



# MARRI LAXMAN REDDY INSTITUTE OF TECHNOLOGY AND MANAGEMENT

(AN AUTONOMOUS INSTITUTION)

(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)

Accredited by NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act, 1956

## COURSE CONTENT

<b>DATABASE PROGRAMMING WITH PL/SQL LAB</b>								
<b>I Semester: CSE</b>								
Course Code	Category	Hours / Week			Credits	Maximum Marks		
2215832	Professional Core courses	L	T	P	C	CIA	SEE	Total
		0	0	4	2	40	60	100
Contact Classes: 0	Tutorial Classes: 0	Practical Classes: 60			Total Classes: 60			
<b>Prerequisites: Strong foundation in PL/SQL</b>								

### Course Overview:

The Database Programming with PL/SQL Lab provides practical experience in developing database applications using SQL and PL/SQL

### Course Objectives:

1. To understand and practice the fundamentals of SQL and PL/SQL programming in database applications.
2. To develop practical skills in writing PL/SQL blocks, control structures, cursors, and exception handling programs.
3. To implement procedures, functions, and packages for efficient database management and application development.
4. To learn the creation and usage of triggers for enforcing database integrity and automation.
5. To enhance problem-solving and database programming skills through hands-on PL/SQL experiments and real-time applications.

### Course Outcomes: After Completion of the Course, Students should be able to

1. Make use of control structures in PL/SQL programming in a specified program.
2. Implement exception handling mechanisms to manage runtime errors and ensure robust database applications.
3. Integrate PL/SQL within high-level programming languages (C/Java) for database transactions
4. Gain knowledge over handling exceptions and managing errors in applications developed using PL/SQL.
5. Develop PL/SQL programs that use procedures, functions, packages, and triggers to achieve modularization in specific application.

## LIST OF EXPERIMENTS

1. Write a PL/SQL program using FOR loop to insert ten rows into a database table.
2. Given the table EMPLOYEE (EmpNo, Name, Salary, Designation, DeptID), write a cursor to select the five highest paid employees from the table.
3. Illustrate how you can embed PL/SQL in a high-level host language such as C/Java And demonstrates how a banking debit transaction might be done.
4. Given an integer i, write a PL/SQL procedure to insert the tuple (i, 'xxx') into a given relation.
5. Write a PL/SQL program to demonstrate Exceptions.
6. Write a PL/SQL program to demonstrate Cursors.
7. Write a PL/SQL program to demonstrate Functions.
8. Write a PL/SQL program to demonstrate Packages.
9. Write PL/SQL queries to create Procedures.
10. Write PL/SQL queries to create Triggers.

## TEXT BOOKS:

1. Oracle PL/SQL Programming, Steven Feuerstein and Bill Pribyl.
2. PL/SQL: The Complete Reference, Steven Feuerstein

## REFERENCE BOOKS:

1. Fundamentals of Database Systems, Ramez Elmasri and Shamkant B. Navathe, *Pearson Education*
2. Database System Concepts, Abraham Silberschatz, Henry F. Korth and S. Sudarshan, McGraw-Hill Education.
3. Oracle PL/SQL Programming, Steven Feuerstein and Bill Pribyl, O'Reilly Media / Pearson Education.

## ELECTRONIC RESOURCES:

1. <https://www.geeksforgeeks.org/pl-sql/>
2. <https://www.tutorialspoint.com/plsql/index.htm>
3. [https://www.w3schools.com/sql/sql\\_plsql.asp](https://www.w3schools.com/sql/sql_plsql.asp)
4. <https://www.coursera.org/courses?query=plsql>

## MATERIALS ONLINE:

1. Course template
2. Open-ended experiments
3. Definitions and terminology
4. Lab Manual