*R20 Regulation* *Subject code: 3E6FD*

# TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

**B.Tech VI Semester Regular/Supplementary Examinations, July 2024**

## DISTRIBUTED DATABASES

**(INFORMATION TECHNOLOGY)**

***Maximum Marks: 70*** Date:30.06.2024 Duration: 3 hours

**Note:** **1.This question paper contains two parts A and B.**
**2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.**
**3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.**
**4. Each question carries 10 marks and may have a, b, c, d as sub questions.**

| | Part-A | | |
|---|---|---|---|
| All the following questions carry equal marks (10X2M=20 Marks) | | CO | Bloom Tx |
| 1 | Compare the parallel database and distributed database. | CO1 | II |
| 2 | Enlist the components of Distributed DBMS. | CO1 | I |
| 3 | Mention the benefits of query optimization. | CO2 | I |
| 4 | What is meant by query Decomposition? | CO2 | I |
| 5 | List the types of Transaction. | CO3 | I |
| 6 | Give the classifications of concurrency control. | CO3 | I |
| 7 | What is soft crash? | CO4 | I |
| 8 | What are the reliability protocols in distributed systems? | CO4 | I |
| 9 | Write the difference between horizontal and vertical class partitioning. | CO5 | II |
| 10 | List the issues in OODBMS. | CO5 | I |
| | Part-B | | |
| Answer All the following questions. (5X10M=50Marks) | | | |
| 11 | A. Distinguish the features of distributed databases with centralized databases. (5)<br>B. Explain about vertical fragmentation. (5) | CO1 | III |
| | OR | | |
| 12 | Give an account of the Architectural Models for DDBMS. (10) | CO1 | III |
| 13 | Explain about various query processing layers in Distributed Multi-DBMS. (10) | CO2 | III |
| | OR | | |
| 14 | Discuss the distributed query optimization algorithms. (10) | CO2 | III |
| 15 | Write and explain optimistic concurrency control algorithm with suitable example. (10) | CO2,4 | III |
| | OR | | |
| 16 | Explain the scheme for distributed deadlock detection and recovery. (10) | CO2,4 | III |

| | | | |
|---|---|---|---|
| 17 | Write short notes on (a) Distributed reliability protocols (b) failures in Distributed DBMS. (10) | CO3,4 | II |
| | OR | | |
| 18 | Present an overview of following with diagrams: (a) Shared disk architecture (b) Shared nothing architecture (c) Hierarchical architecture and (d) Cache-only memory architecture. (10) | CO3,4 | IV |
| 19 | (a) Discuss about cache consistency problem. (5)<br>(b) Demonstrate the working of object query processing architecture. (5) | CO3,4 | III |
| | OR | | |
| 20 | Give an overview of ODBMS and its features. Add a note on the components of object-oriented data model. (10) | CO3,4 | III |