



R20 Regulation

Subject code: 307AA

**TKR COLLEGE OF ENGINEERING AND TECHNOLOGY**

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

**B.Tech VII Semester Supplementary Examinations, November 2025**

**DATABASE MANAGEMENT SYSTEMS  
(CE)**

Maximum Marks: 70

Date: 01.12.2025

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)		Marks	CO	BTL
1	What is storage Manager?	2M	1	L1
2	Define the terms Entity set, Relationship set?	2M	1	L1
3	What does cardinality ratio specify?	2M	2	L1
4	Define the terms a) attribute b) Entity c) Entity set d) relationship set.	2M	2	L1
5	What are the parts of basic SQL query?	2M	3	L1
6	Explain the need of decomposing a relation?	2M	3	L1
7	Explain ACID Properties of Transaction?	2M	4	L1
8	Discuss recoverable schedules?	2M	4	L1
9	What is clustered index?	2M	5	L1
10	What is the order of B+ tree?	2M	5	L1

**Part-B**

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
11	Sketch and Explain the overview of database Architecture	10M	1	L2
	OR			
12	Explain various DML statements in SQL with example?	10M	1	L2
13	Explain about relational algebra? Illustrate about different operations in relational algebra with examples?	10M	2	L2
	OR			
14	Identify the main steps in database design. What is the goal of each step? In which step is the ER model mainly used?	10M	2	L2
15	Define BCNF? Compare how BCNF differs from 3NF with an Example .	10M	3	L2
	OR			
16	What is normalization? Describe the conditions required for a relation to be in 1NF, 2NF and 3NF? Explain with Examples?	10M	3	L2
17	What is 2PL locking Protocol? Explain with Suitable Example? Implement how does it guarantee Serializability?	10M	4	L2

	OR			
18	Analyze Shadow copy technique for Atomicity and Durability?	10M	4	L2
19	Discuss and Identify in detail about all file organization methods?	10M	5	L2
	OR			
20	Compare and Contrast between Indexed Sequential Access Method(ISAM) and B+ tree indexes?	10M	5	L2