DATA BASE MANAGEMENT SYSTEM
EE-604 B
Credit: 3
Contact: 3L

Module 1   [04]
Introduction:
Concept & Overview of DBMS, Data model, Database language, Database administrator, Database users, Three Schema architecture of DBMS.

Module 2   [05]
Entity-Relationship Model:
Basic concepts, Design Issues, Mapping Constraints, Keys, Entity-Relationship Diagram, Weak Entity sets, Extended E-R features.

Module 3   [05]
Relational Model:
Structure of relational Databases, Relational Algebra, Relational; calculus, Extended Relational Algebra operations, Views, Modification of the Database.

Module 4   [06]
SQL and Integrity Constraints:
Concept of DDL, DML, DCL. Basic structure, Set operations, Aggregate functions, Null values, Domain constraints, Referential integrity, Constraints, assertions, views, Nested sub queries, Data base security application development using SQL, Stored procedures and triggers.

Module 5   [09]
Relational Database design:
Functional dependency, Different anomalies in designing a Database, Normalization using functional dependencies, Decomposition, Boyce-Codd normal form, 3NF, Normalization using multi-valued dependencies, 4NF, 5 NF.

Module 6   [06]
Internal of RDBMS:
Physical data structures, Query optimization: join algorithm, statistics and cost base optimization, Transaction processing, Concurrency control and recovery management: transaction model properties, state serializability, look base protocols, two phase locking.

Module 7   [05]
File organization & index structures
File & records concepts, Placing file records on disk, Fixed and variable sized records, Types of single –Level index (primary. Secondary, clustering), Multilevel Indexes, Dynamic multilevel indexes using B tree and B+ tree.

Text Books:
1. Database System Concepts, F. Henry & Abraham Silderscharz, Mc Graw Hill.
2. Database Management system, Ramakrishnan, Mc Graw Hill.
3. Principles of Database Systems, J.D. Ullman, Galgotia Publication.

Reference Books:
1.Principles of Database Management Systems. Martin James. PHI.
2. Database management Systems, A.K. Majumder & Pritimay bhattacharjya, Tata Mc Graw Hill.