Task 1: SQL Queries [2*7=14] SET: A

1. Write a query to display the total number of orders placed by each user along with the user's first name, last name, and email. Sort the results by the number of orders in descending order.

2. Write a query to find the top 5 products with the highest average rating. Display the product name, description, and average rating.

3. Write a query to find the shipping carrier that has delivered the most orders.

4. Write a query that displays the address that has been used for most orders that have been shipped.

5. Using a nested query, find all users who have never placed an order. Display their first name, last name, and email.

6. Write a query to display the total revenue generated from each category. Show the category name and total revenue and order the results by total revenue in descending order.

7. Using a JOIN statement, retrieve the order details (order_id, product name, quantity, and price) for all orders placed by a specific user with (user_id = 1).

Task 2: Triggers [4*2 = 8]

1. Create a trigger that automatically updates the total_amount field in the Orders table when a new record is inserted into the Order_Items table. The trigger should add the price of the new order item multiplied by its quantity to the existing total_amount value for that order.

2. Create a trigger that automatically updates the stock of a product whenever a new order is placed.

Task 3: Procedures [4]

1. Create a stored procedure that accepts a user_id and a product_id as input parameters and adds the product to the user's cart. If the product is already in the user's cart, update the quantity. If the product is not in the user's cart, insert a new row with the specified user_id, product_id, and a quantity of 1. Also write the test query to call the procedure.

Task 4: Functions [4]

2. Create a user-defined function that accepts a user_id as input and returns the total amount spent by the user on all their orders. The function should return the sum of the total_amount field for all orders placed by the specified user. Write a test query that call that function and print user details along with the total amount.