

B.Sc. Computer Science

SEMESTER - V

Course Code	Course Title	H	C	I	E	T
17U5DMC12	RDBMS	5	4	25	75	100

Objectives

- To impart the knowledge of Database concepts.
- Learning the programming logic and operations of SQL & PL/SQL

Total Hours : 75
(12 Hours)

Unit – I:

Introduction

Database system applications – Purpose of database system – View of data – Database Languages – Relational databases – Transaction management – Database architecture.

Unit – II:

Relational Databases

(16 Hours)

Structure of relational databases – Database schema – Keys – Schema diagrams. **Formal Relational Query Languages:** Fundamental operations – Formal definition of the Relational algebra – Additional Relational algebra operations.

Unit – III:

Introduction to SQL

(16 Hours)

Overview of the SQL query language – SQL Data definition – Basic structure of SQL queries – Additional basic operations - Set operations – Null values – Aggregate functions – Nested sub queries – Modification of the database. **Intermediate SQL:** Join expressions – Views - Transactions.

Unit – IV:

Advanced SQL & E-R Model

(15 Hours)

Functions and procedures – Triggers. **Database design and ER model:** – Overview of the design process – The ER model – constraints – ER diagrams - Extended ER features.

Unit – V:

Relational Database Design

(16 Hours)

Features of good relational designs – Atomic domains and First normal form – Decomposition using functional dependencies – Functional dependency theory. **Storage and File Structure:** RAID – File organization – Organization of records in files – Data dictionary storage.

Text Book:

“Database System Concepts” - Abraham Silberschatz, Henry F. Korth, S. Sudharshan - VI Ed., - Mc Graw Hill International Edition 2011.

Chapters:

Unit – I : 1.1, 1.2, 1.3, 1.4, 1.5, 1.8, 1.9.

Unit – II : 2.1, 2.2, 2.3, 2.4, 6.1.1, 6.1.2, 6.1.3.

Unit – III : 3.1, 3.2, 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 4.1, 4.2, 4.3.

Unit – IV : 5.2, 5.3, 7.1, 7.2, 7.3, 7.5, 7.8.

Unit – V : 8.1, 8.2, 8.3, 8.4, 10.3, 10.5, 10.6, 10.7.

Reference Books:

1. “Database Systems” - Thomas Connolly - Addison Wesley - New Print 2000.
2. “Database Management Systems” - Ragu Rama Krishnan, Johannes Gehrke - III Ed. – Mc Graw Hill Edition, New Delhi.