

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

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

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
DIPLOMA ENGINEERING – SEMESTER – 4 (NEW) • EXAMINATION – SUMMER - 2021

**Subject Code:3341605**

**Date :20-08-2021**

**Subject Name: Database Management**

**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 programmable & Communication aids are strictly prohibited.
5. Use of non-programmable scientific calculator is permitted.
6. English version is authentic.

**Q-1** Answer any seven out of ten.

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1. Define DBMS and Information  
DBMS અને Informationની વ્યાખ્યા આપો.
2. Define super key.  
Super key ની વ્યાખ્યા આપો.
3. List out different Data Models  
જુદા જુદા મોડેલ્સની યાદી લખો
4. State the meaning of on delete cascade  
On delete cascadeનો અર્થ સમજાવો
5. Write syntax of Create Table command  
Create Table command લખો
6. What is E-R diagram?  
E-R ડાયાગ્રામ એટલે શું?
7. List data types used in DBMS  
ડી.બી.એમ.એસ ના ડેટા ટાઇપ ની યાદી લખો
8. Write any four advantages of three tier architecture  
Three tier architectureની કોઈપણ ચાર ફાયદાઓ લખો
9. Give types of SQL commands  
SQL COMMANDS ની ટાઇપ આપો
10. Explain weak entity set.

- weak entity set સમજાવો.
- Q.2 a Write advantages of Database Oriented System over File Oriented System 03
- Database Oriented Systemની File Oriented System પરની ઉપયોગીતાઓ લખો.
- a Explain components of data dictionary 03  
Data dictionary ન ઘટકો સમજાવો.
- b State the difference between Centralized and Distributed database Architecture. 03  
Centralized અને Distributed Database Architecture વચ્ચે તફાવત આપો.  
OR
- b Draw structure of DBMS 03  
DBMS ના ઘટકો દોરો.
- c Explain UNIQUE KEY and PRIMARY KEY 04  
UNIQUE KEY અને PRIMARY KEY સમજાવો  
OR
- c Draw and explain ANSI-SPARC three tier architecture 04  
ANSI-SPARC three tier architecture દોરીને સમજાવો.
- d List different Database Systems. Explain Centralized Database System 04  
વિવિધ Database Systemsની યાદી બનાવો. Centralized Database System સમજાવો  
OR
- d Explain functions and services of DBMS 04  
DBMS ન ફંક્શન અને સર્વિસીસ સમજાવો.
- Q.3 a Explain Components of a DBMS 03  
ડીબીએમએસ ન કમ્પોનન્ટસ સમજાવો  
OR
- a Explain Relation Data Model. 03  
રીલેશન ડેટ મોડેલ સમજાવો.

	b	Explain the Client/Server Database System Client/Server Database System સમજાવો OR	03
	b	Explain Distributed Database Systems Distributed Database Systems સમજાવો	
	c	Explain Group by clause with example Group by clause ઉદાહરણ સહિત સમજાવો OR	04
	c	Explain Order by clause with example Order by clause ઉદાહરણ સહિત સમજાવો	
	d	List different types of Joins. Explain Equi-join with example વિવિધ પ્રકાર નાં Joinsની યાદી બનાવો. Equi-join ઉદાહરણ સહિત સમજાવો	04
	d	Explain sub queries concept with example Sub queriesનો કન્સેપ્ટ ઉદાહરણ સહિત સમજાવો	04
Q.4	a	Explain the Responsibilities of Database Administrator  ડેટા બેઈઝ એડમીનીસ્ટ્રેટરની જવાબદારીઓ સમજાવો	03
	a	Explain the concept of generalization generalization સમજાવો	03
	b	Differentiate Physical Data Independence and Logical Data Independence Physical Data Independence and Logical Data Independence નો તફાવત આપો	04
	b	Explain union and intersection operations of relational algebra union and intersection of relational algebra ઓપરેશન સમજાવો	04
	c	What is mapping? Explain its types with example મેપિંગ શું છે? તેના પ્રકારો ઉદાહરણ સાથે સમજાવો	07
Q5	a	Explain following SQL functions with example: (1) Add_Months() (2) Sum() (3) Substring() (4) To_Char()	03

નીચેના SQL function ઉદાહરણ સહીત સમજાવો: (1) Add\_Months() (2) Sum() (3) Substring() (4) To\_Char()

b Explain select operations of relational algebra with example 04  
Relational algebra ના select operations સમજાવો

c Write the Output of Following Query. 07

- a. CEIL(123.57), CEIL(4.1), CEIL(-2.3)
- b. MOD(12,4), MOD(10,4), MOD(3,4)
- c. POWER(2,3), POWER(3,3), POWER(4,3)
- d. ROUND(121.413,1), ROUND(121.413,2)
- e. INITCAP('ahmedabad, GUJARAT')
- f. LENGTH('AHMEDABAD')

નીચેના Query ના Output લખો.

- a. CEIL(123.57), CEIL(4.1), CEIL(-2.3)
- b. MOD(12,4), MOD(10,4), MOD(3,4)
- c. POWER(2,3), POWER(3,3), POWER(4,3)
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- f. LENGTH('AHMEDABAD')