



GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Master of Business Administration

Level: PG

Branch: Information Technology

Course / Subject Code: MB01096021

Course / Subject Name : Relational Database Management System

w. e. f. Academic Year:	2024-25
Semester:	1
Category of the Course:	Core Course (CC)

Prerequisite:	UG Level Course
Rationale:	The Relational Database Management System (RDBMS) course is important for MBA IT students as it equips them with essential skills in managing and organizing data efficiently. Understanding RDBMS principles enables students to design, implement, and maintain robust databases, critical for informed decision-making and strategic planning in any business. Proficiency in SQL and database management fosters improved data analytics capabilities, enhancing their ability to drive business insights, optimize operations, and support data-driven strategies. This course lays a foundational understanding necessary for navigating and leveraging the vast amounts of data prevalent in today's business environments.

Course Outcome:

After Completion of the Course, Student will able to:

No	Course Outcomes	RBT Level
01	Understand the basic concepts of database management systems	RU
02	Apply SQL to find solutions to a broad range of queries	RUA
03	Apply normalization techniques to improve database design	RUA
04	Analyze a given database application scenario to use the ER model for the conceptual design of the database	RUAN

**Revised Bloom's Taxonomy (RBT)*

Teaching and Examination Scheme:

Teaching Scheme (in Hours)			Total Credits L+T+ (PR/2)	Assessment Pattern and Marks				Total Marks
L	T	PR	C	Theory		Tutorial / Practical		
				ESE (E)	PA / CA (M)	PA/CA (I)	ESE (V)	
3	1	0	4	70	30	50	0	150



GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Master of Business Administration

Level: PG

Branch: Information Technology

Course / Subject Code: MB01096021

Course / Subject Name : Relational Database Management System

Course Content:

Unit No.	Content	No. of Hours	% of Weightage
1.	Introduction to DBMS Basic concepts: Data, Information, Data types Data Management: File-based Data Management, Disadvantages Database: Organization, of a Database, Characteristics of Data in a Database DBMS: Advantages, Functions Components of a DBMS: Data dictionary, Database Users Database Architecture: Data Abstraction, Logical and Physical data independence Database languages, Database Design, Database constraints	11	25
2.	Data Models and Concepts of E-R Modeling Conceptual, Physical and Logical Database Models, Database relationships, Hierarchical model, Network Model, Relational Model E-R Model - Components of an E-R Model, E-R conventions, Relationships, Composite entities, Entity list, E-R diagrams, E-R Modeling symbols , Super class, subclass entity types, E-R Diagram exercises	11	25
3.	Relational Database Design RDBMS terminology, Relational Data structure, Relational data manipulation, Codd's rules, Integrity constraints, Pitfalls of Relational database design, decomposition, functional dependencies, Normalization, Keys, Relationships, First Normal Form(1NF), Second Normal form(2NF), Third normal Form(3NF), Boyce-Codd Normal Form (BCNF), Denormalization, Data security	11	25
4.	Structured Query Language (SQL) Features of SQL, Data Definition Language (DDL), Data Manipulation Language (DML), Views, Functions in SQL, Rollback, Commit and Save point, Group By and Having Clauses, Subqueries, Examples of SQL	12	25
5.	Practical – a. Study of Contemporary Database trends and application Class Presentations –(Suggestive List)- Most popular RDBMS (like ORACLE, MYSQL etc.), Introduction of RDBMS, History, Key Features, Key Benefits / Advantages Comparison of databases (Key challenges) Data Warehouse, data mining, Big Data, Data etc. b) Database Design Projects Each group should collectively identify area	15	Nil



GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Master of Business Administration

Level: PG

Branch: Information Technology

Course / Subject Code: MB01096021

Course / Subject Name : Relational Database Management System

	or system and to the extent perform database design. The key tasks are • To identify a business problem (Application) • Build Database design (using normalization) • Implement database design (Keys, Tables, Relationships) • List relational operation		
	Total	60	100

Suggested Specification Table with Marks (Theory):

Distribution of Theory Marks (in %)					
R Level	U Level	A Level	N Level	E Level	C Level
15	30	30	15	5	5

Where R: Remember; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create (as per Revised Bloom's Taxonomy)

References/Suggested Learning Resources:

(a) Books:

Sr. No.	Author	Name of the Book	Publisher	Year of Publication
1	Instructional Software Research & Development (by ISRD) Group	Introduction to Database Management Systems	Tata McGraw Hill Publication	Latest Edition
2	Dr. Rajiv Chopra	Database Management Systems	S. Chand	Latest Edition
3	Ramakrishnan, Gehrke	Database Management Systems	McGraw Hill	Latest Edition
4	Alexis Leon, Mathews Leon	Essentials of Database Management Systems	Tata McGraw Hill Publication	Latest Edition

CO- PO Mapping:

Semester ____	Course Name : Relational Database Management System				
	POs				
Course Outcomes	PO1	PO2	PO3	PO4	PO5
CO1	3	3	1	-	2
CO2	3	3	1	-	3
CO3	3	3	1	1	3
CO4	3	3	1	1	3

Legend: '3' for high, '2' for medium, '1' for low and '-' for no correlation of each CO with PO.
