



Exercise: 04

SQL Queries

08 – Jan – 2026

Observation (5 Marks)

1. Write the syntax with example for the following **JOIN operations**:
 - a. INNER JOIN
 - b. LEFT OUTER JOIN
 - c. RIGHT OUTER JOIN
 - d. FULL OUTER JOIN
2. Write the syntax and example for creating and dropping a **VIEW**.
3. Explain the following **constraints with syntax and example**:
 - a. PRIMARY KEY
 - b. FOREIGN KEY
 - c. UNIQUE
 - d. NOT NULL
4. What is **CASCADE operation**? Explain the following with examples:
 - a. ON DELETE CASCADE
 - b. ON UPDATE CASCADE
5. Write short notes on:
 - a. CHECK Constraint
 - b. DEFAULT Constraint

Execution (15 Marks)

(Create the required tables such as STUDENT, DEPARTMENT, COURSE, FACULTY, ENROLLMENT, MARKS with appropriate attributes and constraints).

1. Create a **DEPARTMENT** table with **PRIMARY KEY** and **UNIQUE** constraint.
2. Create a **STUDENT** table with the following constraints:
 - a. **PRIMARY KEY** on Student_ID
 - b. **NOT NULL** on Student_Name
 - c. **CHECK** constraint on Age
 - d. **DEFAULT** constraint on City
3. Create a **COURSE** table with **PRIMARY KEY** and **CHECK constraint** on Credits.
4. Create a **FACULTY** table with **PRIMARY KEY** and **UNIQUE constraint** on Email.
5. Create an **ENROLLMENT** table with **FOREIGN KEY** referencing STUDENT and COURSE tables using:
 - a. ON DELETE CASCADE
 - b. ON UPDATE CASCADE
6. Insert valid records into all tables and verify constraint enforcement.
7. Attempt to insert duplicate and NULL values to demonstrate **constraint violation**.
8. Display student details along with department name using **INNER JOIN**.
9. Display all students and their enrolled courses using **LEFT JOIN**.
10. Display all courses and enrolled students using **RIGHT JOIN**.

11. Display faculty and courses taught using **FULL OUTER JOIN**.
12. Create a VIEW named **Student_Course_View** showing student name, course name, and credits.
13. Display records from **Student_Course_View**.
14. Insert a record through the VIEW and observe its effect on the base table.
15. Demonstrate **ON DELETE CASCADE** by deleting a student record and showing automatic deletion in ENROLLMENT table.