Branch: BCA	Semester-II
Subject Code: 2103	Lecture: 04 Credit: 04
Course Opted	Core Course -5
Subject Title	DATABASE MANAGEMENT SYSTEM

Course Objectives:
- To introduce the concept of database management systems
- Learn to organize, maintain and retrieve - efficiently, and effectively - information from a database management system
- To present the concepts and techniques relating to query processing by SQL
- To introduce the concepts of transactions and transaction processing
- To present the issues and techniques relating to concurrency and recovery in multiuser database environments

Course Outcomes:
- Able to find and understand the Concept Of database approach.
- Able to find and understand database architecture and data modeling, data Normalization.
- Design and draw ER and EER diagram for real life problem.
- Able to find and understand the commands of SQL.
- Able to understand the concept of transaction, concurrency and recovery.

Module	Sr. No.	Topic and Details	No. of Lectures Assigned	Marks Weightage
UNIT- I	1.	**Introduction to Database Systems:** Database Approach, Traditional File system, Actors, Data Abstraction, Database Applications	6	14
	2.	**Database Systems and Architecture:** Three Tier Architecture, Centralized and Client-Server Architecture	3	6
UNIT- II	3.	**Data Models**: Network data model, Hierarchical data model, Relational data model.	3	6
	4.	Introduction to RDBMS, Object-oriented database, Distributed Database, No SQL, Graph Database	3	8
	5.	**Data Modeling**: ER Diagram Concepts, EER Diagram, Relational Database Design by ER and EER to Relational Mapping	7	12
UNIT - III	6.	**Normalization:** Functional Dependencies, 1NF, 2NF, 3NF, BCNF, 4NF, 5NF	7	10
	7.	**Structure Query Language:** DDL, DML, TCL, DCL, Triggers, Functions, Query Optimization	7	16
UNIT- IV	8.	**Transaction Processing System Concepts:** Why concurrency control, ACID Properties, Schedule &	6	12

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	9	**Concurrency Control Techniques:** 2PL, Timestamp Ordering, Optimistic Concurrency Control technique	5	10
	10.	**Database Recovery:** Recovery concepts, Caching, Checkpoints, Transaction Rollback	3	6
		TOTAL	**50**	**100**

Text Book:

1) Korth,Siberschatz,"Database System Concepts",McGraw-Hill,27-Jan-2010

Reference Books::

1) Elmarsi and Navathe,"Fundamentals of Database Systems",McGraw-Hill,2010

2) Bayross,"Oracle-the complete reference",Ivan: BPB Publications

3) "Upgrade to oracle 8",DataproInfoWorld Ltd.

4) GioWiderhold,"Database Design",McGraw-Hill 1995