SQL Final Assessment

Answer the following questions and each question consists of 2-Marks

(use the **Product** Table for [1-5] Questions) **(7*2-14Marks)**

1. Find the maximum price among products in the "Furniture" category.

2. Retrieve the products with stock quantities greater than or equal to 50 units.

3. Determine the count of distinct suppliers for all products.

4. Find the total number of products in stock.

5. Calculate the average stock quantity of products in each category.

6. Create a new table called "Order_Items" that should contain 5 columns (any with int, varchar(), and decimal).

7. Insert data into the "Order_Items" table which should have 5 rows.

Answer the following questions and each question consists of 5-Marks

(Answer 4 out of 5) **(4*5-20Marks)**

1. Answer the following Questions (use the Product Table)

- Find the product with the lowest price.
- Retrieve the category with the lowest total stock quantity of products.
- Find the products with the highest and lowest prices in each category.

2. Answer the following Questions (use the Product Table)

- Retrieve the products with prices between $50 and $100.
- Calculate the total value of stock for each category.
- Find the top 3 categories with the highest average price of products.

3. Give a brief description for the following questions and give **one example** for each

- What does the LEFT function do in SQL?
- How can you extract a substring from a string in SQL?
- How can you find the length of a string in SQL?
- What does the CONCAT function do in SQL?
- How can you concatenate two strings in SQL using the CONCAT function?

4. Answer the following:

- What is the primary purpose of SQL DDL (Data Definition Language) statements, and how are they used to define and modify the structure of a database?
- Explain the differences between the UPDATE and DELETE SQL statements. Provide examples for each.
- How can you add a new column to an existing table in SQL using a DDL statement? Describe the ALTER TABLE statement and provide an example of adding a new column.

5. Answer the following:

- Describe the role of SQL DML (Data Manipulation Language) statements in working with data in a database. Provide an example of using the SELECT statement to retrieve data.
- Explain how the UPDATE statement is used to modify existing records in a table. Provide an example.
- What is the key difference between the TRUNCATE TABLE statement and the DELETE statement when it comes to removing data from a table? Provide scenarios where one might be preferred over the other.

Answer the following questions and each question consists of 8-Marks

(2*8-16Marks)

1. (use the **Products, Orders, customers** and **Categories** Table where applicable)

- You have a database with three tables, "Orders", "Customers", and "Products." Each order is associated with a customer and contains one or more products. Write an SQL query to retrieve the order ID, customer name, and product name for each order. (4 Marks)

- You need to find a list of all categories and the number of products in each category , including categories with zero products. Write an SQL query to achieve this using a LEFT JOIN. (4-Marks)

2. (use the **Employee** Table)

- Using the Employee table, write an SQL query to find the ranking of employees in the 'Finance' department based on their salary. Include columns for EmployeeID, FirstName, Salary, and two additional columns showing the RANK and DENSE_RANK of each employee within the 'Finance' department.

- Consider the Employee table. Write an SQL query to find the employees in the 'HR' department who earn more than the average salary of employees in the 'IT' department. Display the FirstName, LastName, and Salary of these employees. Use a subquery to calculate the average salary of 'IT' department employees.