



SYLLABUS

Course Title	Database Management System	
Course Code	MCAL006	
Course Credit	Theory(Hrs)	: 4
	Practical(Hrs)	: 4
	Tutorial(Hrs)	: 0
	Credits	: 6
Course Objective		
<p>The objectives of the course are:</p> <ul style="list-style-type: none"> • To understand the fundamental knowledge of database • To learn various types of data models • To minimize the database structure using normalization • To develop and maintain the database system using various database objects like queries, forms, reports and macros in MS - Access. 		
Detailed Syllabus		
Sr. No.	Name of chapter & details	Hours Allotted
Section – I		
1	Fundamentals of Data and Data Processing Introduction to Data, Information, Data versus Information, Data Needs and Types, Metadata, Data Storage Hierarchy, Data Organization, Data Processing and Need of Data Processing, Types of Data Processing: Online, Batch, Real-Time, File Management System: File Type and File Organizations	07

2	<p>Basics of DBMS Basic Definitions: Field, Record, Database, Database File, DBMS, File Oriented System versus Database System, Advantages and Disadvantages of DBMS, Architecture of DBMS, Components of DBMS, Types of Database Users and Roles of DBA, Data Models: Introduction, Overview of Parallel Databases, Distributed Databases and Object Oriented Databases</p>	10
3	<p>Database Designing and Normalization: Database Design: Database Development Life Cycle(DDLC), Features of Good Database Design, Keys: Super key, Candidate key, Primary key, Foreign key, Normalization: Introduction, Normal Forms: 1NF, 2NF and 3NF</p>	08
4	<p>Introduction to MS-Access Introduction: Access Database, Tables, Records, Fields, Forms, Queries, MS-Access Fundamentals: Opening a Database, Data Types, Object Naming, Design view and Datasheet view</p>	03
Section – II		
5	<p>Tables in MS-Access Create Table through Wizard and Design View, Modify Table Structure, Add Fields and Records in Table, Field Properties: Field Size, Input Mask, Format, Indexed, Required, Allow Zero Length, Validation Rule, Validation Text, Caption, Default Value, Edit and Delete Tables, Import and Export Tables, Relationships between Tables, Introduction to Primary key and Foreign key</p>	08
6	<p>Queries in MS-Access Extract data from database through wizard using :Select Query, Crosstab Query, Find Duplicate Entry, Use of Action Queries: Append, Delete, Update, Make-table and Union, Use of Parameter Query, Use of Multiple Selection Criteria in a Query, Queries using Operators: Logical and Comparison</p>	09
7	<p>Forms and Reports Forms: Introduction to Forms, Building Forms using Design View and Wizard, Form Properties, View Selected Form Records, Forms with Controls: Positioning controls and labels, Grouping and Aligning Controls, Build Main Form or Sub Form</p> <p>Reports: Introduction to Reports, Building Reports using Design View and Wizard, Sorting and Grouping on Report Data, Calculate Group Total and Overall Total in a Report, Modify Report Controls and Properties</p>	08

8	Macros Introduction to Macros, Creating Macros, Macros with Forms and Reports, Conditional Macros	3
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Instructional Method and Pedagogy:

- Lectures will be conducted on the basis of Classroom Response Systems with the use of multimedia projector and black board.
- Assignments based on course contents will be given at the end of each unit/topic and will be evaluated at regular interval.
- Experiments will be based on the practical curriculum and will be evaluated at regular interval.

Course Learning Outcomes:

On the completion of the course, students will be able to:

- Understand the role of database management system in an organization
- Learn the concept of data processing and file organization
- Learn and differentiate various types of data models
- Normalize database structure in order to maintain data integrity and data redundancy.
- Design and implement a database using Microsoft Access

Text books:

- Title: Database System Concepts, Tata McGraw Hill, Fifth Edition, Authors: Silberschatz, Korth, Sudarshan
- Title: Access 2007 Bible, first Edition, Willey-India, Authors: Groh Michael, R. Powell

Reference Books:

- Title: Database Systems, Concepts, Design and Applications, Pearson Education
- Authors: S.K. Singh
- Title: Database Management Systems, Third Edition, Tata McGraw Hill
- Authors: Ramakrishnan, Gehrke
- Title: Fundamentals of Database Systems, Fifth Edition, Pearson Education
- Authors: Elmsasri ,Navathe
- Title: An Introduction to Database Systems, Eighth Edition, Pearson Education
- Authors: C.J.Date, a Kannan, S Swaminathan

Additional Resources

- <http://infolab.stanford.edu/~ullman/fcdb/slides/slides1.pdf>
- <http://study.com/academy/lesson/what-is-a-database-management-system-purpose-and-function.html>
- <http://www.studytonight.com/dbms/>
- <http://www.learnaccessnow.com/chap01a.html>
- <http://www.brighthub.com/computing/windows-platform/articles/3608.aspx>
- <http://allenbrowne.com/casu-22.html>