

Final Exam: Database Management Systems – SQL Section

Part A – Basic SQL (Short Questions – 5 Marks)

1. Write **SQL statements** to create the following table **Students** with constraints:
 - **student_id** (Primary Key)
 - **name** (NOT NULL)
 - **email** (UNIQUE)
 - **dob** (DATE)
 - **department_id** (FOREIGN KEY references **Departments(department_id)**)
2. Insert two new rows into **Students** for:
 - Student: 101, John Doe, john@example.com, 2002-06-15, Department 2
 - Student: 102, Jane Smith, jane@example.com, 2001-10-30, Department 1
3. Retrieve all **students born after 2002**, sorted by **name** in **descending** order.
4. Display the **total number of students** in each department.
5. Write a query to **delete** all students from the **Students** table whose **dob** is before **2000-01-01**.

Part B – Intermediate SQL (JOIN, GROUP BY, Subquery – 15 Marks)

Schema:

- **Students(student_id, name, dob, department_id)**

- Departments(department_id, department_name)
 - Courses(course_id, course_name, department_id)
 - Enrollments(enrollment_id, student_id, course_id, grade)
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6. Retrieve the **name** and **department_name** of all students.
7. Find the **average grade** of each course. Only show courses with an average grade **greater than 3.0**.
8. Write a query to display all students who have **not enrolled in any course**.
9. Display the **course_name** and the **number of students enrolled** in each course, ordered from highest to lowest.
10. List all students whose grade in **any course** is above the **average grade** of that course.