

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VII • EXAMINATION – WINTER • 2014****Subject Code: 171602****Date: 27-11-2014****Subject Name: Distributed Database Application and System****Time: 10:30 am - 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 Mixed fragmentation with the help of an example **07**  
 (b) What are distributed systems ? List two advantages and disadvantages of distributed system over centralized one? Also explain parallelism and transparency. **07**
- Q.2** (a) Explain Top Down Design Process for Distributed Database Design **07**  
 (b) Explain following in context of Relational algebra : **07**  
 1. Selection 2. Natural Join 3. Intersection
- OR**
- (b) Explain the terms transparency and concurrency with respect to DDBMS. Also Explain layers of transparency **07**
- Q.3** (a) Write a note on components of DDBMS **07**  
 (b) Explain loosely coupled system and tightly coupled system **07**
- OR**
- Q.3** (a) What are various types of networks? Explain in brief **07**  
 (b) Explain Transaction Management in DDBMS. **07**
- Q.4** (a) What do you mean by two phase locking? How it is different from strict two phase locking ? Explain in brief. **07**  
 (b) What is replication? Explain different types of replication techniques? **07**
- OR**
- Q.4** (a) Discuss the problems of query optimization **07**  
 (b) Write a note on concurrency control. **07**
- Q.5** (a) Given a global relation **07**  
 EMP(EMPNUM,NAME,SAL,TAX,MGRNUM,DEPTNUM)  
 Write the mixed fragmentation definition and fragmentation tree of relation EMP.  
 (b) Write short note on: Reliability in Distributed DBMS **07**
- OR**
- Q.5** (a) List the steps of Query Decomposition. Explain any one of them. **07**  
 (b) Explain the Client server architecture for Distributed DBMS with figure **07**

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