

**ANURAG Engineering College****(An Autonomous Institution)****II B.Tech II Semester Supplementary Examinations, December-2024****DATABASE MANAGEMENT SYSTEMS****(COMPUTER SCIENCE AND ENGINEERING)****Time: 3 Hours****Max. Marks: 75****Section – A (Short Answer type questions)****(25 Marks)****Answer All Questions**

|  | <b>Course Outcome</b> | <b>B.T Level</b> | <b>Marks</b> |
|--|-----------------------|------------------|--------------|
| 1. List the database Applications.   | CO1                   | L1               | 2M           |
| 2. Explain different types of database users.                                | CO1                   | L2               | 3M           |
| 3. What are different SQL Commands?  | CO2                   | L1               | 2M           |
| 4. Define Join? Explain different types of joins.                            | CO2                   | L1               | 3M           |
| 5. Define First Normal Form  | CO3                   | L1               | 2M           |
| 6. Illustrate multi valued dependencies and Fourth normal form with example. | CO3                   | L3               | 3M           |
| 7. Discuss different phases of transaction.                                  | CO4                   | L2               | 2M           |
| 8. Write short notes on tree extensions                                      | CO4                   | L1               | 3M           |
| 9. Explain ARIES Remote Backup Systems.                                      | CO5                   | L2               | 2M           |
| 10. Discuss about Failure Classification.                                    | CO5                   | L2               | 3M           |

**Section B (Essay Questions)****Answer all questions, each question carries equal marks.****(5 X 10M = 50M)**

|  |     |    |     |
|--|-----|----|-----|
| 11. A) Describe in detail the Architecture of DBMS with diagram.   | CO1 | L3 | 10M |
| <b>OR</b>  |     |    |     |
| B) Explain Binary and Ternary Relationships with example.<br>And Explain Entity- Relationship Design Issues. | CO1 | L2 | 10M |
| 12. A) What aggregate operators does SQL support? Explain with examples.                                     | CO2 | L1 | 10M |
| <b>OR</b>  |     |    |     |
| B) Explain the different data types in SQL.  | CO2 | L2 | 10M |
| 13. A) Explain Tuple relational calculus and Domain relational calculus in Detail.                           | CO3 | L2 | 10M |
| <b>OR</b>  |     |    |     |
| B) What are the conditions are required for a relation to be 2 NF,3NF and BCNF explain with example.         | CO3 | L1 | 10M |
| 14. A) What is Transaction? Explain ACID Properties.   | CO4 | L2 | 10M |
| <b>OR</b>  |     |    |     |
| B) Explain View serializability and conflict serializability with example.                                   | CO4 | L2 | 10M |
| 15. A) Discuss the failures that can occur with loss of Non-volatile storage.                                | CO5 | L3 | 10M |
| <b>OR</b>  |     |    |     |
| B) Explain 3 phases in ARIES algorithm.  | CO5 | L2 | 10M |