

CURRICULUM PLANNER
B.Sc. Programme V Semester (NEP 2024-25)
Database Management Systems

Unit	Topics	Chapter	Schedule(approx)
1	Introduction to Database: Purpose of database system, Characteristics of database approach, data models, database management system, database system architecture, three-schema architecture, components of DBMS, data independence, and file system approach vs database system approach.	Chapter 1 Chapter 2	August
Test/Assignment/ Subject enrichment discussion with students time to time .			
2	Relational Data Model: Update anomalies, Relational Data Model - Concept of relations, schema-instance distinction, keys, relational integrity constraints, referential integrity and foreign keys, relational algebra operators and queries.	Chapter 5 Chapter 8	September
Test/Assignment/ Subject enrichment discussion with students time to time .			
3	Structured Query Language (SQL): Querying in SQL, DDL to create database and tables, table constraints, update database-update behaviours, DML, aggregation functions group by and having clauses, retrieve data from the database, generate and query views. Access and manipulate databases using ODBC. Basic Database administration SQL commands	Chapter 6 Chapter 7	September
Test/Assignment/ Subject enrichment discussion with students time to time .			
4	Entity Relationship (ER) Modeling: conceptual data modeling - motivation, entities, entity types, attributes, relationships, relationship types, constraints on relationship, Entity Relationship diagram notation.	Chapter 3	October
Test/Assignment/ Subject enrichment discussion with students time to time .			
5	Database Design: Mapping an Entity Relationship (ER) model to relational database, functional dependencies and Normal forms, 1NF, 2NF, 3NF and BCNF decompositions and desirable properties of them.	Chapter 9 Chapter 14 Chapter 15	October

6	Data Storage and Indexes: Need of file indexes, file organizations, index structures, single- and multi-level indexing, concurrent execution of transactions, ACID properties	Chapter 16 Chapter 17 Chapter 20	November
Test/Assignment/ Subject enrichment discussion with students time to time .			