R20 Regulation *Subject code: 3P4FC*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A' Grade)

B.Tech IV Semester Regular/Supplementary Examinations, September 2023

Database Management Systems

(Information Technology)

Maximum Marks: 70 Date:19.09.2023 Duration: 3 hours

Note: 1.This question paper contains two parts A and B.
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit which carries 10M.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10x2M=20 Marks)

1 Mention the purpose of Database Management System.
2 What are the different types of attributes defined in ER database model?
3 How querying can be done in relational database?
4 Why GROUP BY clause is used in SQL?
5 Define join dependency and fifth normal form.
6 Define dependency preserving decomposition.
7 Why do we need isolation levels?
8 Why concurrency control is needed?
9 List the disadvantages of remote backup.
10 Define Tree Indexing.

Part-B

Answer All the following questions. (5X10M=50Marks)

11 State and Explain DDL and DML with suitable examples. (10M)

OR

12 Give Symbol used in E-R Diagram and Draw the E-R diagram of Library Management System. (10M)

13 A. Discuss about views with suitable example. (5M)
B. Classify different join operations (Relational Algebra & SQL) and explain with example. (5M)

OR

14 A. Discuss about Nested queries with an example. (5M)
B. List and explain SQL Aggregate Operators. (5M)

15 A. Define functional dependencies. How are primary keys related to FD's? (5M)
B. Define normalization. Explain 1NF, 2NF, 3NF Normal forms. (5M)

OR

16 A. Describe properties of decompositions. (5M)
B. Illustrate Multivalued dependencies and fourth normal form with example. (5M)

17 Explain ACID properties and illustrate them through examples. (10M)

OR

18 Explain about concurrency control based on time-stamp ordering. (10M)

19 A. Discuss the failures that can occur with loss of Non-volatile storage. (5M)
B. How to handle failure with loss of nonvolatile storage? (5M)

OR

20 A. Compare different file organizations. (5M)
B. Explain about tree structure indexing. (5M)