GUJARAT TECHNOLOGICAL UNIVERSITY
MBA Integrated - SEMESTER– II EXAMINATION – WINTER 2022

Subject Code: 2527107   **Date: 11/01/2023**
Subject Name: Database Management System
Time: 02:30 pm to 05:30 pm   **Total Marks: 70**
Instructions:
1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1 **(a)** Explain Database Management System (DBMS) architecture with proper diagram. **07**

(b) Explain Relational Model, Network Model and Hierarchical Model with neat diagram and suitable example. **07**

Q.2 **(a)** Explain Codd's 12 Rules in detail. **07**

(b) Explain different types of Relationships. With suitable E-R Diagram and Example. **07**

OR

(b) Specify E-R Symbols and their use. **07**

Q.3 **(a)** Which are the Components of Database? Explain Any Five of your Choice Which are the Components of Database? **07**

(b) Discuss the characteristics of Data in Database Management System. **07**

OR

Q.3 **(a)** Define Data integrity. Discuss various integrity constraints of DBMS. **07**

(b) Discuss the concept of foreign key and primary keys in DBMS with suitable example. **07**

Q.4 **(a)** What is Normalization? Explain 1NF, 2NFwith suitable example(s). **07**

(b) Draw E-R Diagram for the situation given below: **07**
A university consists of a number of departments. Each department offers several courses. A number of modules make up each course. Students enrol in a particular course and take modules towards the completion of that course. Each module is taught by a lecturer from the appropriate department, and each lecturer tutors a group of students.

OR

Q.4 **(a)** Explain with Diagrams: **07**
    A. Conceptual Data Model
    B. Logical Data Model
    C. Physical Data Model

(b) Discuss advantages of using DBMS against the File Management System. **07**

Q.5 **(a)** Describe GRANT and REVOKE commands. **07**

(b) Define SQL. Discuss various types of languages available in SQL. **07**

OR

Q.5 **(a)** Discuss the functions of SQL- ROLLBACK, COMMIT, SAVEPOINT. **07**

(b) What is SQL? What are Various Features of SQL? **07**

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