

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VII(NEW) EXAMINATION – SUMMER 2019****Subject Code:2170714****Date:21/05/2019****Subject Name:Distributed DBMS****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) Explain following in context of Relational algebra: **03**
 1. Selection 2. θ – Join 3. Projection
- (b) Discuss views in centralized DBMS. **04**
- (c) Define transparency. Explain the layers of transparencies in distributed database design in brief. **07**
- Q.2** (a) List down and explain any one condition that leads to a deadlock. **03**
- (b) Explain dependency structures with example. **04**
- (c) Describe Bond Energy Algorithm (BEA) algorithm in vertical fragmentation. **07**
- OR**
- (c) Draw and explain query processing in centralized system. **07**
- Q.3** (a) Define Minterm selectivity and access frequency. **03**
- (b) Discuss MDBS architecture with a global conceptual schema. **04**
- (c) What is authorization control? How to imply authorization control in centralized and distributed environment. **07**
- OR**
- Q.3** (a) Define Autonomy, Distribution and Heterogeneity. **03**
- (b) Explain search strategy in Query Optimization. **04**
- (c) Describe Two Phase Locking Protocol and Discuss Centralized Two phase locking protocol in brief. **07**
- Q.4** (a) Write down reasons for fragmentation. **03**
- (b) List down type of transactions and explain any one in details. **04**
- (c) Explain query decomposition and data localization layer for distributed query processing system. **07**
- OR**
- Q.4** (a) Write down objectives of query processing. **03**
- (b) Discuss information requirements during allocation? **04**
- (c) Explain two-phase commit protocol. **07**
- Q.5** (a) Explain Write-ahead logging Protocol. **03**
- (b) Explain conflict serializability by giving example. **04**
- (c) Discuss join ordering in query optimization. **07**
- OR**
- Q.5** (a) Explain different types of failures in DDBMS. **03**
- (b) Explain in basic timestamp-based protocol. **04**
- (c) Write a short note on Shadow Paging. **07**
