Course: VSC
Database Management System

Semester: I	Credits: 2	Subject Code: BCVSC12301	Lectures: 30

Course Outcomes:

At the end of this course the learner will be able to,
- CO1: Recognize the basics of SQL queries.
- CO2: Relate and gain knowledge of database concepts.
- CO3-Design the database by using normalization concepts.
- CO4: Apply SQL queries and solve the basic problems related to database.

Unit 1:Introduction to Database Management System	15

- File structure
- Disadvantages of file processing system
- Introduction to Database
- Basic Concept and Definitions : Data and Information , Data Vs Information, Data Dictionary, Data Item or Field, Record
- Definition of DBMS
- Applications of DBMS
- File processing system Vs DBMS
- Advantages and Disadvantages of DBMS
- Users of DBM-: Database Designers, Application programmer, Sophisticated Users, End Users
- Views of Data
- Entity, Attributes,
- Constraint : Entity, Referential, User
- Data Models - Object Based Logical Model, Entity Relationship Data Model
- Record Base Logical Model - Relational Model, Network Model, Hierarchical Model
- Entity Relationship Diagram (ERD): Extended features of ERD
- Overall system structure

Unit2:Relational Model , SQL and Relational Database Design	15

- Introduction
- Terms: Relation, Tuple, Attribute,Cardinality,Degree of relationship set, Domain
- Keys : Super Key, Candidate Key, Primary Key, Foreign Key
- Relational Algebra Operations : Select, Project, Union, Difference, Intersection, Cartesian Product, Natural Join
- Examples on the operations
- Types of Database- Centralized Database, Distributed Database, NoSQL database

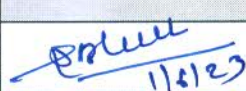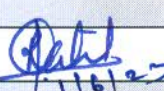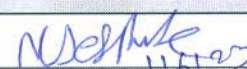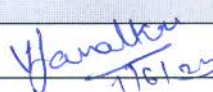| Board of Studies	Department	Name	Signature
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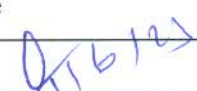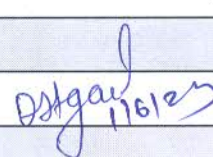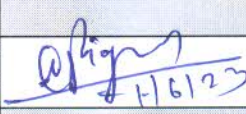
- Introduction
- History Of SQL, Features of SQL
- Data types
- Basic structure: select, from clause
- Components of SQL- DDL, DML,DCL
- Simple Queries:
- Using and , or, not
- Pattern matching –like operator
- Between, distinct , order by
- Nested Queries
- Aggregate functions
- Introduction
- Anomalies of unnormalized database
- Functional Dependency: Decomposition
- Normalization:
- Normal Form -1 NF, 2 NF, 3 NF

Recommended Text Books:

- Henry,korth, A Silberschatz, *Database System Concepts*, Tata McGraw-Hill publication fifth edition 2006.
- BayrossIvan, ,*SQL, PL/SQL The Programming Language* , BPB Publication

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