

Branch Name:	Bachelor of Computer Application (Graphics Animation and VFX)
Program Code:	CS102
Course Title :	Database Management System
Course Code :	22-CAM104-1C
Pre-requisite Course:	Basic Knowledge of DBMS.

Course Objective (CO):

This course is intended to make the students.

- Understanding Core Concepts of DBMS.
- This course is intended to up skill students with fundamental concepts of DBMS.
- Data Models and Different Data Base tools.
- This course is to make the student familiar different between traditional file system and DBMS.

Teaching and Examination Scheme:

Teaching Scheme (Hours. per week)				Evaluation Scheme (Marks)								
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory				Practical				Total
				University Assessment		Continuous Assessment		University Assessment		Continuous Assessment		
				Min. Marks	Max. Marks	Min. Marks	Max. Marks	Min. Marks	Max. Marks	Min. Marks	Max. Marks	
3	-	2	4	18	50	09	25	-	-	9	25	100

Course Contents:

Sr. No	Topic	Total Hours	Weightage (%)
1.	Introduction to Databases: Definition of Data, Database, and DBMS Overview of Database Applications, Components of database system Functions of DBMS, Advantages and Disadvantages of DBMS, Roles of Database Users and Administrators	10	25
2.	Database Design and Architecture: DBMS users, Database administrator, Role of DBA, Data administrator v/s Database administrator Database Design and Architecture: Essentials of Database Design, Three levels Architecture of Database- external, conceptual and internal, Mapping.	10	25
3.	Data Models concepts: Hierarchical, Network and Relational, Operators, relations, Domains and attributes, keys, Relational Algebra : Traditional set operations, Special relational operations The E/R model: Entity, E-R Diagram, Attributes, Relationship ,Types of Relationship, Development stages of E-R Diagram , Examples of E-R Diagram	10	25
4.	Normalization: Introduction, Types of Normal form, 1 st Normal Form, 2 nd Normal Form, 3 rd Normal Form, and BCNF. De-normalization. MS-Access, Objects: Introduction of MS-Access, Data type: Text, Number, Auto number, Currency, Boolean, Date/Time, Memo Objects: Table, Query, Forms, Reports, Macro. Controls use in form and repor	10	25

Course Learning Outcomes (CLO):

At the end of this course, the student would be able

1. **CLO1:** Define and Explain Fundamental DBMS Concepts
2. **CLO2:** Identify Roles and Responsibilities of Database Users and Administrators
3. **CLO3:** Describe Database Architecture and Models
4. **CLO4:** Design Relational Databases using E-R Diagrams
5. **CLO5 :** Apply Relational Algebra and Normalization Techniques
6. **CLO6:** Develop and Manage Databases using MS-Access to implement small-scale Database applications

List of Textbooks:

1. An Introduction to Database Systems C. J. Date (7th edition) Low Price Edition.
2. Database management System A C Shah & A R Patel, MacMillan Publication.
3. Database system concepts Henry F. Korth (3rd edition) TMH Publications.
4. Microsoft Access Fundamentals.

List of Reference Books:

1. An Introduction to Database Systems - C. J. Date - Pearson/Addison Wesley publisher
2. Database System Concepts – Abraham Silberschatz, Henry F.Korth, S.Sudarsha – McGraw-Hill Publication
3. An Introduction to Database System –By Bipin C.Desai, Asian students Edition-Galgotia Publication
4. Microsoft Access Fundamentals – Rudy LeCorp-RGL publication

List of Open-Source Software/learning website:

E-Resource / Web Links:

1. <http://inpics.net/tutorials/access2007/basics.html>

List of Experiments:

Note: The experiment list provided beneath is for reference only. The course teacher may change/formulate it as per his/her methodology and requirement.

1. Design a simple database using Ms-Access.
2. Create table like Student, Employee using design view and wizard.
3. Query a database using different methods.
4. Create a form using design view and wizard.
5. Generate a report using design view and wizard.
6. Create Macros to Automating Tasks.

Practical List:

1. Create student table using design view in Primary key with set some field Properties like validation rules,
2. validation text, default values, input mask and caption.
3. Create Customer table using design view in Primary key with Making Append query and Delete query.
4. Create Employee table using design view in Primary key with create form and create report.
5. Create Customer table using design view in Primary key with Making Update query and make table query.
6. Create Relationship between two or more tables in each table one field is a Primary key, Between tables making cascade related Update and Delete operation.

Mapping of CLO, PO And PSO

Course Learning Outcomes	Program Outcomes (POs)												Program Specific Outcomes (PSOs)		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CLO1	M	M		H	H	M					L		H		
CLO2	M			H	H	H	M		L	M			H	M	
CLO3				M	H	H	H	M	M		L	M	H	M	
CLO4				M	H	H	M	M		M	M		H	M	
CLO5		M		H	H	H	M	M	M	M	M	M	H	M	H
CLO6	M	M	M	H	H	H	M	H	H	H	H	H	H	H	H

H: High, M: Medium, L: Low