R18

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech IV Year I Semester Examinations, July/August - 2022
DISTRIBUTED DATABASES
(Information Technology)

Time: 3 Hours   Max.Marks:75

Answer any five questions
All questions carry equal marks
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1.a)   What is a Distributed Database System? Outline the three dimensions based on which we get various data delivery alternatives in distributed databases?
  b)   Explain the major components of a distributed DBMS system architecture with a neat diagram.   [7+8]

2.   Discuss the promises of distributed DBMS technology and highlight the design issues that arise in building a DDBMS.   [15]

3.a)   List out the important characteristics of query processing in distributed context and discuss briefly.
  b)   Draw the generic layering scheme for query processing in DDBMS and explain the functions of each layer.   [7+8]

4.   Present various techniques for query decomposition and data localization in brief. [15]

5.a)   Give an overview of various types of transactions and transaction models.
  b)   Define serializability. Discuss the basic theoretical concepts of serializability.   [8+7]

6.   What is the need of 2-Phase locking mechanism? Explain centralized 2-Phase locking algorithm with an example.   [15]

7.a)   Define the terms: Reliability and Availability.
  b)   Draw the architectural model of the interface between the Local Recovery Manager (LRM) and Buffer Manager (BM) and explain their functions.   [6+9]

8.   What are the issues in management of objects? Explain in detail the considerations of object storage management.   [15]

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