

**Name of the Subject:** DATA BASE MANAGEMENT SYSTEM  
**Course Code and Subject Code:** IS 343, DBMS  
**Course Credit:** FULL (50 SESSIONS OF 60 MINUTES EACH)

**Course Description:**

This course is meant to make students understand fundamentals of Data base Management system. This course introduces the basics of database systems, as well as the modeling, design and manipulation of relational databases. The students will gain the required knowledge to describe databases, their characteristics, and functions. The course will enable the students to create and manipulate databases on MS-Access database management system.

**Evaluation pattern:**

Quiz	10%
Assignments	05%
Mini Projects	10%
Class participation	05%
Mid Semester Examination	30%
End Term Examination	40%

**Pedagogy:**

- Lectures
- Practical sessions in Computer lab
- Minor projects

Session	Course Content	Percentile weightage
1-3	Introduction to Database systems, basic concepts and definitions: Data, information, Data Warehouse, Fields, Records, Files. Data Dictionary, Data base, Database system	25%
4-7	Data administrator- Functions and responsibilities of Data base Administrator (DBA), File-oriented system vs. Database system, Advantages and Disadvantages of DBMS, Evolution of Database systems	
8-12	E-R Data Model: Introduction, Basic E-R Concepts-Entities, relationship, attributes & constraints. Conversion of E-R model into relations, E-R Model symbols, problems with E-R Diagrams. Relational Database	25%

	Management Systems (RDBMS)	
13-16	Types of Database systems: centralized database systems, parallel database systems, client/server database systems, Distributed database systems.	
17-19	Creating a database, navigation pane, ribbon, other relevant features and Practice	35%
20-23	Creating a new table, naming the fields, table design, changing the table design, insert and delete a field	
24-28	Understanding unique values, choosing and Setting primary key, creating composite primary keys, indexing	
29-33	Manipulating the table in database, (renaming, deleting, copying in database), adding records	
34-38	Performing operations (insert, delete, update) Sorting and filtering the data	
39-43	Creating queries, selecting fields, and running queries, joins, use of operators in Access	
44-46	Connecting the data: one-to-one, one-to-many, many-to-many, understanding keys, creating and viewing relationships	15%
47-50	Data Normalization: Introduction, Normalization, First normal form (1NF), second normal form (2NF).	

**Text Book:**

1. Database Systems Concepts, Design and Applications, S K Singh, Pearson
2. Microsoft Office Access 2007-Bible, Groh, Stockman, Powell, Prague, Irwin, Reardon, Wiley, Latest Edition

**Reference Books:**

1. Data Base Management Systems, Majumder & Bhattacharyya, Tata McGraw- Hill, Latest Edition
2. Access Database Steven Roman O'relly, Latest Edition
3. Microsoft Office Access 2003 (Step by step) Microsoft Press
4. Data Base System Concepts Silverchatz, Korth & Sudarshan, McGraw Hill
5. Database Systems Design, Implementation and Management Peter Rob, Carlos Coronel Cengage