

Unit IV

No. of Printed Pages : 04

Roll No.

7. (a) What are the advantages of object relational databases as compared to a relational database ? 7
- (b) What is distributed Database ? Discuss various distribution schemes. 8
8. What is Access control ? Discuss various models for it in Databases. 15

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B.Tech. EXAMINATION, 2024

(Fifth Semester)

(C Scheme) (Main & Re-appear)

(CSE)

CSE303C

DATABASE MANAGEMENT SYSTEMS

Time : 3 Hours]

[Maximum Marks : 75

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

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. Describe various disadvantages of file system compare to Data base management system in detail. 15
2. Explain the components of DBMS with a neat diagram. Also discuss functions of these components. 15

Unit II

3. (a) What is natural join ? Explain its usage, notation in relational algebra. Also explain how it can be derived from cross join. 8
- (b) Discuss division operator in relational algebra with the help on an example. Also, show step by step how the results are obtained in division operation. 7

4. (a) Why BCNF is said to be a stronger normal form than 3rd normal form ? Justify your answer with the help of an example. 8
- (b) Discuss key constituents of lossless database design. 7

Unit III

5. (a) Why concurrency control is needed ? Elaborate the issues that may arise in the absence of it. 8
- (b) What is deadlock ? Does a 2-phase locking protocol ensure freedom from deadlock ? Justify with an example. 7
6. Discuss log-based recovery in detail with its types. 15