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BT-6/M-20 **36007**

ADVANCED DATABASE SYSTEMS

Paper–CSE-324

Time : Three Hours] [Maximum Marks : 100

Note : Attempt *five* questions in all selecting *one* question from each unit. All questions carry equal marks.

UNIT–I

1. (a) Explain every component of parallel database architecture with neat diagram.

(b) Explain inter-query and intra-query parallelism in parallel databases. (10+10=20)

2. (a) What is site autonomy in distributed DBMS? Consider a failure that occurs during 2PC for a transaction. For each possible failure, explain how 2PC ensure transaction atomicity and recovery despite the failure?

(b) How does a distributed transaction differ from a remote transaction? Explain the issues related to distributed concurrency control. (10+10=20)

UNIT–II

3. What is "Information Gain"? How it is computed? Explain the steps required to generate a Decision Tree from a training data set. 20

4. (a) Write a detailed note on counting co-occurrences.

(b) Define binary scaled, nominal scaled, interval scaled ordinal scaled data types in clustering. (10+10 = 20)

UNIT–III

5. Differentiate between ORDBMS, OODBMS and RDBMS. Explain the challenges in implementing an ORDBMS. 20

6. What is object structure in OODBMS? Write a detailed note on type hierarchy and inheritance. 20

UNIT–IV

7. Differentiate between temporal, non-temporal and bi-temporal databases. Discuss the challenges of implementing a temporal database. 20

8. (a) How you will ensure integrated access to multiple data sources? Explain.

(b) What is a mobile database? Explain the mobile computing environment with the help of a diagram. (10+10=20)