

Seat No.: \_\_\_\_\_

Enrolment No. \_\_\_\_\_

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**MBA Integrated– SEMESTER –II-EXAMINATION – WINTER-2023**

**Subject Code:2527107**

**Date: 16-01-2024**

**Subject Name: Database Management System**

**Time:10:30 AM TO 01:30 PM**

**Total Marks: 70**

**Instructions:**

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**
4. **Use of simple calculators and non-programmable scientific calculators are permitted.**

**Q.1 (a) Discuss Relational Model Hierarchical Model & Network Model in Detail. 07**

**(b) What are the characteristics of database management system? Explain in detail. 07**

**Q.2 (a) What is SQL? Explain various types of languages available in SQL. 07**

**(b) Explain Components of DBMS in detail. 07**

**OR**

**(b) Write a short note on Codd's 12 Rules. 07**

**Q.3 (a) Explain various integrity constraints of DBMS. 07**

**(b) Discuss different types of relationships with suitable E-R diagram and example. 07**

**OR**

**Q.3 (a) Discuss physical and logical database models in detail. 07**

**(b) Differentiate between DDL and DML. 07**

**Q.4 (a) Discuss three schema architecture in details. Why it is used? 07**

**(b) What is data independence? Discuss its types. 07**

**OR**

**Q.4 (a) Explain ACID properties of transaction. 07**

**(b) Define Normalization. Explain 1<sup>st</sup> NF, 2<sup>nd</sup> NF, 3NF, BCNF with example. 07**

**Q.5 (a) Explain the most popular RDBMS in detail. 07**

**(b) Write a note on Contemporary database trends and application. 07**

**OR**

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

**(b) Explain GRANT and REVOKE commands in detail. 07**

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