

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. **03**
1. Three-Schema Architecture. **02**
 2. Fixed-length records Versus Variable-length records **02**
 3. Double buffering **07**
- (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. **07**
 Discuss the concept of attribute versioning with example
- (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**
