Started on	Thursday, 4 December 2025, 12:46 PM
State	Finished
Completed on	Thursday, 4 December 2025, 1:05 PM
Time taken	19 mins 6 secs
Marks	21.00/25.00
Grade	**84.00** out of 100.00

Question 1

Complete

Mark 1.00 out of 1.00

$lookup performs poorly when:

- ● a.   The foreign collection is sharded
- ○ b.   The join is performed on indexed fields
- ○ c.   Both collections share the same shard key
- ○ d.   The local field is unique

Question 2

Complete

Mark 1.00 out of 1.00

A MongoDB index with sparse: true will NOT index documents where:

- ○ a.   Index field exists but is empty
- ● b.   Index field does not exist
- ○ c.   Index field value is 0
- ○ d.   Index field is null

Question 3

Complete

Mark 1.00 out of 1.00

A query using LIKE '%abc' cannot use a B-Tree index because:

- ○ a.   LIKE never uses indexes
- ● b.   The wildcard appears at the beginning
- ○ c.   The wildcard appears at the end
- ○ d.   abc contains lowercase letters

Question 4

Complete

Mark 1.00 out of 1.00

If _id index exists, which situation will cause a COLLSCAN even when filtering on _id?

- ○ a.   Query uses _id: { $gte: 10 }
- ⦿ b.   Query uses $regex on _id
- ○ c.   _id contains strings
- ○ d.   Query uses _id: { $in: [1,2,3] }

Question 5

Complete

Mark 1.00 out of 1.00

In a sharded MongoDB cluster, the config server primarily stores:

- ⦿ a.   Chunk metadata and cluster configuration
- ○ b.   All user data
- ○ c.   Index definitions
- ○ d.   Write-ahead logs

Question 6

Complete

Mark 1.00 out of 1.00

In MongoDB, when using $facet, which of the following is TRUE?

- ○ a. $facet can only be used on sharded clusters
- ○ b.   All pipelines inside $facet run sequentially
- ⦿ c. $facet allows multiple pipelines to run on the same input in parallel
- ○ d. $facet disables all indexes

Question 7

Complete

Mark 1.00 out of 1.00

In MongoDB, which of the following queries can use a compound index on { age: 1, score: -1 } most efficiently?

- ○ a.   db.users.find({ age: { $gte: 20 } }).sort({ age: 1 })
- ⦿ b.   db.users.find({ age: { $gte: 20 } }).sort({ score: -1 })
- ○ c.   db.users.find({ score: { $gt: 50 } }).sort({ age: 1 })
- ○ d.   db.users.find({ score: { $gte: 20 } }).sort({ score: 1 })

Question 8

Complete

Mark 1.00 out of 1.00

In MongoDB, which situation makes a compound index { a: 1, b: 1 } unusable for sorting?

- ○ a.   Query filters on a and sorts by { b: 1 }
- ⦿ b.   Query sorts by { a: -1, b: 1 }
- ○ c.   Query sorts by { b: 1, a: 1 }
- ○ d.   Query filters on both a and b

Question 9

Complete

Mark 1.00 out of 1.00

In MySQL InnoDB, a secondary index lookup requires:

- ○ a.   Reading only the secondary index
- ⦿ b.   Reading both secondary index and clustered index
- ○ c.   A single B-tree traversal
- ○ d.   No lookup in clustered index

Question 10

Complete

Mark 0.00 out of 1.00

MongoDB multi-document ACID transactions require which storage engine?

- ○ a.   InnoDB
- ○ b.   MyISAM
- ⦿ c.   RocksDB
- ○ d.   WiredTiger

Question 11

Complete

Mark 1.00 out of 1.00

MySQL performs a full table scan when:

- ○ a.   Partition key is present
- ○ b.   Query returns fewer rows
- ○ c.   Index fits entirely in memory
- ⦿ d.   Query references a non-indexed column in WHERE

Question 12

Complete

Mark 1.00 out of 1.00

To force MySQL to use a specific index, you use:

- ● a.   USE INDEX
- ○ b.   INDEX FORCE
- ○ c.   USE ONLY INDEX
- ○ d.   FORCE THIS INDEX

Question 13

Complete

Mark 1.00 out of 1.00

Which aggregation operator allows you to reshape documents by controlling inclusion/exclusion of fields?

