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Marks 23.00/25.00

Grade 92.00 out of 100.00

Question 1

Complete

Mark 1.00 out of 1.00

A foreign key must always reference:

- ☐ a. The first column of the parent table
- ☐ b. Any attribute in any table
- ☒ c. A primary key or unique key in another table
- ☐ d. A candidate key in the same table

Question 2

Complete

Mark 1.00 out of 1.00

A relationship that requires a linking (junction) table is usually:

- ☒ a. Many-to-many
- ☐ b. Recursive
- ☐ c. One-to-many
- ☐ d. One-to-one

Question 3

Complete

Mark 1.00 out of 1.00

If a transaction commits, the ability of the database to preserve changes even after a crash refers to:

- ☐ a. Isolation
- ☒ b. Durability
- ☐ c. Consistency
- ☐ d. Serializability

Question 4

Complete

Mark 1.00 out of 1.00

In a one-to-many relationship, the foreign key is typically stored in:

- ☒ a. The "many" side
- ☐ b. Both sides
- ☐ c. A separate relationship table
- ☐ d. The "one" side

Question 5

Complete

Mark 1.00 out of 1.00

Violation of which ACID property leads to dirty reads?

- ☐ a. Consistency
- ☐ b. Durability
- ☒ c. Isolation
- ☐ d. Atomicity

Question 6

Complete

Mark 1.00 out of 1.00

What is the output of COUNT(*) if a table has 5 rows containing NULL values?

- ☒ a. 5
- ☐ b. Only non-NULL rows counted
- ☐ c. 0
- ☐ d. NULL

Question 7

Complete

Mark 1.00 out of 1.00

What is the purpose of a unique key?

- ☐ a. To allow duplicate values only once
- ☐ b. To generate values automatically
- ☒ c. To enforce uniqueness but allow a single NULL
- ☐ d. To enforce referential integrity

Question 8

Complete

Mark 1.00 out of 1.00

Which ACID property ensures that a transaction's operations are treated as a single unit?

- ☐ a. Consistency
- ☐ b. Durability
- ☒ c. Atomicity
- ☐ d. Isolation

Question 9

Complete

Mark 1.00 out of 1.00

Which ACID property ensures that concurrently running transactions do not affect each other's intermediate states?

- ☐ a. Durability
- ☒ b. Isolation
- ☐ c. Atomicity
- ☐ d. Consistency

Question 10

Complete

Mark 1.00 out of 1.00

Which ACID property guarantees that a transaction moves the database from one valid state to another?

- ☐ a. Durability
- ☒ b. Consistency
- ☐ c. Isolation
- ☐ d. Atomicity

Question 11

Complete

Mark 1.00 out of 1.00

Which aggregate function counts only non-NULL values?

- ☐ a. AVG(column_name)
- ☒ b. COUNT(column_name)
- ☐ c. SUM(column_name)
- ☐ d. COUNT(*)

Question 12

Complete

Mark 1.00 out of 1.00

Which aggregate function ignores NULLs by default?

- ☐ a. SUM
- ☒ b. All of the above
- ☐ c. AVG
- ☐ d. MIN

Question 13

Complete

Mark 1.00 out of 1.00

Which key prevents insertion of a record that references a non-existent parent row?

- ☐ a. Check constraint
- ☐ b. Unique key
- ☐ c. Primary key
- ☒ d. Foreign key

Question 14

Complete

Mark 1.00 out of 1.00

Which key uniquely identifies a tuple in a table and cannot contain NULL values?

- ☐ a. Candidate key
- ☐ b. Foreign key
- ☒ c. Primary key
- ☐ d. Superkey

Question 15

Complete

Mark 1.00 out of 1.00

Which of the following best describes a composite key?

- ☒ a. A key consisting of multiple attributes
- ☐ b. A key ensuring referential integrity
- ☐ c. A key that cannot contain NULL values
- ☐ d. A key generated automatically by DBMS

Question 16

Complete

Mark 1.00 out of 1.00

Which of the following is a minimal superkey?

- ☐ a. Primary key
- ☒ b. Candidate key
- ☐ c. Composite key
- ☐ d. Foreign key

Question 17

Complete

Mark 0.00 out of 1.00

Which of the following is TRUE about candidate keys?

- ☒ a. All candidate keys must be chosen as primary keys
- ☐ b. Candidate keys can contain duplicate values
- ☐ c. A table can have multiple candidate keys
- ☐ d. Candidate keys depend on foreign key constraints

Question 18

Complete

Mark 1.00 out of 1.00

Which relationship allows an entity to be related to itself?

- ☒ a. Recursive relationship
- ☐ b. Many-to-many
- ☐ c. One-to-many
- ☐ d. One-to-one

Question 19

Complete

Mark 1.00 out of 1.00

Which SQL clause groups rows that have the same values into summary rows?

- ☐ a. DISTINCT
- ☒ b. GROUP BY
- ☐ c. ORDER BY
- ☐ d. HAVING

Question 20

Complete

Mark 1.00 out of 1.00

Which SQL clause is executed first in a SELECT query?

- ☐ a. GROUP BY
- ☒ b. FROM
- ☐ c. HAVING
- ☐ d. SELECT

Question 21

Complete

Mark 1.00 out of 1.00

Which SQL clause is used to filter aggregated results?

- ☐ a. WHERE
- ☐ b. GROUP BY
- ☒ c. HAVING
- ☐ d. FILTER

Question 22

Complete

Mark 0.00 out of 1.00

Which SQL query correctly finds departments having total salary > 1,00,000?

- ☒ a. SELECT dept, SUM(salary) FROM emp GROUP BY dept WHERE SUM(salary)>100000;
- ☐ b. SELECT dept, SUM(salary) FROM emp HAVING SUM(salary)>100000 GROUP BY dept;
- ☐ c. SELECT dept, SUM(salary) FROM emp GROUP BY dept HAVING SUM(salary)>100000;
- ☐ d. SELECT dept, SUM(salary) FROM emp WHERE SUM(salary)>100000 GROUP BY dept;

Question 23

Complete

Mark 1.00 out of 1.00

Which SQL query finds the number of employees per department?

- ☐ a. SELECT dept, COUNT(*) FROM emp HAVING dept GROUP BY dept;
- ☒ b. SELECT dept, COUNT(*) FROM emp GROUP BY dept;
- ☐ c. SELECT dept, COUNT(*) GROUP BY dept FROM emp;
- ☐ d. SELECT COUNT(*), dept FROM emp WHERE COUNT(*) GROUP BY dept;

Question 24

Complete

Mark 1.00 out of 1.00

Which SQL statement is valid for filtering rows before aggregation?

- ☒ a. WHERE salary > 50000
- ☐ b. GROUP BY salary > 50000
- ☐ c. HAVING salary > 50000
- ☐ d. WHERE AVG(salary) > 50000

Question 25

Complete

Mark 1.00 out of 1.00

Which clause is used to filter rows after aggregation?

- ☒ a. HAVING
- ☐ b. GROUP BY
- ☐ c. WHERE
- ☐ d. DISTINCT