

GUJARAT TECHNOLOGICAL UNIVERSITY
ME – SEMESTER IV (OLD) – • EXAMINATION – SUMMER 2016

Subject Code: 740101**Date: 04/05/2016****Subject Name: Distributed Database System****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 Client – Server Architecture of Distributed Database design. **05**
- (b) Define Following Term : (1) Data Independence **05**
 (2) Distributed Database System (3) Replication Transparency
- (c) Explain Correctness Rules of Fragmentations. **04**
- Q.2** (a) Explain Top-Down Design Process in detail. **07**
- (b) Consider two transaction **07**
- | | |
|-------------------------------------------------------------|-------------------------------------------------------------|
| T1 : Read (x)
$x \leftarrow x + 1$
write(x)
commit | T2 : Read (x)
$x \leftarrow x + 1$
write(x)
commit |
|-------------------------------------------------------------|-------------------------------------------------------------|
- Find out possible complete schedule over T and Draw DAG Representation of same.
- OR**
- (b) Discuss vertical fragmentation with example. **07**
- Q.3** (a) Describe Dead lock management in the context of distributed database. **07**
- (b) Describe Simple Predict, Min Term Predict and Com_Min Algorithm in context of Primary Horizontal Fragmentation. **07**
- OR**
- Q.3** (a) Consider a Multiplex Cinema system, which give facility to Book Show from any place by all Customer, discuss which transaction properties are to be consider and why ? **07**
- (b) Explain allocation problem taking into account fragments, networks and running applications. **07**
- Q.4** (a) Explain Enforce algorithm for Distributed Integrity Assertions. **07**
- (b) Explain attribute to entity transformation with example. **07**
- OR**
- Q.4** (a) Explain with example reduction in vertical fragmentation. **07**
- (b) Explain query optimization in context of DDBs. **07**
- Q.5** (a) Explain basic Time stamp based concurrency control algorithm. **07**
- (b) Explain the compatibility matrix of lock modes. **07**
- OR**
- Q.5** (a) Explain general architecture of a parallel database system and shared memory architecture. **07**
- (b) Discuss query processing issue in distributed object database management system. **07**
