GUJARAT TECHNOLOGICAL UNIVERSITY

MASTER OF BUSINESS ADMINISTRATION (Part-Time)

Year II (Semester: –IV) (W.E.F. Academic Year 2018-19)

Specialization: Information Technology Management
Subject Name: Relational Database Management System (RDBMS)
Subject Code: 3549951 Subject Credits: 3 Total Marks: 150

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	**Introduction to DBMS** 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	**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	9	18
III	**Relational Database Design** RDBMS terminology, Relational Data structure, Relational data manipulation, Codd's rules, Integrity constraints,	9	17

	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		
IV	**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	9	18
V	**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 Governance, Business Analytics etc. **b) Database Design Projects** Each group should collectively identify area or system and to the extent perform database design. The key tasks are • To identify a business problem (Application) • Build Database design (using normalization) • Implements database design (Keys, Tables, Relationships) • List relational operation	---	(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:

A	Continuous Evaluation Component comprising of Projects / Assignments / Quiz / Class Participation / Class test / Presentation on specific topic etc	(Internal Assessment-50 Marks)
B	Mid-Semester examination	(Internal Assessment-30 Marks)
C	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)