- ○ a. $map
- ○ b. $reduce
- ○ c. $merge
- ● d. $project

Question 14

Complete

Mark 1.00 out of 1.00

Which isolation level in MySQL prevents dirty reads but still allows non-repeatable reads and phantom reads?

- ○ a.   REPEATABLE READ
- ○ b.   SERIALIZABLE
- ○ c.   READ UNCOMMITTED
- ● d.   READ COMMITTED

Question 15

Complete

Mark 0.00 out of 1.00

Which MongoDB feature ensures that writes go to the primary node before being replicated?

- ○ a.   Write Concern w:1
- ○ b.   Write Concern w:majority
- ● c.   Read Preference primaryPreferred
- ○ d.   Journaling

Question 16

Complete

Mark 1.00 out of 1.00

Which MongoDB write concern guarantees that data is written to majority of replica set nodes before acknowledging?

- ○ a. w:1
- ○ b. journaled
- ○ c. w:all
- ● d. w:majority

Question 17

Complete

Mark 1.00 out of 1.00

Which MySQL condition forces the optimizer to avoid using an index even if one exists?

- ● a. WHERE function(column) = value
- ○ b. WHERE column > 0
- ○ c. column = 10
- ○ d. column IN (1,2,3)

Question 18

Complete

Mark 1.00 out of 1.00

Which MySQL join returns rows that have matching values in both tables but excludes unmatched rows?

- ○ a. LEFT JOIN
- ○ b. FULL OUTER JOIN
- ● c. INNER JOIN
- ○ d. RIGHT JOIN

Question 19

Complete

Mark 1.00 out of 1.00

Which MySQL storage engine does not support foreign keys?

- ● a. MyISAM
- ○ b. MEMORY
- ○ c. InnoDB
- ○ d. NDB

Question 20

Complete

Mark 1.00 out of 1.00

Which of the following best describes EXPLAIN in MySQL?

- ⦿ a. It shows the execution plan without running the query
- ○ b. It updates statistics for the optimizer
- ○ c. It rewrites queries automatically
- ○ d. It executes the query with maximum optimization

Question 21

Complete

Mark 1.00 out of 1.00

Which of the following causes index intersection to be used?

- ○ a. Shard key is compound
- ○ b. Compound index exists
- ○ c. Query uses $lookup
- ⦿ d. Query matches on two fields that each have separate single-field indexes

Question 22

Complete

Mark 0.00 out of 1.00

Which of the following is true for clustered indexes in InnoDB?

- ○ a. They can be disabled
- ⦿ b. They require manual configuration
- ○ c. They store only pointers to rows
- ○ d. They store full row data in the index

Question 23

Complete

Mark 1.00 out of 1.00

Which operator allows you to execute pipeline stages for each document inside an array?

- ⦿ a. $map
- ○ b. $each
- ○ c. $unwind
- ○ d. $pipeline

Question 24

Complete

Mark 0.00 out of 1.00

Which query will lock the selected rows and prevent other transactions from reading them in InnoDB?

  ○ a.   SELECT ... AS LOCKED

  ○ b.   SELECT ... FROM ...

  ◉ c.   SELECT ... FROM ... LOCK

  ○ d.   SELECT ... FOR UPDATE

Question 25

Complete

Mark 1.00 out of 1.00

Which SQL query guarantees eliminating duplicates before ordering the output?

  ○ a.   SELECT * FROM table ORDER BY col DISTINCT;

  ◉ b.   SELECT DISTINCT * FROM table ORDER BY col;

  ○ c.   SELECT UNIQUE * FROM table ORDER BY col;

  ○ d.   SELECT ORDER DISTINCT * FROM table;