

Subject Code	Subject Name	Credits
26CS157	DATABASE MANAGEMENT SYSTEM LABORATORY	2

Objectives:

To provide a comprehensive understanding of database systems, including data modeling, relational design, SQL, and transaction management for efficient and reliable data handling.

Sl. no LIST OF EXPERIMENTS

1. Design an ER diagram for a Library Management System. Identify entities, attributes, primary keys and relationships among the entities such as Book, Member, Author and Issue. Represent the relationships and constraints clearly.
2. Convert the ER diagram created in Experiment 1 into relational tables. Identify primary keys and foreign keys for each table.
3. Create tables for the Library Management System using SQL. Define appropriate constraints such as PRIMARY KEY, FOREIGN KEY, NOT NULL and UNIQUE.
4. Insert sample records into the tables created in Experiment 3. Perform operations such as INSERT, UPDATE and DELETE.
5. Write SQL queries to perform the following operations:
 - Display all records from a table.
 - Display specific columns from a table.
 Retrieve records using conditions with the WHERE clause.
6. Create two or more related tables and perform different types of joins to retrieve data from multiple tables such as:
 - INNER JOIN
 - LEFT OUTER JOIN
 - RIGHT OUTER JOIN
7. Write SQL queries using aggregate functions such as COUNT, SUM, AVG, MIN and MAX. Use GROUP BY and HAVING clauses to group records.
8. Write SQL queries using nested subqueries to retrieve data based on conditions involving another query.
9. Create a view for selected columns from one or more tables. Perform SELECT operations using the created view.
10. Write SQL queries to demonstrate set operations such as UNION, INTERSECT and EXCEPT (or MINUS).
11. Given a relation schema with functional dependencies, normalize the relation into First Normal Form (1NF), Second Normal Form (2NF), and Third Normal Form (3NF).
12. Write SQL statements to demonstrate transaction control commands such as COMMIT, ROLLBACK and SAVEPOINT.

Note: Students are required to perform and record the experiments in the laboratory manual as part of the course requirements.