**TKM College of Engineering**

**Department of Computer Applications**

**ADVANCED DATABASE MANAGEMENT SYSTEMS LAB**

***Lab Cycle 1***

**Week 1 Date:5/02/2025**

**Learning Outcome:**

* Students should be able to effectively create, modify, and delete tables using DDL commands.
* Students should understand and apply constraints for **data integrity**.

***Lab Assignment 1***

**1: Creating and Managing Tables**

**AIM:** To understand the creation and management of tables using **DDL commands** such as CREATE, ALTER, DROP, and TRUNCATE.

**Experiment 1**

1. **Create a database** named UniversityDatabase.

**Create tables**:

* Students (StudentID, Name, Age, Department, Email, Phone, Address)
* Courses (CourseID, CourseName, Credits, Department)
* Enrollments (EnrollmentID, StudentID, CourseID, EnrollmentDate)

**Constraints**: Student ID and CourseID should be PRIMARY KEY, Email should be UNIQUE.,Age should be greater than 17 (CHECK constraint).

1. **Modify the Students table**:

Add a new column Gender VARCHAR(10),Change the Phone column data type to VARCHAR(15).

Rename the column Name to FullName.

1. **Remove a column** from the Courses table.
2. **Delete the Enrollments table** without affecting others.

**5. Create a new table Departments** with:

* DepartmentID (Primary Key),DepartmentName (Unique),HOD (Not Null)

**3.Modify the Students table**

Add a FOREIGN KEY reference to Departments(DepartmentID),Ensure Phone is unique.

* **Insert sample data** into all tables and check constraints.
* **Test constraint violations** by:
  + Trying to insert a student with a duplicate Email.
  + Inserting a student without specifying the DepartmentID.
  + Adding a NULL value to the HOD field in Departments.

**Lab Assignment 2: Table Deletion and Truncation**

**AIM:** Differentiate between DROP, TRUNCATE, and DELETE commands.

* **Insert at least 5 sample records** into the Students and Courses tables.
* **Use the DELETE statement** to remove specific student records.
* **Use TRUNCATE on the Enrollments table** and check its impact.
* **Use DROP to remove the Courses table** and try selecting data from it.