Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER–III (NEW) • EXAMINATION – SUMMER 2015

Subject Code: 2130703 Date:29/05/2015

Subject Name: Database Management Systems

Time:02.30pm-05.00pm 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: (1) Data (2) Entity (3) Meta Data (4) Super key (5) Not Null (6) Data Integrity (7) Dual	**07**
	(b)	Differentiate Between: (1) update and insert (2) primary key and foreign key (3) grant and revoke (4) row and column	**07**
Q.2	**(a)**	Define DBMS. Explain the DBMS languages with examples: DDL, DML, and DCL.	**07**
	(b)	Who is DBA? Explain the role of DBA in DBMS.	**07**
		OR	
	(b)	Explain the three level architecture of DBMS and its advantages.	**07**
Q.3	**(a)**	Define E-R Diagram. Draw E-R diagram with Customer, Loan and Payment sets.	**07**
	(b)	Write query for the following: (1) To create a table from a table. (2) To eliminate duplicate rows. (3) To add a new column in the table (4) To sort data in a table	**07**
		OR	
Q.3	**(a)**	List the steps in proper sequence in order to convert an ER and EER diagram into tables.	**07**
	(b)	Explain any three Aggregate functions and Scalar functions with examples.	**07**
Q.4	**(a)**	What is functional dependency? Explain the its types in detail.	**07**
	(b)	What is a view? Explain how to create, its types and significance in DBMS.	**07**
		OR	
Q.4	**(a)**	What is Normalization? What are its characteristics? Explain 2NF and 3NF in detail.	**07**
	(b)	Explain all types of Joins with commands and examples.	**07**
Q.5	**(a)**	Define Transaction. Explain the transaction properties and transaction states.	**07**
	(b)	What is locking? Explain Two phase locking and its types.	**07**
		OR	
Q.5	**(a)**	What is deadlock? Explain necessary conditions for deadlock and methods for handling it.	**07**
	(b)	Define Failure? Explain Log based Recovery.	**07**

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