



R22 Regulation

Subject code: 4P5HB

# TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

**B.Tech V Semester Supplementary Examinations, May 2025**

## DISTRIBUTED DATABASES

(CSE(DS))

Maximum Marks: 60

Date: 26.06.2025

Duration: 3 hours

- Note:
1. This question paper contains two parts A and B.
  2. Part A is compulsory which carries 10 marks. Answer all questions in Part A.
  3. Part B consists of 5 Units. Answer any one full question from each unit.
  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 (10X1M=10 Marks)		Marks	CO	Bloom Tx
1.a)	State the design issues of Distributed Systems.	1M	1	L1
b)	What are the promises of Distributed DataBases?	1M	1	L2
c)	Define the query decomposition.	1M	2	L1
d)	Recall the objectives of Query processing.	1M	2	L1
e)	List out the properties of Transaction?	1M	3	L1
f)	What do you mean by Deadlock in transactions?	1M	3	L3
g)	Specify the purpose of Load Balancing in Distributed Systems:	1M	4	L2
h)	Give an over view of fault -tolerance in Distributed Systems?	1M	4	L2
i)	Define inheritance with an example.	1M	5	L1
j)	Write the difference between OODBMS and ORDBMS?	1M	5	L2

### Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	Bloom Tx
2	a) Mention the advantages and disadvantages of distributed DBMS. b) Explain in detail about the client-server architectural Models for distributed data bases.	5M 5M	1	L2 L5
OR				
3	Describe about vertical fragmentation and peer to peer architectural models for distributed DBMS.	10M	1	L4
4	a) Discuss the framework for query optimization. b) Classify the layers of query processing?	5M 5M	2	L3 L4
OR				
5	Interpret the algorithms used for distributed query Optimization in detail.	10M	2	L5
6	Write concurrency control mechanisms with suitable examples.	10M	3	L4
OR				
7	What is the Serializability in transactions? Explain the two types of Serializabilty methods in detail?	10M	3	L5

8	Summarize the Load balancing and database clusters in Parallel Database Systems.	10M	4	L3
	OR			
9	a) Demonstrate the fault-tolerance in Distributed Systems. b) Explain briefly about site failures and network partitioning.	5M 5M	4	L3 L2
10	a) Explain about the object-oriented data model. b) Illustrate the architectural issues in distributed object DBMS.	5M 5M	5	L3 L3
	OR			
11	a) Discuss about the fundamental object models. b) Interpret in brief about distributed object storage.	5M 5M	5	L3 L5