DATABASE MANAGEMENT SYSTEMS LAB

II Year I Semester: CSE/IT/CSIT

Course Code	Category	Hours / Week			Credit	Maximum Marks		
		L	T	P	C	CIE	SEE	Total
A5CS06	PCC	0	0	3	1.5	30	70	100

COURSE OBJECTIVES:

The course should enable the students to:

1. Apply the basic concepts of Database Systems and Applications.
2. Use the basics of SQL and construct queries using SQL in database creation and interaction
3. Design a commercial relational database system (Oracle, MySQL) by writing SQL using the system.
4. Analyze and Select storage and recovery techniques of database system.

COURSE OUTCOMES:

The course should enable the students to:

1. Apply the basic concepts of Database Systems and Applications.
2. Develop an ER model for a given database.
3. Use the basics of SQL and construct queries using SQL in database creation and interaction.
4. Design a commercial relational database system (Oracle, MySQL) by writing SQL using the system.
5. Analyze and Select storage and recovery techniques of database system.
6. Develop Procedures, Cursors, and Triggers in database system.

LIST OF EXPERIMENTS

Week-1 DDL Commands

- Creation of Tables using SQL- Overview of using SQL tool and Data types in SQL
- Altering Tables and
- Dropping Tables

Week-2 Create Table with Primary key and Foreign Key& DML Commands

Creating Tables (along with Primary and Foreign keys),

Practicing DML commands-

- Insert,
- Update
- Delete.

Week-3 Selection Queries

Practicing Select command using following operations

- AND, OR
- ORDER BY
- BETWEEN
- LIKE
- Apply CHECK constraint

Week-4 AGGREGATE FUNCTIONS and Views

Practice Queries using following functions

- COUNT,
- SUM,
- AVG,
- MAX,
- MIN,

Apply constraint on aggregation using

- GROUP BY,
- HAVING,

VIEWS Create , Modify and Drop

Week-5 Nested QUERIES

Practicing Nested Queries using

- UNION,
- INTERSECT,
- CONSTRAINTS
- IN

Week-6 CO- RELATED NESTED QUERIES

Practicing Co – Related Nested Queries using

- EXISTS,
- NOT EXISTS. ANY, ALL

Week-7 JOIN QUERIES

Practicing Join Queries using

- Inner join
- Outer join
- Equi join
- Natural join

Week- TRIGGERS

Practicing on Triggers - creation of trigger, Insertion using trigger, Deletion using trigger, Updating using trigger.

Week-9 PROCEDURES

Procedures- Creation of Stored Procedures, Execution of Procedure, and Modification of Procedure

Week-10 CURSORS

Cursors- Declaring Cursor, Opening Cursor, Fetching the data, closing the cursor.

Week-11 PL/SQL Part 1

. Practice PL/SQL –

- block structure,
- variables,
- data types,

Week-12 PL/SQL Part 2

. Practice PL/SQL –

- operators,
- control structures;

Case study 1: College Management

Case study 2 : An Enterprise/Organization

Case study 3 : Library Management system

Case study 4: Sailors and shipment system

Reference Books:

1. Database System Concepts, by Silberschatz, Sudarshan, and Korth, 6th edition.
2. Database management System by RaghuRamaKrishna, 3rd edition

Web References:

1. http://www.learndb.com/databases/how-to-convert-er-diagram-to-relational-database
2. https://www.w3schools.com/sql/sql_create_table.asp
3. http://www.edugrabs.com/conversion-of-er-model-to-relational-model/?upm_export=print
4. http://ssyu.im.ncnu.edu.tw/course/CSDB/chap14.pdf
5. http://web.cs.ucdavis.edu/~green/courses/ecs165a-w11/8-query.pdf