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***CSL5401 Database Management Systems Lab***

**L-T-P-Cr: 0-0-3-1**

**Pre-requisites: None**

**Objectives/Overview:**

* To make familiar with SQL and PL/SQL programming and the concepts and techniques relating to ODBC and its implementations.
* To provide a strong formal foundation in database concepts, technology and practice to the students to train them into well-informed database application developers.

**Course Outcomes:**

At the end of the course, a student should:

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| **Sl. No.** | **Outcome** | **Mapping to POs** |
|  | To understand the working concepts of RDBMS and different database packages. | PO-1 |
|  | To understand the concepts of Structure Query Language (SQL).  | PO-1, PO-5 |
|  | To understand different techniques to solve the queries and sub queries. | PO-3, |
|  | To understand the concept of PL/SQL. | PO-3, PO-4, PO-5 |
|  | Learn how to implement database triggers. | PO-1, PO-2, PO-3 |
|  | Learn how to implement database procedures. | PO-3, PO-9 |
|  | Learn how to implement database functions. | PO-3, PO-9 |
|  | Learn the concepts relating to ODBC.  | PO-3, PO-10 |

**List of Experiments:**

1. Overview of RDBMS and Oracle: Primary introduction to DBA, Creating user, Getting connected, Granting privileges.
2. Introduction to SQL: Basic DML, DDL, DTL commands.
3. Table: Constraint definition, creating table.
4. Table handling: Alter, Drop Table, Insert Records
5. Record Handling: Update, Delete, Select, Grouping, Ordering, & Logical, Arithmetic, Comparison operators
6. SQL Functions: Date, Numeric, Character, Aggregate etc.
7. Set Operations: Union, Union All, Intersection, Minus
8. Join Concept: Simple, Equi, Self, Outer
9. Query and Sub queries
10. Synonym Introduction: Creating object type, Aliasing
11. Sequence: alter , drop Sequence
12. Introduction to View: create, update, drop
13. Index: Introduction, create
14. Introduction to PL/SQL: Advantages, Support, Execution
15. PL/SQL: Character set and data types
16. Mini project allocation
17. PL/SQL Blocks: Attribute, Control Structure
18. Composite data types: Record, Table (count, delete, exists, first, last, next, prior)
19. Database Triggers: Definition, syntax, types, enabling and disabling triggers
20. Sub programmes: Definition, Features, Cursors
21. Procedures: Definition, creation, parameter
22. Function: Definitions and implementations

Course instructor can add experiments to the above list and/or modify some of the experiments in the above list depending upon course contents covered and examples used in the corresponding theoretical course.