

GUJARAT TECHNOLOGICAL UNIVERSITY
ME - SEMESTER– 2 • EXAMINATION – WINTER - 2023

Subject Code:3722321**Date: 16 Jan 2024****Subject Name:Distributed Databases****Time:10:30 AM TO 01:00 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) Explain architectural Models for Distributed DBMS. **07**
(b) Briefly explain problem areas in DDBS environment. **07**
- Q.2** (a) Define fragmentation? Explain correctness rules of fragmentation. **07**
(b) Explain Distribution Design issues. **07**
- OR**
- (b) Define Following Term: (1) Replication Transparency (2)Distributed Database System (3) Location Transparency (4) Data Independence **07**
- Q.3** (a) What do you mean by distributed semantic integrity control? Explain with example. **07**
(b) Explain layers of query processing. **07**
- OR**
- Q.3** (a) What is query optimization? List components of query optimizer software and explain any one from that. **07**
(b) Discuss types of transactions. **07**
- Q.4** (a) Explain Locking-Based Concurrency Control Algorithms. **07**
(b) Explain distributed cost model with example. **07**
- OR**
- Q.4** (a) Explain basic Time stamp based concurrency control algorithm. **07**
(b) Differentiate 1) Data warehousing Vs Distributed Database 2) Distributed Processing Vs Cooperative Processing. **07**
- Q.5** (a) Explain Failures & Fault Tolerance in Distributed Systems. **07**
(b) Explain Parallel Database System Architectures. **07**
- OR**
- Q.5** (a) Explain Deadlock management in DDBS. **07**
(b) Explain Two-Phase Commit Protocol. **07**
