Department of Computer Science and Engineering,
Anna University, Chennai- 600025
CS23401 – Database Management Systems (R 2023)
Practical
Jan- May 2023
Year/Sem/Batch: II/IV/ P

Exercise: 07

SQL Queries

05 – Feb - 2026

Observation (5 Marks)

1. Explain the difference between **GRANT** and **REVOKE** with suitable syntax.
2. What is a **ROLE**? Explain how roles simplify privilege management.
3. Distinguish between **correlated** and **non-correlated subqueries** with an example for each.
4. Explain the purpose of the **HAVING clause**. How is it different from WHERE?
5. Differentiate between **ANY, ALL, and IN** operators with one example each.

Execution (15 Marks)

(Create suitable tables such as STUDENT, DEPARTMENT, COURSE, FACULTY, ENROLLMENT, MARKS with appropriate keys and data.)

1. Create a **ROLE** named faculty_role and grant it SELECT and UPDATE privileges on the MARKS table.
2. Assign the faculty_role to a user named faculty_user.
3. Grant SELECT privilege on STUDENT and COURSE tables to faculty_user **with GRANT OPTION**.
4. Revoke UPDATE privilege on the MARKS table from faculty_user.
5. Display all privileges assigned to faculty_user.
6. Display the details of students who scored **more than the average marks** of all students using a **non-correlated subquery**.
7. List courses whose credits are **greater than ALL credits** offered by the IT department.
8. Display students who scored **higher than the average marks of their own department** using a **correlated subquery**.
9. List departments where **at least one student** scored more than **ANY student** from another department.
10. Display department IDs that are **IN** the list of departments offering **more than 4 courses**.
11. Display faculty details whose salary is **greater than ALL salaries** of faculty members in the CSE department.
12. Display departments having **average marks greater than the overall average marks** using **GROUP BY and HAVING**.
13. Display student details who scored marks **greater than ANY marks** obtained in a particular subject, and whose department satisfies a **HAVING condition**.
14. Display courses where the **number of enrolled students** is **greater than ALL** other courses in the same department using a **correlated subquery**.
15. Revoke all privileges on the MARKS table from faculty_user and verify the privilege removal.

Spot (5 Marks)

1. Write a SQL query using a **correlated subquery** to display students whose marks are the **highest in their department**.
2. Write a SQL statement to **create a role**, grant SELECT privilege on STUDENT table, and assign the role to a user.
3. Write a SQL query using **HAVING** to display departments whose **student count is greater than the average student count**.
4. Write a SQL query using **ALL** to display students whose marks are greater than **all marks scored by students of the IT department**.
5. Write a SQL query using **IN** to list faculty members working in departments that offer **more than 3 courses**.