

# GUJARAT TECHNOLOGICAL UNIVERSITY

## MASTER OF BUSINESS ADMINISTRATION

Year – 2 (Semester – III) (W.E.F. Academic Year 2018-19)

**Specialization: Information Technology Management**

**Subject Name: Relational Database Management System (RDBMS)**

**Subject Code: 3539251**

**1. Learning Outcome:**

- Render basic fundamental knowledge about relational database management systems (RDBMS)
- Deliver conceptual insights about how database design and implementation takes place.
- Deliver insights about relational operations and use of databases.

**2. Course Duration:** The course duration is of **36 sessions of 75 minutes** each

**3. Course Contents:**

Module No.	Modules with its Contents/Chapters	No. of Sessions	Marks (out of 70)
I	<b>Introduction to DBMS</b> Basic concepts of DBMS - Data, Information, Data Management, File-based Data Management, Database Systems, Organization of a Database, Characteristics of Data in a Database, DBMS, Advantages of using a DBMS, Functions of DBMS, Components of a DBMS, Data dictionary, Database Users, Database Architecture, Data Abstraction, Logical and Physical data independence, Database languages, Database Design, Database constraints	9	17
II	<b>Data Models and Concepts of E-R Modeling</b> Conceptual, Physical and Logical Database Models, Database relationships, Hierarchical model, Network Model, Relational Model <b>E-R Model</b> - 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	9	18

<b>III</b>	<b>Relational Database Design</b> 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	9	17
<b>IV</b>	<b>Structured Query Language (SQL)</b> 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	9	18
<b>V</b>	<b>Practical –</b> a. <b>Study of Contemporary Database trends and application</b> <b>Class Presentations – (Suggestive List)-</b> 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 Governance, Business Analytics etc. b) <b>Database Design Projects</b> Each group should collectively identify area or system and to the extent perform database design. The key tasks are <ul style="list-style-type: none"> <li>• To identify a business problem (Application)</li> <li>• Build Database design (using normalization)</li> <li>• Implements database design (Keys, Tables, Relationships)</li> <li>• List relational operation</li> </ul>	---	(30 marks CEC)

#### 4. Teaching Methods:

The course will use the following pedagogical tools:

- a) Lectures, discussion of Newspaper articles on IT, Power point presentations
- (b) IT based company visits
- (c) Expert lectures, Case studies
- (d) Hands on training in Oracle / SQL
- (e) Projects/ Assignments/ Quizzes/ MCQs etc.

## 5. Evaluation:

The evaluation of participants will be on continuous basis comprising of the following elements:

<b>A</b>	Continuous Evaluation Component comprising of Projects / Assignments / Quiz / Class Participation / Class test / Presentation on specific topic etc	(Internal Assessment-50 Marks)
<b>B</b>	Mid-Semester examination	(Internal Assessment-30 Marks)
<b>C</b>	End –Semester Examination	(External Assessment-70 Marks)

## 6. Reference 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	McGraw Hill	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	McGraw Hill	Latest Edition
5	Elmasri and Navathe	Fundamentals of Database Systems	Pearson Education	Latest Edition
6	C. J. Date, A. Kannan, S. Swamynathan	An Introduction to Database Systems	Pearson Education	Latest Edition

Note: Wherever the standard books are not available for the topic appropriate print and online resources, journals and books published by different authors may be prescribed.

## 7. List of Journals/Periodicals/Magazines/Newspapers, etc.

1. Digichip
2. PC World
3. Dataquest
4. Database trends and application (DBTA)