ST.JOSEPH’S COLLEGE FOR WOMEN (AUTONOMOUS), VISAKHAPATNAM

IVSEMESTER **COMPUTER SCIENCE**  TIME:4HRS/WEEK

COM 4304(3) **DATA BASE MANAGEMENT SYSTEMS** MAX.MARKS:100

20-21 admitted batch-“20AH” **SYLLABUS**

**COURSE OBJECTIVES:**

To enable the students to:

* Understand the different issues involved in the design and implementation of a database system.
* To understand and use data manipulation language to query, update, and manage a database.
* To introduce the concepts of transactions and transaction processing.

**COURSE OUTCOMES:**

Upon successful completion of the course, a student will be able to:

* Develop and design database application and therefore enhance entrepreneurship skills.
* Design entity relationship and convert entity relationship diagrams into RDBMS and formulate SQL queries on the respect data.
* Design and implement a Database Schema for a given Problem-domain.
* Apply Normalization Techniques on given Database Design to avoid Anomalies.
* Understand various transaction processing and concurrency control mechanisms.

1. **OVERVIEW OF DATA BASE MANAGEMENT SYSTEM:**

Introduction, Data and Information, Database, Database Management System, Objectives of DBMS, Evolution of Data base Management System, Classification of Database Management System.

1. **FILE-BASED SYSTEM :**

File Based System. Drawbacks of File-Based System, DBMS Approach, Advantage of DBMS, Data Models, Components of Database System, Database Architecture, DBMS Vendors and their products.

1. **ENTITY-RELATIONSHIP MODEL:**

Introduction, The Building Blocks of an Entity-Relationship, Classification of Entity Set, Attribute Classification, Relationship Degree, Relationship Classification, Generalization and Specialization, Aggregation and Composition, CODD’s Rules, Relational Data Model, Concept of Relational Integrity.

1. **STRUCTURED QUERY LANGUAGE :**

Introduction, History of SQL Standards, Commands in SQL, Data types in SQL, Data Definition Language (DDL),Selection Operation Projection Operation, Aggregate Functions, Data Manipulation Language, Table Modification, Table Truncation, Imposition of Constraints, Set Operations.

1. **PL/SQL:**

Introduction, Structure of PL/SQL,PL/SQL Language Elements, Data Types, Control Structure, Steps to Create a PL/SQL Program, Iterative Control Cursors, Steps to Create a Cursor, Procedure, Functions, Packages, Exceptions Handling, Database Triggers, Types of Triggers.