## DATABASE MANAGEMENT SYSTEM (DCA-202)

**COURSE OUTLINE:**
1. An Overview of the Database Management System
2. Architecture of the Database System
3. Relational Database Management System
4. Database Application Using Microsoft Access

**DETAILED SYLLABUS:**

**1. AN OVERVIEW OF THE DATABASE MANAGEMENT SYSTEM:**     **(20 - Marks)**
What is Database, Why Database, Characteristics of Data in Database (Field, Record, File, Database, Key Field), Database System, Database Management System (DBMS), Types of DBMS (Hierarchical DBMS, Network DBMS, Relational DBMS, Object Oriented DataBase, Distributed DBMS), Advantages of DBMS.

**2. AN ARCHITECHTURE OF THE DATABASE SYSTEM:**     **(20 - Marks)**
Three Levels of Architecture, Database Models, Mapping, Database Design, Role of DBA (Database Administrator), E-R Model, Components of E-R Model, Symbols of E-R Model, Superclass and Subclass Types, Attribute Inheritance, Generalization, Specialization, Aggregation, Categorization, Three Approaches of DBMS.

**3. RELATIONAL DATABASE MANAGEMENT SYSTEM (RDBMS):**     **(10 - Marks)**
Introduction, RDBMS Terminologies, Relational Data Integrity, Relational Model, Base Tables, Relational Data Manipulation, Codd's Rules, Keys.

**4. DATABASE APPLICATION USING MICROSOFT ACCESS:**     **(30 - Marks)**
Access Overview (What is a database, Naming Conventions, Planning a Database), Creating a Database (Starting and naming a database, Creating a Table, Setting a Primary Key, Field Properties, Other Field Properties, Editing the Table Structure, Saving Tables, Creating a Table using a Table Wizard), Switch between Views of a Table (Adding New Records, Selecting Fields & Records in Datasheet in Datasheet View, Editing Table Data, Moving Around a Table, The Undo/Redo Command, Spell Checking Feature, Searching & Replacing Information, Searching and Replacing Data), Table Properties (Changing the Table Appearance, Modifying the Row Height, Altering Column Order, Freezing Columns, Sorting Data in a Table), Inporting and Linking Data (Importing from Access and Excel, Importing from Excel, Linking to Access and Excel, Round Tripping between versions, Renaming and Copying Tables), Using Filter and Select Queries (Filtering Data in a Table, Filtering Data in a Table, Running a Select Query, Specifying text, numeric, date, and logic criteria, Calculated Fields, Using Query Wizards), Relationships (Why do we need relationships, Different Types of Relationships, Creating a relationship), Multi-table Queries (Multiple Table Queries, Deciding which tables to join, Joining Tables for a query, Joining Tables in Queries, Find Unmatched Query Wizard, Find Duplicates Query Wizard), Creating Forms (Using Forms, Viewing Forms, The Form Wizard), Form Layout and Formatting (Editing Forms, The Field List Box, Formatting Controls, Format Painter), Creating Reports (Creating Reports, Page Components, Grouping and Summarising Data, Viewing Reports, Mailing Labels)

**PRACTICALS:**     **(80 - Marks)**
(Software : Access 2003)

1. Design Database Table
2. Form Design

3. Queries Design
4. Report Design

**TEXT BOOK:**
1. **INTRODUCTION TO DATABASE MANAGEMENT SYSTEMS** - Madhulika Jain, Vineeta Pillai, Shashi Singh, and Satish Jain.  First Edition 2010, BPB Publications.
2. **ACCESS 2003** – Stephen Moffat, 2012 Edition, The Mouse Training Company & Bookboon.com

**SUGGESTED FURTHER READINGS:**
1. **Microsoft Office Access 2003 Step by Step**, Online Solutions, Inc.
2. **ComputersAhead CBSE Class X**, Rajiv Mathur, Orient BlackSwan.
3. **IT Tools and Business Systems** –First Edition 2010, Third Revised and Updated Edition 2012. Satish Jain, Shshank Jain, Shshi Singh, and M. Geetha Lyer, BPB Publications.
4. **Database Design** – Ryan K. Stephens and Ronald R. Plew, Sams Publishing.
5. **Microsoft Office Access 2007 Plain & Simple** – Frye, Prentice Hall of India.