

MCA I Year II Semester Subject Code: 24MCA2001 Database Management Systems

Contact Hour	Unit No.	Topic Name	Teaching Methodology	Remarks
1	1	Introduction to DBMS, An Example	Blackboard	
2	1	Characteristics of DBMS	Blackboard	
3	1	Actors on Scene, Workers Behind the Scene	Blackboard	
4	1	Advantages of DBMS Approach	Blackboard	
5	1	History of Database Applications	Blackboard	
6	1	When Not to Use a DBMS	Blackboard	
7	1	Data Models, Schemas and Instances	Blackboard	
8	1	Three-Schema Architecture and Data Independence	Blackboard	
9	1	DB Languages and Interfaces	Blackboard	
10	1	DB System Environment, Centralized and Client/Server Architecture	Blackboard	
11	1	Classification of DBMS	Blackboard	
12–13	2	Introduction to ER Diagrams, Entities, Attributes, Entity Sets	Blackboard	
14–15	2	Relationships and Relationship Sets	Blackboard	
16	2	Additional Features of ER Model	Blackboard	
17–18	2	Conceptual Design with ER Model	Blackboard	
19–20	2	Introduction to Relational Model	Blackboard	
21	2	Integrity Constraints over Relations	Blackboard	
22	2	Enforcing Constraints, Querying Relational Data	Blackboard	
23	2	Logical Design: ER to Relational	Blackboard	
24	2	Views, Destroying/Altering Tables and Views	Blackboard	
25–26	3	Relational Algebra: Selection, Projection, Set Operations, Renaming	Blackboard	
27	3	Joins and Division in Relational Algebra	Blackboard	
28–29	3	SQL Basics, UNION, INTERSECT, EXCEPT, WITH	Blackboard	
30	3	Nested Queries, Aggregate Operators, NULL Values	Blackboard	
31	3	Complex Integrity Constraints in SQL	Blackboard	
32	3	Triggers and Active Databases	Blackboard	
33	4	Informal Design Guidelines for Relation Schema	Blackboard	
34–35	4	Functional Dependencies, 1NF, 2NF, 3NF	Blackboard	
36	4	Boyce-Codd Normal Form (BCNF)	Blackboard	
37	4	Multivalued Dependency and 4NF	Blackboard	

38	4	Join Dependencies and 5NF	Blackboard	
39	5	Transaction Concept, Simple Transaction Model	Blackboard	
40	5	Storage Structure, ACID Properties	Blackboard	
41-42	5	Serializability, Transaction Isolation Levels	Blackboard	
43-45	5	Concurrency Control – Lock-Based Protocols	Blackboard	
446-48	5	Concurrency Control – Validation-Based Protocols	Blackboard	