UNIT – IV: Distributed DBMS Reliability & Parallel Database Systems

Multiple Choice Questions (MCQs)

1. Reliability in Distributed DBMS refers to:
A) Data formatting
B) Continuous correct operation
C) Data deletion
D) Query execution
Answer: B

2. Fault tolerance means:
A) Preventing backups
B) Continuing operation despite failures
C) Deleting errors
D) Reducing storage
Answer: B

3. Which is a common failure in Distributed DBMS?
A) Site failure
B) Printer failure
C) Monitor failure
D) Keyboard failure
Answer: A

4. Site failure means:
A) One database site becomes unavailable
B) Entire network removed
C) User logout
D) Data compression
Answer: A

5. Network partitioning occurs when:
A) Database is deleted
B) Communication links fail
C) Query stops
D) Backup completes
Answer: B

6. Reliability protocols are designed to:
A) Increase failures

B) Maintain data consistency and recovery
C) Encrypt data
D) Delete records
Answer: B

7. Distributed reliability protocols operate across:
A) Multiple sites
B) One server
C) One table
D) One user
Answer: A

8. Fault tolerance is achieved using:
A) Replication
B) Recovery
C) Redundancy
D) All of these
Answer: D

9. Parallel database systems improve:
A) Processing speed
B) Network failure
C) Security only
D) Storage only
Answer: A

10. Parallel database architecture uses:
A) Multiple processors
B) Single processor
C) Manual execution
D) One transaction
Answer: A

11. Shared-memory architecture allows:
A) Independent memory only
B) Processors sharing common memory
C) No memory access
D) Cloud storage only
Answer: B

12. Shared-nothing architecture means:
A) Shared CPU and memory
B) Independent processors and disks
C) No storage
D) Shared database only
Answer: B

13. Parallel data placement distributes data to:
A) Increase workload balance
B) Reduce users
C) Delete tables
D) Increase delay
Answer: A

14. Parallel query processing executes:
A) Sequentially
B) Simultaneously
C) Randomly
D) Manually
Answer: B

15. Load balancing helps to:
A) Distribute workload evenly
B) Increase failures
C) Reduce storage
D) Encrypt data
Answer: A

16. Database clusters consist of:
A) Multiple connected database servers
B) Single computer
C) One table
D) One processor
Answer: A

17. Reliability is commonly measured using:
A) Availability
B) Screen size
C) Query count
D) Memory size
Answer: A

18. Recovery mechanisms restore:
A) Lost data and operations
B) User login
C) Reports
D) Tables only
Answer: A

19. Parallel systems increase:
A) Throughput
B) Delay
C) Failure

D) Cost only
Answer: A

20. Network partitioning mainly affects:
A) Communication between sites
B) Screen output
C) CPU speed
D) Keyboard response
Answer: A

Fill in the Blanks

1. Reliability refers to continuous _____ operation.
Answer: correct

2. Fault tolerance enables systems to continue after _____.
Answer: failures

3. A _____ failure occurs when one site becomes unavailable.
Answer: site

4. Network partitioning interrupts _____ among sites.
Answer: communication

5. Reliability protocols ensure data _____.
Answer: consistency

6. Distributed DBMS supports _____ recovery.
Answer: fault

7. Database availability is a measure of _____.
Answer: reliability

8. Parallel database systems use multiple _____.
Answer: processors

9. Shared-memory systems use common _____.
Answer: memory

10. Shared-nothing architecture uses separate _____ and disks.
Answer: processors

11. Parallel data placement improves _____ distribution.
Answer: workload

12. Parallel query processing improves execution _____.
Answer: speed

13. Load balancing distributes system _____.
Answer: load

14. Database clusters consist of multiple _____.
Answer: servers

15. Replication increases system _____.
Answer: reliability

16. Recovery restores lost _____.
Answer: data

17. Throughput refers to completed _____ per unit time.
Answer: tasks

18. Network failures may cause _____ partitioning.
Answer: network

19. Database clusters improve _____.
Answer: availability

20. Parallel systems execute operations _____.
Answer: simultaneously