Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER– I • EXAMINATION – SUMMER 2016

Subject Code:610005 **Date: 06-05-2016**

Subject Name: Database Management System-I

Time: 02.30pm 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)**	Why we use Normalization? Explain 3rd normal form. How 3rd normal form differs from BCNF? Explain.	**07**
	(b)	What do you mean by Data? Why we need Database? Explain any two areas where DBMS plays a significant role.	**07**
Q.2	**(a)**	What do you mean by Entity? Explain different types of relationship with example.	**07**
	(b)	Explain Functional Dependent Element. How Functional Dependent element plays a crucial role in 1NF. How? Explain with example	**07**
		OR	
	(b)	What do you mean by Attribute? Explain different types of attributes with example.	**07**
Q.3	**(a)**	Construct an Entity Relationship Diagram for the below problem. XYZ wants to design a system for online shopping where the customer must be registered and where item are categorized into category. Customer/visitor can search for an item from the system but while placing an order the visitor can't do while as customer can place an item and directly move that item into the cart. Once the item is added to cart, customer has to pay via either debit card, credit card or cash on delivery. The item is delivered to the customer at shipped address.	**07**
	(b)	What do you mean by Data Dictionary? Explain the advantages of Data Dictionary in brief.	**07**
		OR	
Q.3	**(a)**	Explain Super key and Foreign key with suitable example.	**07**
	(b)	Draw a Normalize database for the following: XYZ University wants to develop system for student where students are identified by their enrollment number. Based on the enrollment number, they are confirmed for their branch and college. Student's exam form is also issued on the basis of enrollment. At the time of appearing in exam, the student will get the seat number. Student can retrieve result based on either seat number or enrollment number. You may assume necessary field for designing table and make relevant relationship for the above problem.	**07**
Q.4	**(a)**	Explain Canonical cover with suitable example.	**07**
	(b)	Explain Physical, Logical levels in brief.	**07**
		OR	
Q.4	**(a)**	When E-R Diagram is in n-ary relation? How it can resolve? Explain with example.	**07**
	(b)	Explain Data Definition language with its integrity constraints with example.	**07**

Q.5	**(a)**	Explain different types of entities? Which entity type is significant? How.	**07**
	(b)	List out the different types of Models. Explain any two models in brief.	**07**

OR

Q.5	**(a)**	Explain Generalization with its constraints.	**07**
	(b)	Explain Instance and Schema with example.	**07**

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