

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA - SEMESTER-V • EXAMINATION – WINTER 2013

Subject Code: 650004**Date: 29-11-2013****Subject Name: Advanced Data Base Management System****Time: 02.30 pm - 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.
4. English version is Authentic

- Q.1** (a) Explain buffering of blocks. How does double buffering improve block access time? **07**
(b) What is the difference between logical data independence and physical data independence? Which one is harder to achieve? Why? **07**
- Q.2** (a) Discuss the goals of tuning. List the typical inputs to the tuning process. What are the types of problems encountered during tuning? **07**
(b) Discuss the guidelines for physical database design in RDBMS. **07**
- OR**
- (b) What is the goal of encryption? Explain public key and the private key encryption algorithm. **07**
- Q.3** (a) Discuss the factors that do not appear in centralized system that affect concurrency control and recovery in distributed database. **07**
(b) What is write-ahead logging? Explain steal/no steal and force/ no force. **07**
- OR**
- Q.3** (a) Compare the primary copy method with primary site method for distributed concurrency control. When voting method is used in distributed database? **07**
(b) Define following terms: indexing field, primary key field, clustering field, secondary key field, block anchor, dense index and non dense index. **07**
- Q.4** (a) What are the differences between tuple versioning and attribute versioning. Discuss the concept of attribute versioning with example. **07**
(b) What is a fragment of a relation? What are the main types of fragments? Why is fragmentation a useful concept in distributed database design? **07**
- OR**
- Q. 4** (a) Describe the concept of a deductive database. What is the similarity between rules used in deductive database and views in the relational model? **07**
(b) Explain five level schema architecture in a federated database system. **07**
- Q.5** (a) List the object relational features included in SQL-99. Give an example with syntax. **07**
(b) Explain characteristics of data in GIS. **07**
- OR**
- Q.5** (a) What is multimedia database? Explain its data management issues. **07**
(b) What is the function of service listener in oracle? Explain the purpose of SQL*Loader. **07**
