GUJARAT TECHNOLOGICAL UNIVERSITY
M.SC(IT)- INTEGRATED– SEMESTER II- EXAMINATION –SUMMER-2024

Subject Code: 1320502　　　　　　　　　　　　**Date: 13/05/2024**
Subject Name: Database Management System
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.**

			Marks
Q.1	**(a)**	Define Super key, Candidate Key and Primary Key.	**03**
	(b)	Explain ACID Properties.	**04**
	(c)	Write a detail note on Three levels ANSI SPARC database	**07**
Q.2	**(a)**	Describe Grant and Revoke commands with suitable example.	**03**
	(b)	Write short note on query processing.	**04**
	(c)	Write Relational Algebra syntax for the following queries.	**07**

Employee(eno, ename, salary, designation)
Customer(cno, cname, address, city)
1) List out name of employees who are 'Manager'.
2) Retrieve Employee records whose salary is less than 20,000.
3) Find out name of employees who are also customers.
4) Find out name of person who are employees but not customers

OR

(c) Assume that following table is Already Created.　　　　**07**

Dept_no	Dept_name	Location
10	Account	Mumbai
20	HR	Ahmedabad
30	Production	Vadodara
40	Sales	Delhi
50	EDP	Delhi
60	TRG	Mumbai
110	RND	Patna

Write SQL queries for the following.
　　a) Display all records of Department table
　　b) List all department names starting with 'A'
　　c) List all departments whose number is between 1 and 100
　　d) Display all department belonging to location ' Mumbai '
　　e) Delate the department whose location is 'patna'.
　　f) Delete 'TRG' department
　　g) Change department name 'EDP' to 'IT'.

Q.3	**(a)**	List and explain TCL with suitable example.	**03**
	(b)	Explain String functions with suitable example	**04**
	(c)	Explain in details Three level architecture of database system.	**07**

OR

Q.3	**(a)**	Define following terms.
		    a) Tuple
		    b) Relation
		    c) Schema.
			03

	(b)	What is view? Explain different type of view with an example.	**04**
	(c)	Explain in details Client-Server Architecture architecture of database system.	**07**

Q.4	**(a)**	What is Difference between Drop and Delete Command in sql.	**03**
	(b)	Explain Selection and Projection relational algebra operation with Example.	**04**
	(c)	List and explain DML statements with suitable examples.	**07**

OR

Q.4	**(a)**	What is Difference between Alter and Update Command in sql.	**03**
	(b)	Explain cursor and its type with suitable example.	**04**
	(c)	What is Constraint?List out various types of SQL Constraint.	**07**

Q.5	**(a)**	Explain B-trees database storage strategies.	**03**
	(b)	What is Normalization?Explain any one type of Normal form.	**04**
	(c)	List and explain DDL statements with suitable examples.	**07**

OR

Q.5	**(a)**	Explain PL/SQL block Structure.	**03**
	(b)	List and Explain aggregate functions in SQL.	**04**
	(c)	What is join? List and explain various types of joins.	**07**