

Roll No. ....

**22640**

**M. Tech. 1st Semester (CSE) CBCS Scheme  
Examination – February, 2022**

**ADVANCED DATABASE MANAGEMENT SYSTEM**

Paper : MTCSE21C3

*Time : Three hours ]*

*[ Maximum 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 examination.*

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

1. (a) What are data models ? Explain any *one* in detail. 5
- (b) What is buffer management logging scheme ? 5
- (c) Write short note on Deadlocks. 5
- (d) Explain derived data layer. 5

### UNIT - I

2. What are Normal Forms ? Explain the different Normal Form in details with the help of example. 20
3. Write short note on the following :  $10 \times 2 = 20$
- (i) Query Processing
  - (ii) Relational Algebra

### UNIT - II

4. Discuss and explain the strict two-phase locking protocol and conservative two-phase locking protocol for concurrency control in databases with the help of an example. 20
5. What is database recovery ? Explain recovery in centralized DBMS in detail. 20

### UNIT - III

6. What is distributed database ? Explain different approaches of distributed data storages. Why is data replication useful in Distributed Database ? Explain. 20
7. Describe Object Oriented Database development in detail. 20

### UNIT - IV

8. What is Object Relational Database ? Also explain advantages of Object Relational approach in detail. 20
9. Define data warehousing. Explain data warehouse architecture and characteristics in detail. 20
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