

Roll No.

Total Pages : 2

CMTE/D-24

24062

DISTRIBUTED SYSTEMS

Paper-MT-CSE-20-14 (ii)

Time allowed : 3 Hours]

[Maximum Marks : 75

Note : Attempt **five** questions in all, selecting **one** question from each unit. Question No. **1** is compulsory. All questions carry equal marks.

Compulsory Question

1. Attempt all questions:
 - (i) What is distributed data processing and how does it differ from centralised data processing? 4
 - (ii) What is the role of view management in ensuring controlled access to data in distributed databases? 4
 - (iii) What is the role of data localisation in distributed query processing? 4
 - (iv) What is concurrency control and why is it important in centralised database systems? 3

UNIT-I

2. (a) What are the primary features of distributed databases and why are they significant? Explain. 6
(b) Discuss various types of distributed database systems. 9

3. (a) What are the main functions of a distributed DBMS and how do they contribute to its objectives? 7
(b) Discuss the Multi-database System Architecture. How is it different from a distributed DBMS? 8

UNIT-II

4. Discuss the top-down design process and the design issues in distributed databases. 15
5. What is allocation problem? Discuss an allocation model that attempts to minimise the total cost of processing and storage while trying to meet certain response time restrictions. 15

UNIT-III

6. Discuss the important characteristics of query processors that can be used as a basis for comparison. 15
7. (a) Discuss the primary objectives of database security in distributed environments. How do they address confidentiality, integrity and availability? 8
(b) Discuss distributed catalog management. 7

UNIT-IV

8. Discuss the (a) Centralised, (b) Distributed and (c) Hierarchical approaches of detecting distributed deadlocks. 15
9. (a) Explain the presumed abort and presumed commit 2PC protocols. 8
(b) Discuss the recovery protocols for 2PC. 7