

SWARNANDHRA
COLLEGE OF ENGINEERING & TECHNOLOGY (Autonomous)
 SEETHARAMAPURAM, NARSAPUR-534280 W.G.DT. AP

DEPARTMENT OF BACHELOR OF COMPUTER APPLICATIONS(Honours)

TEACHING PLAN

Course Code	Course Title	Year/Sem	Branch	Contact hr/week	Academic Year
24BC3T03	Database Management System	II/III	BCA(Honours)	6	2025-2026

Course Objectives:

The main objectives of the course is to make student:

- Understand core database concepts including applications, architecture, data models, and the evolution of database systems.
- Design databases using ER modeling, capturing entities, relationships, and constraints, including advanced ER features.
- Apply the relational model, enforce integrity constraints, and convert ER models into relational schemas
- Use SQL effectively to query, update, and manage databases, including the use of constraints, triggers, and stored procedures.
- Implement normalization techniques to refine schemas, ensure data integrity, and apply various normal forms.

Course Outcome(co's): At the end of the course, student will be able to:

CO No.	Course Outcome	Knowledge Level (K)
CO1	Understand the fundamental concepts of database systems, including architecture, applications, users, and historical development.	K1
CO2	Design conceptual data models using ER and EER diagrams, identifying entities, relationships, and constraints.	K3
CO3	Apply relational model concepts and integrity constraints, and transform ER diagrams into relational schemas.	K2
CO4	Develop and execute SQL queries, implement constraints, triggers, and stored procedures for effective database manipulation.	K4
CO5	Analyze and apply normalization techniques to improve database schema design and ensure data integrity.	K3

Week No	Outcome	Blooms Level	Topic / Activity		Text Books	Contact Hours	Delivery Method
UNIT-I							
1,2	Understand the fundamental concepts of database systems, including architecture, applications, users, and historical development.	K1	1.1	Overview of Database System	T2	1	Chalk & Board, PPT, Interactive Whiteboarding
			1.2	Database System Applications, Purpose of Database Systems	T2	2	
			1.3	View of Data	T2	1	
			1.4	Database Languages, Relational Databases	T2	2	
			1.5	Database Design, Data Storage and Querying	T2	2	
			1.6	Transaction Management	T2	1	
			1.7	Database Architecture	T2	1	
			1.8	Data Mining and Informational Retrieval	T2	1	
			1.9	Specialty Databases, Database Users and Administrators	T2	2	
			2.0	History of database Systems	T2	1	
UNIT-II							
3,4		K3	2.1	Introduction to Database Design	T1	2	Chalk & Board,
			2.2	Database Design and ER Diagrams	T1	2	

	Design conceptual data models using ER and EER diagrams, identifying entities, relationships, and constraints		2.3	Entities, Attributes and Entity Sets	T1	2	PPT , Interactive Whiteboardin g
			2.4	Relationships and Relationship Sets	T1	3	
			2.5	Additional Features of the ER Model	T1	2	
			2.6	Conceptual Design with the ER Model	T1	2	

Mid I Exam

UNIT-III

5, 6	Apply relational model concepts and integrity constraints, and transform ER diagrams into relational schemas.	K2	3.1	Introduction to the Relational Model	T1	1	Chalk & Board, PPT , Interactive Whiteboardin g
			3.2	Integrity Constraints over Relations	T1	1	
			3.3	Enforcing Integrity Constraints	T1	1	
			3.4	Querying Relational Data	T1	1	
			3.5	Logical Database Design: ER to Relational	T1	3	
			3.6	Introduction to views	T1	1	
			3.5	Destroying /Altering Tables and Views	T1	2	

UNIT-IV

7,8	Develop and	K4	4.1	The Form of a Basic SQL Query	T1	2	Chalk & Board,
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	execute SQL queries, implement constraints, triggers, and stored procedures for effective database manipulation.		4.2	UNION, INTERSECT and EXCEPT	T1	2	PPT , Interactive Whiteboarding
			4.3	Nested Queries	T1	2	
			4.4	Aggregate Operators	T1	2	
			4.5	Null Values	T1	2	
			4.6	Complex Integrity Constraints in SQL	T1	2	
			4.7	Triggers Exceptions	T1	2	
			4.8	Procedures Functions	T1	1	
UNIT-V							
9, 10	Analyze and apply normalization techniques to improve database schema design and ensure data integrity.	K3	5.1	Introduction to Schema Refinement	T1	2	Chalk & Board, PPT , Interactive Whiteboarding
			5.2	Functional Dependencies	T1	2	
			5.3	Reasoning about FDs	T1	2	
			5.4	Normal Forms	T1	3	
			5.5	Properties of Decompositions	T1	2	
			5.6	Normalization	T1	2	
Mid II Exam							
Total No. of Classes						67	

Recommended Text Books for Reading:

Author(s)	Title	Publisher	Edition	Year
Raghurama Krishnan, Johannes Gehrke	Database Management Systems	McGraw-Hill	3rd Edition	2003
Abraham Silberschatz, Henry F. Korth, S. Sudarshan	Database System Concepts	McGraw-Hill	6th Edition	2010

Reference Books:

Author(s)	Title	Publisher	Edition	Year
Ramez Elmasri, Shamkant B. Navathe	Database Systems	Pearson	6th Edition	2006
C. J. Date	Introduction to Database Systems	Pearson	8th Edition	2003
Carlos Coronel, Steven Morris, Peter Rob	Database Systems	Cengage	9th Edition	2011


Faculty 16/9/25


Head of the Department


Principle