IT Shaala

SQL Test

Duration: 1 Hour **Maximum Marks:** 40

Instructions

1. Attempt all questions.
2. Write neat and clear SQL syntax.
3. Use proper capitalization for SQL keywords.
4. Draw diagrams wherever required.

SECTION A – SQL Fundamentals (10 Marks)

[Answer any 2 questions. Each question carries 5 marks.]

1. What is the difference between DDL, DML, and DCL commands? Write two examples of each.
2. Create a table `students` with the following fields:
   - `id` (integer, primary key)
   - `name` (varchar 50)
   - `age` (integer)
   - `city` (varchar 30)

   Write SQL queries to:
   - Insert 3 records
   - Display all records
3. Explain the use of constraints in SQL. Write a `CREATE TABLE` statement using PRIMARY KEY, NOT NULL, and UNIQUE constraints.

SECTION B – Data Retrieval & Conditions (15 Marks)

[Answer any 3 questions. Each question carries 5 marks.]

1. Write queries for the following on `employees(id, name, department, salary)`:
   a. Display all employees whose salary is greater than 40,000.
   b. Display all employees from the “Sales” department.
   c. Sort employees by salary in descending order.
2. What is the difference between WHERE and HAVING clauses? Give one example of each.
3. Write queries to:
   - Find employees whose name starts with the letter 'A'.
   - Find employees whose salary is between 30,000 and 70,000.
4. Write a query to find the average salary of each department from the `employees` table.

SECTION C – Joins & Subqueries (10 Marks)

[Answer any 2 questions. Each question carries 5 marks.]

1. Explain INNER JOIN and LEFT JOIN with an example using the following tables:
   - `students(id, name, course_id)`
   - `courses(course_id, course_name)`
2. Write a query to find students who have enrolled in a course whose name starts with the letter 'D'. Use a subquery or JOIN as appropriate.
3. Write a query to display each student's name along with their course name using JOIN.

SECTION D – Database Design (5 Marks)

[Answer any one question.]

1. Design a simple database schema for a Library System including:
   - Books
   - Members
   - Borrow Records

   Mention keys and relationships.
2. Write SQL queries to create a table `orders` with the following structure:
   - `order_id` (Primary Key, Integer)
   - `customer_name` (Varchar 50)

- `order_date` (Date)
- `amount` (Decimal)

  Then, write queries to:

  a. Insert 2 sample records

  b. Display all orders placed in the current month

Marks Distribution Summary

Section	Topic	Marks
A	SQL Fundamentals	10
B	Data Retrieval	15
C	Joins & Subqueries	10
D	Database Design	5
Total	—	**40**