

- (b) How does data warehouse reconcile data layer ? What is the procedure to transform data (10)
9. (a) What are the advantages of object oriented database use over object-oriented database ? (10)
- (b) List the object oriented features of SQL. Explain with example. (10)

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Roll No.

22640

**M.Tech. 1st Semester (CSE)
CBCS Scheme Examination-
December, 2016**

**ADVANCED DATABASE MANAGEMENT
SYSTEM**

Paper : MTCSE-21C3

Time : 3 hours

Max. Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

Note : Q. No. 1 is **compulsory**. Attempt any **four** questions from remaining four units, selecting at least **one** question from each unit.

1. Write short notes on the following : (20)
- (a) Granularity of locking
 - (b) Deadlocks
 - (c) Disaster Recovery

(d) Techniques based on time-stamp ordering

UNIT - II

2. What do you mean by normalization ? Explain in detail 1NF, 2NF, 3NF, BCNF, 4NF and 5NF with examples. (20)

3. What do you mean by query processing ? Explain the various steps of query processing with a diagram. (20)

UNIT - III

4. (a) Why is recovery needed in databases ? How log based recovery is different from check point based recovery ? Explain. (10)

(b) Explain buffer management logging scheme in recovery. (10)

5. What is concurrency control ? Explain multi-version concurrency control technique. How

timestamp based concurrency control is different from locking schemes ? Explain.

(20)

UNIT - III

6. (a) Compare and contrast object-oriented databases and object relational databases. (10)

(b) What is object query language ? Explain with example. (10)

7. (a) What is distributed database ? What are the options for distributing a database ? (10)

(b) What are data fragmentation techniques in distributed database design ? (10)

UNIT - IV

8. (a) Explain data warehouse schema with example. How is data warehouse useful in databases ? Explain with example.

(10)