

II B.C.A. – III SEMESTER - RELATIONAL DATABASE MANAGEMENT SYSTEM

UNIT I

Database: Introduction - Database System Applications - Database Characteristics - Data Abstraction - Database Users - Types of Databases - ACID Properties. **Data Models:** E-R-Model: Entity - Attributes - E-R Diagram - Weak Entity Set - Mapping Constraints. **Relational Model:** Table - Schema - Schema Diagram - Constraints. Relational Algebra - Extended Relational Algebra.

UNIT II

Normalization: Codd's Rules - Functional Dependency - First Normal Form - Second Normal Form - Third Normal Form - Boyce-Codd Normal Forms - Multivalued Dependency - Fourth Normal Form - Good and Bad Decomposition.

UNIT III

SQL: Syntax - Data Types - Operators - Types of SQL Commands: DDL Commands - DML Commands - TCL Commands. Constraints - SQL Clauses - Clone Tables - Injections.

UNIT IV

Functions: Date Function - Character Functions - Numeric Functions - Conversion Functions - Aggregate Functions. **Joins:** Inner Join - Left Join - Right Join - Full Join - Self Join - Cartesian Join. Sub Queries - Multiple Sub Queries - Correlated Sub Queries.

UNIT V

PL/SQL: Syntax - PL/SQL Blocks - Variables - Procedures - Functions - Cursors - Exceptions - Packages - Triggers.

REFERENCE BOOKS:

1. Database System Concepts - H.F.KORTH, A.SILBERSCHATZ, SUDARSAN - McGraw Hill - MCGRAW HILL Publications.
2. SQL SERVER - DUSAN PETKOVIC.

II B.C.A. – III SEMESTER - RELATIONAL DATABASE MANAGE SYSTEM LAB

1. Structured Query Language(SQL)

- a) DDL commands.
- b) DML commands.
- c) TCL commands.
- d) Arithmetic operations.
- e) Comparison operations.
- f) Logical operations.
- g) Join operations.
- h) Sub query operations.

2. PL/SQL

- a) Procedures.
- b) Functions.
- c) Cursors.
- d) Exceptions.
- e) Packages.
- f) Triggers.