Syllabus for B. Sc. 2nd Year (Semester -IV)
Subject: - Information Technology
Database Management Systems (IT-04)

UNIT I: Introduction to DBMS

Introduction: Data, Database, DBMS, DBMS vs File System, DBMS Architecture, Data Models, Network, Hierarchical, Relational, Object Oriented Models.

UINT II: Introduction to RDBMS

ER Model concepts, Notation for ER diagram, Mapping Constraints, Keys, concept of primary, candidate, super, foreign key, Generalization, Aggregation, reduction of ER diagram to tables.

UNIT III: Data Design and Normalization

Functional Dependencies, Normal Forms(INF, 2NF, 3NF), BCNF, inclusion dependencies, lossless join, decomposition, Normalization using Functional dependency, Multivalve dependency , Joint Dependency.

UNIT IV: Introduction to SQL

Characteristics of SQl, Advantages of SQL, SQL data types and literals
Types of SQL commands:
DDL (create, alter, drop)
DML: (Select, insert, update, delete)
DDL: (grant, revoke)
TCL: (commit, rollback, save point)
Queries and sub queries. Insert, update and delete operations.
Aggregate functions: avg(), count(), max(), min(), sum()

REFERENCES:

1. Date, C.J." An Introduction to Database System", Narosa publications house, Delhi
2. Elmasri and Navathe," Fundamentals of Database System", Addison Wesley, N.Y.
3. Bipin Desai,"An Introduction to Database Concepts", Galgotia publications, N. Delhi
4.SQL The Complete Reference, 3rd Edition James R Groff, Paul N. Weinberg, AndyOppel(Mcgraw Hill)