

- Instructions :** (1) This paper contains **FIVE** questions.
 (2) All questions are compulsory.
 (3) Question No. **2, 3, 4** have internal options.
 (4) Figures in the right side in parenthesis indicate marks.

Q:1 Write queries to create tables with given constraints and data:

(14)

Table 1: Orders

Column Name	Datatype	Constraint
order_id	Varchar	Primary Key. Must start with letter "O"
order_date	Date	
customer_id	Varchar	Should be foreign key of customer_id column of customers table

order_id	order_date	customer_id
O101	20/03/2024	101
O102	21/03/2024	102
O103	22/03/2024	103
O104	23/03/2024	102
O105	24/03/2024	101

Table 2: Customers

Column Name	Datatype	Constraint
customer_id	Int	Primary Key
fname	Varchar	
lname	Varchar	
email	Varchar	Must contain the letter "@"

customer_id	fname	lname	email
101	John	Doe	john.doe@example.com
102	Jane	Smith	jane.smith@example.com
103	Alice	Johnson	alice.johnson@example.com

Q:2 Based on the table shown in Question 1, write MySQL queries for the following: **(14)**

1. Find the most recent order for each customer in the ascending order of their order date.
2. Find the number of orders placed by each customer in March 2024.
3. Find out the customers who have never placed an order.

OR

Q:2 A. Explain different types of joins supported by MySQL with example. **(07)**

B. What is the significance of “with check option” in view? Discuss with example **(07)**

Q:3 Differentiate between RANK, DENSE_RANK and ROW_NUMBER functions in MySQL with example. **(14)**

OR

Q:3 What is the significance of triggers in MySQL? Create two tables orders and order_logs, create a trigger so that whenever a new order record is inserted in orders table, it should automatically reflect in order_logs table. **(14)**

Q:4 Answer the question by selecting correct options. **(14)**

1. Which keyword is used to sort the result set in descending order?
 - a. SORT DESC
 - b. ORDER BY DESC
 - c. DESCENDING
 - d. DESC
2. Which function is used to count the number of rows returned by a query?
 - a. count()
 - b. sum()
 - c. max()
 - d. avg()
3. In MySQL, using which of the following options, one operation executed by user in database will reflect another operation to be executed automatically?
 - a. Stored Procedure
 - b. Check
 - c. Trigger
 - d. All of these
4. Which of the following MySQL statements is used to modify an existing table structure?
 - a. ALTER TABLE
 - b. UPDATE TABLE
 - c. MODIFY TABLE
 - d. CHANGE TABLE

5. What is the purpose of the SQL keyword "DISTINCT" in MySQL?
 - a. Orders the result set in ascending order
 - b. Removes duplicate rows from a result set
 - c. Specifies a condition for filtering rows
 - d. Combines rows from two or more tables
6. What does the SQL keyword "AS" do in MySQL?
 - a. Specifies a condition for filtering rows
 - b. Combines rows from two or more tables
 - c. Modifies the structure of a table
 - d. Renames a column or table
7. How can you change "Hansen" into "Nilsen" in the "LastName" column in the Persons table?
 - a. UPDATE Persons SET LastName='Hansen' INTO LastName='Nilsen'
 - b. UPDATE Persons SET LastName='Nilsen' WHERE LastName='Hansen'
 - c. MODIFY Persons SET LastName='Hansen' INTO LastName='Nilsen'
 - d. MODIFY Persons SET LastName='Nilsen' WHERE LastName='Hansen'

OR

Q:4 Answer the question by selecting correct options.

(14)

1. Which operator is used to select values within a range?
 - a. Range
 - b. within
 - c. limit
 - d. between
2. The NULL SQL keyword is used to _____.
 - a. represent negative infinity
 - b. represent positive infinity
 - c. represent 0 value
 - d. represent a missing or unknown value
3. How many rows will be returned if we use CROSS JOIN to join a table with 10 records with a table with 8 records?
 - a. 10
 - b. 80
 - c. 18
 - d. 8

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4. The LESS THAN operator can be written as:
- <
 - LESS THAN
 - LT
 - ALL ARE VALID
5. Which of the following is the correct order of a SQL statement?
- select, where, group by, order by, having
 - select, where, order by, group by, having
 - select, where, group by, having, order by
 - select, order by, group by, having
6. Find the cities name with the condition and temperature from table 'weather' where condition = sunny or cloudy but temperature ≥ 60 .
- SELECT city, temperature, condition FROM weather WHERE condition = 'cloudy' AND condition = 'sunny' OR temperature ≥ 60
 - SELECT city, temperature, condition FROM weather WHERE condition = 'cloudy' OR condition = 'sunny' OR temperature ≥ 60
 - SELECT city, temperature, condition FROM weather WHERE condition = 'sunny' AND condition = 'cloudy' AND temperature ≥ 60
 - SELECT city, temperature, condition FROM weather WHERE condition = 'sunny' OR condition = 'cloudy' AND temperature ≥ 60
7. Which of the following is/are true with reference to 'view' in DBMS?
- (1) using with check option, we can restrict insertion of records which do not match view condition.
 - (2) A 'view' is a virtual table, which occurs after executing a pre-compiled query.
- Only (1)
 - Only (2)
 - Both are incorrect
 - both (1) and (2)
- Q:5** Answer the question by selecting correct options. **(14)**
1. Given relations R(w,x) and S(y,z), the result of
SELECT DISTINCT w, x FROM R, S;
Is guaranteed to be same as R, if
- R and S have the same number of rows
 - R and S have no duplicates
 - R has no duplicates and S is non-empty
 - S has no duplicates and R is non-empty

M2/3-5

2. What is the standard format for creating a date?
 - a. YYYY-MM-DD
 - b. DD-MM-YYYY
 - c. MM-DD-YYYY
 - d. YYYY-MM-DD
3. What is next in this CREATE TRIGGER statement:
CREATE TRIGGER dbo.trg_Trigger
 - a. AFTER/BEFORE
 - b. ON
 - c. INSERT or DELETE
 - d. LIST OF IN AND/OR OUT
PARAMETER(S)
4. Which of the following window function(s) will skip the next rank value if two records are same?
 - a. rank()
 - b. row_number()
 - c. dense_rank()
 - d. skip()
5. Which of the following task cannot be performed using ALTER?
 - a. Renaming a column in the table
 - b. Updating a record in the table
 - c. Adding a constraint in the table
 - d. Adding a new column to the table
6. Suppose you have 100 records in a table and you only want 10 records which of the following clause you will use?
 - a. rank
 - b. skip
 - c. limit
 - d. trim
7. Which of the following allows us to delete a table from a database using MySQL?
 - a. delete
 - b. drop
 - c. remove
 - d. alter

—X—