

1128

M.E. (Computer Science and Engineering)

First Semester

CS-8102: Advance Databases

Time allowed: 3 Hours

Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting two questions from each Unit.

x-x-x

- I. Attempt the following:-
- Why should disk space allocated to a file as a result of a transaction not be released even if the transaction is rolled back?
 - What do you understand by location transparency?
 - What is the difference between procedural and non-procedural DMLs?
 - Why can ODL not be considered a full programming language?
 - What are spatial databases? (5x2)

UNIT - I

- II.
 - Discuss the three-schema architecture for database systems with the help of neat sketch.
 - Draw and discuss the architecture of parallel databases. What are the key elements of parallel database processing? (5,5)
- III.
 - Discuss the timestamp ordering protocol for concurrency control? How does strict timestamp ordering differ from basic timestamp ordering?
 - Compare the primary site method with the primary copy method for distributed concurrency control. How does the use of backup sites affect each? (5,5)
- IV.
 - What is the difference between persistent and transient objects? How is persistence handled in typical OO database systems?
 - What is an object in ODMG object model and discuss its five aspects? (5,5)

P.T.O.

(2)

UNIT - II

- V. a) Discuss the different types of transaction failures.
b) How does a shadow directory work? What issues are involved in implementing shadow paging? (5,5)
- VI. a) Explain XML hierarchical data model.
b) Discuss the major issues encountered in handling multimedia databases. (5,5)
- VII. What is a data warehouse and how does it differ from a database? Discuss the architecture of data warehouse and its functionality in detail. (10)

x-x-x