GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER– III (New) EXAMINATION – WINTER 2019

Subject Code: 2130703   **Date: 30/11/2019**

Subject Name: Database Management Systems

Time: 02:30 PM TO 05:00 PM   **Total Marks: 70**

Instructions:
1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q.1	**(a)**	Define Materialize view, Transaction, Metadata	**03**
	(b)	Explain Three level architecture of DBMS.	**04**
	(c)	Explain Aggregate functions with example.	**07**
Q.2	**(a)**	Describe sub query and Correlated sub query.	**03**
	(b)	Explain Advantages of Database management system over File oriented system.	**04**
	(c)	Define E-R Diagram. Draw an E-R Diagram for Hospital Billing System.	**07**
		OR	
	(c)	Discuss various steps of Query processing with diagram.	**07**
Q.3	**(a)**	What are the different types of relationships in the DBMS?	**03**
	(b)	Explain ACID Properties of Transaction.	**04**
	(c)	What is Normalization? Explain 1NF, 2NF, 3NF, BCNF with example.	**07**
		OR	
Q.3	**(a)**	Write short note on Cursor.	**03**
	(b)	What do you mean by atomicity and aggregation?	**04**
	(c)	Define Join. Explain all Joins with examples.	**07**
Q.4	**(a)**	Define Encryption, DCL and DML.	**03**
	(b)	Explain Conflict serializability.	**04**
	(c)	Write PL/SQL block to print whether the given number is Armstrong number or not.	**07**
		OR	
Q.4	**(a)**	Define commit, rollback and save point.	**03**
	(b)	Compare Discretionary access control and Mandatory Access Control.	**04**
	(c)	What is Functional dependency? Explain all its types with example.	**07**
Q.5	**(a)**	Define wait-Die and Wound-wait.	**03**
	(b)	Write short note on stored Procedure with example.	**04**
	(c)	Compute the closure of the following set F of functional dependencies for relation schema R = (ABCDE), F = {A -> C, E -> D, B -> C} List the candidate keys for R.	**07**
		OR	
Q.5	**(a)**	Write short note on 2PC Protocol.	**03**
	(b)	Differentiate Grant and Revoke with example.	**04**

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(c) Write SQL statements (Query) for following tables: **07**
E1 (<u>eno</u>,ename,age,city,bcode)
E2 (<u>bcode</u>, bname)

1. Display employees' details whose branch code is between 1 to 5.
2. Find an average age of all employees whose branch code is 3.
3. Retrieve branch information in descending order.
4. Add new branch in E2 table.
5. Display eno, ename and age of employees whose city is Ahmedabad.
6. Delete employee details whose age is 29.
7. Change age of employee to 25 whose employee no is 6.

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