



R20 Regulation

Subject code: 3E6FD

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VI Semester Regular Examinations, June/July 2023

DISTRIBUTED DATABASES

(IT)

Maximum Marks: 70

Date:03.07.2023 Duration: 3 hours

Part-A

All the following questions carry equal marks

(10x2M=20 Marks)

- 1 Define Distributed Database.
- 2 Why distributed databases are essential?
- 3 What is query processing?
- 4 Define query decomposition.
- 5 What are the three kinds of distributed DBMS architecture?
- 6 What is Horizontal Fragmentation?
- 7 What is Vertical Fragmentation?
- 8 What is meant by Partitioning Algorithms?
- 9 Define Inheritance.
- 10 What is meant by hybrid fragmentation?

Part-B

Answer All the following questions.

(10MX 5=50Marks)

- 11 A. Write and explain problem areas of distributed data base system. [5]
B. Explain promises of distributed databases. [5]
OR
- 12 A. Describe overview of relational DBMS. [5]
B. Briefly explain distributed data processing.[5]
- 13 A. Write and explain fragmentation. [5]
B. Explain the objectives of query processing. [5]
OR
- 14 A. Draw distributed database management system architecture .[5]
B. Describe the characterization of query processors. [5]
- 15 A. What are the properties of transaction. Explain. [5]
B. Discuss about the Deadlock Management. [5]
OR
- 16 A. What is meant by the term "serializability", and how does it apply to transaction processing and concurrency control in DBMS? Can you provide an example of a serializable schedule? [5]
B. What is query decomposition in the context of database management, and how does it work to split a complex query into subqueries for faster processing? [5]

- 17 A. Write distributed query optimization algorithms. [5]
B. Explain how query optimization works, the challenges involved, and how various techniques can be leveraged for better performance. [5]
- OR
- 18 A. Explain the Fault – tolerance in Distributed System. [5]
B. Discuss the design principles and characteristics of hierarchical architectures that enable efficient parallel execution of tasks. [5]
- 19 A. What are the fundamental object-oriented concepts. Explain. [5]
B. Write notes on Persistence Programming Language. [5]
- OR
- 20 A. How do the architectural issues faced by distributed object DBMS compare to those faced by more conventional distributed DBMS? [5]
B. Describe the role of transaction management in ensuring data integrity in a database system, and use examples to illustrate its importance. [5]