SRINIVASA RAMANUJAN INSTITUTE OF TECHNOLOGY

Database Management Systems Lab

(Common to CSE and CSM)

II B. Tech – I Semester								SRIT R23
Course Code	**Category**	**Hours/Week**			**Credits**	**Maximum Marks**		
		L	**T**	**P**	**C**	**CIA**	**SEE**	**Total**
23CSE304	**PCC**	0	0	3	1.5	30	70	100

List of Experiments

Week	Title of the Experiment
1	a) Write SQL queries to CREATE TABLES for various databases using DDL commands (i.e. CREATE, ALTER, DROP, TRUNCATE). b) Write SQL queries to MANIPULATE TABLES for various databases using DML commands (i.e. INSERT, SELECT, UPDATE, DELETE,).
2	a) Queries (along with sub-Queries) using ANY, ALL, IN, EXISTS, NOTEXISTS, UNION, INTERSET, Constraints. Example - Select the roll number and name of the student who secured fourth rank in the class. b) Queries using Aggregate functions (COUNT, SUM, AVG, MAX and MIN), GROUP BY, HAVING and Creation and dropping of Views.
3	a) Queries using Aggregate functions (COUNT, SUM, AVG, MAX and MIN), GROUP BY, HAVING and Creation and dropping of Views. b) 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)
4	Write SQL queries to perform JOIN OPERATIONS (i.e. CONDITIONALJOIN, EQUI JOIN, LEFT OUTER JOIN, RIGHT OUTER JOIN, FULL OUTERJOIN).
5	a) 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) b) Insert data into student table and use COMMIT, ROLLBACK and SAVEPOINT in PL/SQL block.
6	a) Develop a program that includes the features NESTED IF, CASE and CASE expression. The program can be extended using the NULLIF and COALESCE functions. b) Program development using WHILE LOOPS, numeric FOR LOOPS, nested loops using ERROR Handling, BUILT –IN Exceptions, USE defined Exceptions, RAISE-APPLICATION ERROR.
7	a) Programs development using creation of procedures, passing parameters IN and OUT of PROCEDURES. b) Program development using creation of stored functions, invoke functions in SQL Statements and write complex functions.
8	Develop programs using features parameters in a CURSOR, FOR UPDATE CURSOR, WHERE CURRENT of clause and CURSOR variables.
9	Develop Programs using BEFORE and AFTER Triggers, Row and Statement Triggers and INSTEAD OF Triggers.
10	Create a table and perform the search operation on table using indexing and non-indexing techniques.
11	A publishing company produces scientific books on various subjects. The books are written by authors who specialize in one particular subject. The company employs editors who, not necessarily being specialists in a particular area, each take sole

	responsibility for editing one or more publications. A publication covers essentially one of the specialist subjects and is normally written by a single author. When writing a particular book, each author works with on editor, but may submit another work for publication to be supervised by other editors. To improve their competitiveness, the company tries to employ a variety of authors, more than one author being a specialist in a particular subject for the above case study, do the following: 1. Analyze the data required. 2. Normalize the attributes. Create the logical data model using E-R diagrams
12	A new e-commerce startup needs a database to manage its products, customers, orders, and inventory. Hence develop the database with following: • Design the database schema using Entity-Relationship (ER) diagrams. • Create the database and tables using SQL. • Insert sample data into the tables. • Write SQL queries to retrieve specific information, such as all orders for a particular customer, the current inventory levels, etc. • Create views to simplify complex queries.

Reference Books/Lab Manuals:	
1	Oracle: The Complete Reference by Oracle Press.
2	Rick F Vander Lans, "Introduction to SQL", Fourth Edition, Pearson Education, 2007.
3	RamezElmasri, Shamkant, B. Navathe, "Database Systems", Pearson Education, 6th Edition, 2013.

Course Outcomes: At the end of the course, the student should have acquired the ability to	
CO1	Design the tables with constraints, and efficiently insert data using SQL commands. **Cognitive Level: L6**
CO2	Develop complex SQL queries with sub-queries, set operations, and aggregate functions. **Cognitive Level: L6**
CO3	Use SQL aggregate functions, GROUP BY, and HAVING clauses effectively. **Cognitive Level: L3**
CO4	Develop basic PL/SQL programs with exception handling, transaction control commands (COMMIT, ROLLBACK, SAVEPOINT) and handle specific query scenarios. **Cognitive Level: L6**
CO5	Implement conditional statements (NESTED IF, CASE) and loops (WHILE, FOR) in PL/SQL. **Cognitive Level: L3**
CO6	Apply stored procedures with parameters for enhanced data processing. **Cognitive Level: L3**

Course Internal Assessment & Evaluation		
Continuous Internal Evaluation (CIE) : 30 Marks		
Assessment Tool	Marks	Course Outcomes addressed
Day-to-day Evaluation & Record work	20	CO1, CO2, CO3, CO4, CO5, CO6
Internal Practical Exam & Viva Voce	10	
Total CIE Marks	**30**	
Semester End Examination (SEE): 70 Marks		
Semester End Examination	**70**	CO1, CO2, CO3, CO4, CO5, CO6
Total Marks	**100**	