



R20 Regulation

Subject code: 3E5GA

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech V Semester Regular Examinations, January 2023

DISTRIBUTED DATABASES

(Professional Elective)

(CSE (AI & ML))

Maximum Marks: 70

Date: 20.01.2023 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)

- 1 What is a distributed database system?
- 2 Define horizontal fragmentation.
- 3 Discuss on query processing problem.
- 4 Define hybrid fragmentation.
- 5 What is consistency property?
- 6 Define deadlock.
- 7 What is two phase commit protocol?
- 8 Explain distributed database servers.
- 9 What is subtyping and inheritance?
- 10 Discuss on persistent programming languages.

Part-B

Answer All the following questions.

(10MX 5=50Marks)

- 11 A. Explain any five problem areas in distributed DBMSs. (5M)
B. Discuss on architectural models for distributed DBMSs. (5M)
OR
- 12 A. Explain top-down design process with the process diagram. (5M)
B. Define allocation. Explain allocation problem. (5M)
- 13 Explain steps in query decomposition with examples. (10M)
OR
- 14 A. Define query optimization and explain search space and search strategy. (5M)
B. Explain distributed INGRES algorithm. (5M)
- 15 A. Define workflow and discuss on types of workflows. (5M)
B. Explain Isolation property of transactions and isolation levels. (5M)
OR
- 16 A. Explain basic timestamp ordering algorithm. (5M)
B. Discuss on deadlock avoidance approaches. (5M)

- 17 A. Explain different types of failures in Distributed DBMS. (5M)
B. Explain in-place update recovery information. (5M)
OR
- 18 A. Explain general architecture of a parallel database system. (5M)
B. Discuss parallel query processing with examples. (5M)
- 19 A. Explain horizontal class partitioning. (5M)
B. Explain alternative client/server architectures. (5M)
OR
- 20 A. Discuss on persistence of objects. (5M)
B. Explain differences between OODBMS and ORDBMS. (5M)