

SWARNANDHRA
COLLEGE OF ENGINEERING AND TECHNOLOGY
(AUTONOMOUS)
SEETHARAMPURAM, NARSAPUR-534280, WG- DT, AP
DEPARTMENT OF BACHELOR OF COMPUTER APPLICATIONS(Honours)

TEACHING PLAN

Course Code	Course Title	Year / Sem.	Branch	Contact Hr/ week	Academic Year
24BC3L03	Database Management System Lab	II/III	BCA	3	2025-26

Course Objectives:

This Course will enable students to

- Populate and query a database using SQL DDL/DML Commands
- Declare and enforce integrity constraints on a database
- Writing Queries using advanced concepts of SQL
- Programming PL/SQL including procedures, functions, cursors and Triggers

Course Outcomes (Cos): At the end of the course, student will able to

CO No	Course Outcome	Knowledge Level (K)
CO1	Design and manipulate relational database schemas using DDL, DML, and various SQL queries including nested and aggregate functions.	K3
CO2	Apply advanced SQL features such as views, constraints, conversion and date functions for efficient database querying.	K4
CO3	Develop PL/SQL programs using control structures, exception handling, cursors, and transactions.	K4
CO4	Implement procedures, functions, and packages for modular and reusable database programming.	K4
CO5	Design and test triggers to handle automatic execution of actions in response to specific database events.	K4

S.No	Program	Proposed Number of Labs
1	Exercise 1: Creation, altering and dropping of tables and inserting rows into a table (use constraints while creating tables), examples using SELECT command.	1
2	Exercise 2: Queries (along with Sub Queries) using ANY, ALL, IN, EXISTS, NOT EXISTS, UNION, INTERSET, Constraints. Example: Select the roll number and name of the student who secured fourth rank in the class.	1
3	Exercise 3: Queries using Aggregate functions (COUNT, SUM, AVG, MAX and MIN), GROUP BY, HAVING and Creation and dropping of Views.	1
4	Exercise 4: 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).	1
5	Exercise 5: i. Create a 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) ii. Insert data into student table and use COMMIT, ROLLBACK and SAVEPOINT in PL/SQL block.	1
6	Exercise 6: Develop a program that includes the features NESTED IF, CASE and CASE expression. The program can be extended using the NULLIF and COALESCE functions.	1

7	Exercise 7: Program development using WHILE LOOPS, numeric FOR LOOPS, nested loops using ERROR Handling, BUILT -IN Exceptions, USE defined Exceptions, RAISE-APPLICATION ERROR.	1
8	Exercise 8: Program development using creation of procedures, passing parameters IN and OUT of PROCEDURES.	1
9	Exercise 9: Program development using creation of stored functions, invoke functions in SQL Statements and write complex functions.	1
10	Exercise 10: Develop programs using features parameters in a CURSOR, FOR UPDATE CURSOR, WHERE CURRENT of clause and CURSOR variables.	1
11	Exercise 11: Develop Programs using BEFORE and AFTER Triggers, Row and Statement Triggers and INSTEAD OF Triggers	1


Faculty 16/9/25


Head of the Department


Principal