Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MCA - SEMESTER–V • EXAMINATION – SUMMER • 2015

Subject Code: 2650004 **Date: 08-05-2015**

Subject Name: Advanced Database Management Systems (ADBMS)

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)**	Answer the following concept in brief. 1. Three-Schema Architecture. 2. Fixed-length records Versus Variable-length records 3. Double buffering	 **03** **02** **02**
	(b)	Explain Component modules of DBMS and its interactions with diagram	**07**
Q.2	**(a)**	What are the differences between tuple versioning and attribute versioning. Discuss the concept of attribute versioning with example	**07**
	(b)	Explain five level schema architecture in a federated database system.	**07**
		OR	
	(b)	Where is the time series data used?. Give an Example and explain valid event data.	**07**
Q.3	**(a)**	Describe the countermeasures to database security threats.	**07**
	(b)	What is the main difference between a primary index and a clustering index? How does insertion of a record in a block affect a primary or clustering index-considering the cases of with and without overflow.	**07**
		OR	
Q-3	**(a)**	What is RBAC ?. In what ways is it superior to DAC and MAC.	**07**
	(b)	Demonstrate the types of changes of SQL queries that may be worth considering for improving the performance during database tuning.	**07**
Q.4	**(a)**	What is the system log used for? What are the typical kinds of entries in a system log? What are checkpoint and why are they important? What are transaction commit points and why are they important?.	**07**
	(b)	Compare the primary copy method with primary site method for distributed Concurrency control. When voting method is used in distributed database?	**07**
		OR	
Q.4	**(a)**	What are UNDO-type and REDO-type log entries? Describe the Write-ahead logging protocol.	**07**
	(b)	Draw and Explain Logical Storage Structure in Oracle 11g.	**07**
Q.5	**(a)**	Draw and Explain architecture of MANET : mobile ad-hoc network	**07**
	(b)	Explain various steps for bulk insert and bulk delete in Oracle with example.	**07**
		OR	
Q-5	**(a)**	Discuss in brief Data Pump Export and Import in Oracle 11g.	**07**
	(b)	What is multimedia database? Explain the Nature of Multimedia data and Applications?Explain its data management issues.	**07**

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