# SQL Topic-wise Assignment Questions (Basic to Intermediate)

## SQL Intro & Syntax

• What is SQL and what are its main uses in data systems?

• Write the syntax for a basic SELECT statement.

• Explain the difference between SQL and NoSQL.

## SQL SELECT, SELECT DISTINCT, WHERE, ORDER BY

• Write a query to retrieve all columns from a 'Customers' table.

• Write a query to find all distinct cities from the 'Employees' table.

• Write a query to fetch customers where Country = 'India' and Age > 30.

• Retrieve all employees ordered by their joining date in descending order.

## SQL AND, OR, NOT, NULL

• Write a query using AND, OR to fetch students who scored > 80 in Math or < 50 in Science.

• Write a query to find all products where the price is NOT NULL.

• Select all records where country is NOT 'USA'.

## SQL INSERT, UPDATE, DELETE

• Insert a new customer into the Customers table.

• Update the phone number of a customer where CustomerID = 5.

• Delete customers who haven’t made any orders.

## SQL SELECT TOP / LIMIT

• Retrieve the top 5 highest paid employees.

• Get the first 10 rows from the 'Orders' table.

## SQL JOINS (INNER, LEFT, RIGHT, FULL, SELF)

• Write a query to join Customers and Orders tables using INNER JOIN.

• Retrieve all customers and their orders using LEFT JOIN.

• Show employees and their managers using SELF JOIN.

## SQL UNION, UNION ALL, OPERATORS

• Combine results from 'OldCustomers' and 'NewCustomers' using UNION.

• Write a query demonstrating the use of arithmetic and comparison operators.

• Show difference between UNION and UNION ALL with examples.

## SQL DATABASE (Create, Drop, Backup)

• Write SQL to create a new database called 'CompanyDB'.

• Drop an existing database called 'TestDB'.

• Explain how SQL backups are typically handled.

## SQL TABLES (Create, Drop, Alter)

• Create a table 'Employees' with columns ID, Name, Age, Salary.

• Drop the 'Logs' table.

• Add a new column 'Email' to the 'Customers' table.

## SQL Constraints & Indexes

• Explain the purpose of PRIMARY KEY and FOREIGN KEY.

• Create a table with NOT NULL, UNIQUE, and DEFAULT constraints.

• What is an index and how does it improve query performance?

## SQL Auto Increment & Dates

• Create a table with an auto-incrementing ID.

• Write a query to find all orders placed in the last 30 days.

• Format a DATE field to display as 'YYYY-MM-DD'.