Code No: 157BJ

R18

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech IV Year I Semester Examinations, January/February - 2023
DISTRIBUTED DATABASES
(Information Technology)

Time: 3 Hours **Max.Marks:75**

Note: i) Question paper consists of Part A, Part B.
ii) Part A is compulsory, which carries 25 marks. In Part A, Answer all questions.
iii) In Part B, Answer any one question from each unit. Each question carries 10 marks and may have a, b as sub questions.

PART – A

(25 Marks)

1.a)	What is a distributed database management system?	[2]
b)	What is network transparency?	[3]
c)	State the need for Query decomposition.	[2]
d)	What are the objectives of query processing?	[3]
e)	Define a wait-free graph.	[2]
f)	Differentiate between basic TO and Multiversion TO algorithm.	[3]
g)	Define abort and commit commands.	[2]
h)	What are the two rules that govern the global termination of a transaction?	[3]
i)	Define the term Composition and give an example with respect to DDBMS.	[2]
j)	Discuss about sub classing and inheritance in DDBMS.	[3]

PART – B

(50 Marks)

2. Explain the components of a Distributed DBMS with a neat diagram. [10]

OR

3.a) Discuss the design issues of Distribute Databases.
b) Present a formal algorithm for horizontal fragmentation with an illustrative example. [5+5]

4. Illustrate the query processing problem considering an example engineering database schema. [10]

OR

5. Explain in detail about localization of distributed data with relevant diagrams. [10]

6.a) Provide an overview of types of the transaction models.
b) Explain distributed 2PL algorithm with an example. [5+5]

OR

7.a) Write down the algorithm for basic Time Stamp Ordering algorithm and explain in brief.
b) Explain about distributed deadlock detection algorithm in brief. [5+5]

8. Discuss the reasons for failures in distributed systems and explain the types of failures in distributed DBMS. [10]

OR

9. Give an overview of distributed reliability protocols. [10]

10. Explain the following terms with respect to Distributed Object Database Management:
a) Horizontal Class Partitioning b) Vertical Class Partitioning. [6+4]

OR

11.a) Compare OODBMS and ORDBMS.
b) Outline Persistent Programming languages in details. [4+6]

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