



R20 Regulation

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

Subject code: 3P4FC

B.Tech IV Semester Regular Examinations, July 2022

**Database Management Systems
(IT)**

Maximum Marks: 70

Date:26.07.2022 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 Define database.
- 2 Show an example for composite and multi valued attributes
- 3 Write a SQL query to select students from Delhi with starting letter of name 'S' and avg mark is above 75%.
- 4 Demonstrate the actual purpose of triggers.
- 5 What is transitive dependency? How to normalize this dependency?
- 6 Analyze the need for normalization in database design
- 7 Justify the role of Transaction Manager in DBMS
- 8 Define locking protocols.
- 9 Suggest some recovery techniques for effective data management
- 10 What are the techniques to be evaluated for both ordered indexing and hashing?

Part-B

Answer All the following questions.

(10MX 5=50Marks)

- 11 A. Define database management system. [2]
B. Compare the advantages of DBMS over file processing systems. [8]

OR

- 12 Illustrate ER diagram for hospital management system which includes types of attributes, one-one, one-many, many-one, many-many relations between entities. (10)
- 13 A. What is the role of View in DBMS? Discuss with syntax and example (5)
B. How to handle integrity constraints while writing SQL queries? (5)

OR

- 14 Develop a faculty and student table and try all types of DML commands with syntax. (10)

- 15 A. What is the importance of normalization? (4)
 B. Demonstrate 2NF with employee, department table (6)

OR

- 16 Write short Notes on [10]
 (i) Fourth normal form with example. ii) Fifth Normal form with example.

- 17 Examine the importance of ACID properties with transactions. Discuss the schedule for inconsistent state. [10]

OR

- 18 Explain timestamp based and validation-based protocols in detail. [10]

- 19 Explain in detail about Index data structures. [10]

OR

- 20 A. Write short notes on file organization. [5]
 B. Discuss about B-tree indexing. [5]