



R18 Regulation

Subject code: 2P4FC

**TKR COLLEGE OF ENGINEERING AND TECHNOLOGY**

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

**B.Tech IV Semester Supplementary Examinations, September 2023**

**Database Management Systems**

(IT)

**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.
  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 List the Database Applications.
- 2 List the disadvantages of file processing system.
- 3 Define CROSS PRODUCT operation in Relational algebra.
- 4 Write about trigger?
- 5 Define BCNF.
- 6 Define Armstrong axioms for FD's.
- 7 Write about remote backup systems?
- 8 List the properties of transaction.
- 9 What is an index? Give an example.
- 10 Write about data on External storage?

**Part-B**

Answer All the following questions.

(5X10M=50Marks)

- 11 Explain about Database Architecture. (10M)  
OR
- 12 Explain about Logical database design. (10M)
- 13 Define trigger and explain its three parts. Compare row level and statement level triggers. (10M)  
OR
- 14 Explain Set operations of Relational Algebra with examples? (10M)
- 15 Explain BCNF. What are the steps to be followed to convert a relation in 3NF to BCNF?(10M)  
OR
- 16 Determine the closer of the following set of functional dependencies for a relational scheme R(A,B,C,D) and FDs {AB → C, C → D, D → A}. List out the candidate keys of R. (10M)
- 17 What is transaction? Explain the ACID Properties of transactions? (10M)  
OR
- 18 Explain in detail about Timestamp-Based Protocols? (10M)
- 19 What are the indexed data structures? Explain in detail. (10M)  
OR
- 20 Explain insertion and search operation in B+ trees? (10M)

