiting indefinitely for the deadlock to resolve itself
d) By terminating the entire system

Explanation: Option a is correct. Deadlocks are typically resolved by aborting one or more transactions involved in the deadlock to allow others to proceed.

8. What property does a view serializable schedule ensure?
a) It ensures that the database is always in a consistent state
b) It ensures that transactions can be rolled back if needed
c) It ensures that transactions produce the same results as if they were executed serially
d) It ensures that transactions can be interleaved without causing conflicts

Explanation: Option c is correct. View serializable schedules ensure that transactions produce the same results as if they were executed serially, maintaining consistency.

9. In concurrency control, what does the term “prepare” refer to?
a) Initiating a transaction
b) Finalizing a transaction
c) Executing a transaction
d) Validating a transaction

Explanation: Option d is correct. In concurrency control, “prepare” refers to validating a transaction before it is committed to ensure that it can be executed safely without violating consistency or integrity constraints.

10. Which of the following is not an ACID property of transactions?
a) Atomicity
b) Durability
c) Isolation
d) Consistency

Explanation: Option d is correct. While consistency is a desirable property of transactions, it is not one of the traditional ACID properties. ACID stands for Atomicity, Consistency, Isolation, and Durability.

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