

**GIRI's Tech Hub, Pune.**  
**SQL Machine Test**

Batch: April/May-25

Date: 16/09/2025  
Timing: 02:30 to 05:00 Pm

**Instructions :**

- Solve any 15 query.

**1. College Table :**

Field	Type	Null	Key	Default	Extra
college_id	INT	NO	PRI	NULL	
college_name	VARCHAR(100)	YES		NULL	
location	VARCHAR(100)	YES		NULL	

**2. Department Table :**

Field	Type	Null	Key	Default	Extra
dept_id	INT	NO	PRI	NULL	
dept_name	VARCHAR(100)	YES		NULL	
college_id	INT	YES	MUL	NULL	

**3. Students Table :**

Field	Type	Null	Key	Default	Extra
student_id	INT	NO	PRI	NULL	
student_name	VARCHAR(100)	YES		NULL	
dept_id	INT	YES	MUL	NULL	
age	INT	YES		NULL	

**4. Course Table :**

Field	Type	Null	Key	Default	Extra
course_id	INT	NO	PRI	NULL	
course_name	VARCHAR(100)	YES		NULL	
student_id	INT	YES	MUL	NULL	

## **Solve This Queries :-**

- 1. List all students with their department and college name.**
- 2. Show all departments and the number of students in each.**
- 3. Display students who have not enrolled in any course.**
- 4. List each course, its student, their department, and college.**
- 5. Show total number of courses enrolled by students in each department.**
- 6. Display department names and number of students enrolled in at least one course.**
- 7. List colleges along with the number of students enrolled in courses from each college.**
- 8. Find students who are the only ones in their department.**
- 9. List all departments that have students but none of them are enrolled in any course.**
- 10. Display all courses along with student name and their college location.**
- 11. Find the names of students who belong to the department that is located in the college named 'ABC College' using subquery.**
- 12. Find the names of students who are enrolled in the maximum number of courses using subquery.**
- 13. Create a view StudentDepartmentView that displays the student name, age, department name, and college name for all students.**
- 14. Create a view CollegeCourseSummary that shows the college name, student name, and course name for all students enrolled in at least one course. If a student is not enrolled in any course, they should not appear.**
- 15. Create a trigger whenever a new student is inserted into the Student table, automatically insert a default course "Orientation" into the Course table for that student.**
- 16. Create a trigger to automatically update a student's age by adding 1 when their department changes (i.e., on UPDATE of dept\_id in the Student table).**
- 17. Create a procedure to get the list of students along with their department and college, filtered by a given college location.**
- 18. Create a procedure to get the count of students enrolled in each course along with the department and college details. Include courses with zero students as well.**
- 19. Create a function to check if a number is perfect number or not.**
- 20. Create a function to check if a number is strong number or not.**