Enrolment No. /Seat No.: _____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA – SEMESTER I- EXAMINATION –WINTER-2024

Subject Code: 619404 Date: 13/01/2025

Subject Name: Relational Database Management Systems

Time:10:30 AM TO 01:00 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)**	**Do as directed** **1.** What is Schemas? **2.** DDL Stands for_____. **3.** What is the difference between UPDATE and ALTER command? **4.** What is Normalization? **5.** The term _____ is used to refer to a row. a) Tuple b) Instance c)Attribute d) Field **6.** What do you mean by one to many relationships? a) One class may have many Teachers b) One teachers can have many classes c) Many classes may have many teachers d) Many teachers may have many classes **7.** TCL stands for_____.	**07**
	(b)	Explain Advantages of using the DBMS approach.	**07**
Q.2	**(a)**	Explain three schema architectures in detail.	**07**
	(b)	Explain Database languages in detail.	**07**
		OR	
	(b)	Define the following terms: i) Data model ii) Database schema iii) Internal schema iv) DML v) Data independence vi) Client/server architecture vii) Data sublanguages	**07**
Q.3	**(a)**	What is normalization? Explain 1NF and 2NF.	**07**
	(b)	What is Functional Dependency? Explain Functional Dependency in detail with proper example	**07**
		OR	
Q.3	**(a)**	Explain BCNF in detail.	**07**
	(b)	Explain the Informal Design Guidelines for Relational Databases.	**07**
Q.4	**(a)**	Explain relational model concepts.	**07**
	(b)	Explain various properties of transaction.	**07**
		OR	
Q.4	**(a)**	Explain Characterizing Schedules based on Serializability.	**07**
	(b)	What is meant by the concurrent execution of database transactions in a multiuser system? Discuss why concurrency control is needed, and give informal examples.	**07**

Q.5 **(a)** Explain DDL and DML in detail with example. **07**

(b) What do you mean by constraint? Explain the all types of constraints available with SQL. **07**

OR

Q.5 **(a)** Explain transaction control commands – Commit, Rollback, Savepoint with example. **07**

(b) Explain following query with example: **07**

i) Group by
ii) Having
iii) Order by
iv) Join
v) Alter
vi) Substr
vii) Any

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