DATABASE MANAGEMENT SYSTEMS LAB
(Common to CSE & IT)

Course Code: 15CT1112

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Course Outcomes:

At the end of this course, a student will be able to

CO 1 Create Relational Database.

CO 2 Manipulate Data using SQL.

CO 3 Use aggregate functions.

CO 4 Create PL/SQL programs.

CO 5 Develop programs using Triggers and Cursors

RECOMMENDED SYSTEMS/SOFTWARE REQUIREMENTS:

Mysql /Oracle latest version Recommended

LIST OF PROGRAMS :

1. Introduction to Oracle, Creation of table, data types, Displaying table definition using DESCRIBE, inserting rows into table and SELECT command.
2. Projection, ORDER BY clause, Altering and dropping of tables (use constraints while creating tables) examples using SELECT command.
3. Queries using ANY, ALL, IN, EXISTS, NOTEXISTS, UNION, INTERSET, Constraints.
4. Queries using Aggregate functions (COUNT, SUM, AVG, MAX and MIN), GROUP BY, HAVING and Creation and dropping of Views.

5. Queries using Conversion functions (to_char, to_number and to_date), string functions (Concatenation, lpad, rpad, ltrim, rtrim, lower, upper, initcap, length, substr and instr), date functions (Sysdate, next_day, add_months, last_day, months_between, least, greatest, trunc, round, to_char, to_date).
6. SUBQUERIES(Multiple Subqueries, Nested subqueries)
7. Creation of simple PL/SQL program which includes declaration section, executable section and exception – Handling section (Ex. Student marks can be selected from the table and printed for those who secured first class and an exception can be raised if no records were found).

a. Insert data into student table and use COMMIT, ROLLBACK and SAVEPOINT in PL/SQL block.

8. CONTROL STRUCTURES (IF statement, Loop…End Loop, Exit command, While Loop, For loop, Goto statement).
9. Nested loops using ERROR Handling, BUILT –IN Exceptions, USE defined Exceptions, RAISE- APPLICATION ERROR.
10. Programs development using creation of procedures, passing parameters IN and OUT of

PROCEDURES.

11. Program development using creation of stored functions, invoke functions in SQL Statements and write complex functions.
12. Program development using creation of package specification, package bodies, private objects, package variables and cursors and calling stored packages.
13. Develop programs using features parameters in a CURSOR, FOR UPDATE CURSOR, WHERE CURRENT of clause and CURSOR variables.
14. Develop Programs using BEFORE and AFTER Triggers, Row and Statement Triggers and INSTEAD OF Triggers.

REFERENCES:

1. Raghurama Krishnan, Johannes Gehrke, "Data base Management Systems", 3rd Edition, TATA McGrawHill, 2008.
2. Silberschatz, Korth, "Data base System Concepts", 6th Edition, McGraw Hill, 2010.
3. C.J.Date, "Introduction to Database Systems", 7th Edition, Pearson Education, 2002.