II B.Tech - II Semester
(17CS413) DBMS Lab

Int. Marks	Ext. Marks	Total Marks	L	T	P	C
60	40	100	-	-	3	2

Pre-Requisites: Data structures

Course Objectives:

- To provide a sound introduction to the discipline of database management as a subject in its own right, rather than as a compendium of techniques and product specific tools.
- To familiarize the participant with the nuances of database environments towards an information-oriented data-processing oriented framework
- To give a good formal foundation on the relational model of data
- To present SQL and procedural interfaces to SQL comprehensively
- To give an introduction to systematic database design approaches covering conceptual design, logical design and an overview of physical design

List of Experiments:

SQL

1. Queries for Creating, Dropping, and Altering Tables, Views, and Constraints
2. Queries to Retrieve and Change Data: Select, Insert, Delete, and Update
3. Queries using operators in SQL
4. Queries to facilitate acquaintance of Built-In Functions, String Functions, Numeric Functions, Date Functions and Conversion Functions.
5. Queries using Group By, Order By, and Having Clauses
6 . Queries on Controlling Data: Commit, Rollback, and Save point
7. Queries on Joins and Correlated Sub-Queries .

PL/SQL

8. Write a PL/SQL Code using Basic Variable, Anchored Declarations, and Usage of Assignment Operation
9. Write a PL/SQL Code Bind and Substitution Variables. Printing in PL/SQL
10. Write a PL/SQL block using SQL and Control Structures in PL/SQL
11. Write a PL/SQL Code using Cursors and Exception handling
12. Write a PL/SQL Code using Procedures and Functions

Course Outcomes:

• Understand, appreciate and effectively explain the underlying concepts of database technologies
• Design and implement a database schema for a given problem-domain
• Normalize a database • Populate and query a database using SQL DML/DDL commands.
• Declare and enforce integrity constraints on a database using a state-of-the-art RDBMS
• Programming PL/SQL including stored procedures, stored functions, cursors, packages.
• Design and build a GUI application using a 4GL

Note: The creation of sample database for the purpose of the experiments is expected to be predecided by the instructor.

Text Books/Suggested Reading:

1. Oracle: The Complete Reference by Oracle Press
2. Nilesh Shah, "Database Systems Using Oracle", PHI, 2007. 3. Rick F Vander Lans, "Introduction to SQL", Fourth Edition, Pearson Education, 2007.

Mini Project List

1) Develop a database to store the employee's information of an organization and store the respective department details of an employee.
2) Create a database for Library Management System that keeps information about its members and the books information like its author, publisher, price etc.,
3) Design a database project on supply chain management system that gives information like products supplied and their spare parts information.
4) Create a database schema for airport management control system which involve the information regarding flights, passenger information and airport details.
5) Design a database to store the students information of an institute and the courses the student has enrolled and the faculty information who are handling these courses.
6) Create a database to store information of a shipping corporation like the boats information used in the corporation and the boats that are reserved by the passengers and also maintain the sailors information who will run these boats.

Course Outcomes:

CO-1	Make use of DDL and DML commands for Database design and manipulation.	L3
CO-2	Utilize Sub-Query, Nested Query and Joins concepts in a given problem-domain.	L3
CO-3	Develop programs in PL/SQL with Procedures, Functions, Cursors, Packages.	L3

CO-PO/PSO Mapping Matrix:

	PO-1	PO-2	PO-3	PO-4	PO-5	PO-6	PO-7	PO-8	PO-9	PO-10	PO-11	PO-12	PSO-1	PSO-2	PSO-3
CO-1	1	2	2	2	2	-	-	-	-	-	-	2	1	-	-
CO-2	1	2	2	2	2	-	-	-	-	-	-	2	1	-	-
CO-3	1	2	2	2	2	-	-	-	-	-	-	2	1	-	-