

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

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

# GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-III(New) • EXAMINATION – WINTER 2016

Subject Code:2130703

Date:04/01/2017

Subject Name: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.

	MARKS
<b>Q.1 Short Questions</b>	<b>14</b>
1 A relational database consists of a collection of _____. a) Tables      b) Fields    c) Records    d) Keys	
2 What is the main role of DBA?	
3 List various mapping cardinalities of E-R diagram.	
4 _____ are made of more than one simple attribute.	
5 Define: Instance and Schema.	
6 _____ SQL command is used to change or modify data values in the table.	
7 State True or False: A table cannot contain multiple primary keys.	
8 The _____ function converts a value of DATE data type to CHAR date value.	
9 State True or False: SELECT DISTINCT statement is used to return only distinct values.	
10 New column can be added to the existing table using _____ SQL command.	
11 _____ is a full form of SQL.	
12 Define DBMS.	
13 The _____ operator is used to select values within a range.	
14 DDL stands for _____.	
<b>Q.2 (a) Define: Primary key, Foreign Key and NOT NULL constraint.</b>	<b>03</b>
<b>(b) Draw and explain three level architecture of DBMS.</b>	<b>04</b>
<b>(c) Define E-R diagram. Discuss generalization and specialization in E-R diagram with suitable diagram.</b>	<b>07</b>
<b>OR</b>	
<b>(c) Draw E-R diagram for bank management system.</b>	<b>07</b>
<b>Q.3 (a) List and explain DML statements with suitable example.</b>	<b>03</b>
<b>(b) Enlist and briefly explain categories of database users.</b>	<b>04</b>
<b>(c) Write SQL statements (Query) for following tables:</b>	<b>07</b>
T1(rollno, stuname, age, city, branchcode)	
T2(branchcode, branchname)	

1. Retrieve students details whose branchcode is 5.
2. Find an average age of all students.
3. Add new branch in T2 table.
4. Display rollno, stuname and age of students whose city is Chennai.
5. Change age of student to 20 whose rollno is 1.
6. Delete student details whose age is 18.
7. Retrieve branch information in descending order.

**OR**

- Q.3** (a) What is join? List and explain various types of joins. **03**  
 (b) List and explain aggregation functions with suitable example. **04**  
 (c) What is meant by normalization? Write its need. List and discuss various normalization forms. **07**

- Q.4** (a) Write a note on two phase commit protocol. **03**  
 (b) State differences between conflict serializability and view serializability. **04**  
 (c) Define Failure. Write a note on log based recovery. **07**

**OR**

- Q.4** (a) Explain deadlock with suitable example. **03**  
 (b) List and discuss ACID properties of transaction. **04**  
 (c) Explain steps of query processing with the help of neat diagram. **07**

- Q.5** (a) Discuss various types of cursors in PL/SQL. **03**  
 (b) Write differences between grant and revoke commands with suitable example. **04**  
 (c) Explain stored procedure with proper example. **07**

**OR**

- Q.5** (a) Write a note on trigger. **03**  
 (b) Compare rollback with commit SQL commands. **04**  
 (c) Write PL/SQL code to print sum of even number between 1 to 100 numbers. **07**

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