



R18 Regulation

Subject code:2P4ED

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech IV Semester Supplementary Examinations, December 2025

DATABASE MANAGEMENT SYSTEMS (CSE)

Maximum Marks: 70

Date: 20.12.2025

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	List the data structures implemented by the storage manager.	2M	2	L1
5	Write about relational model?	2M	3	L1
6	Explain BCNF.	2M	3	L1
7	Write the Procedure to test Serializability.	2M	4	L1
8	Write recoverable schedules.	2M	4	L1
9	What is clustured 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	Draw an entity relationship for railway reservation system.	10M	1	L2
OR				
12	Explain additional features of ER Model.	10M	1	L2
13	Define all variations of join operation. Why is the join operation given special attention?	10M	2	L2
OR				
14	Name 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	Illustrate your answer that can we use IN, EXISTS, UNIQUE, ANY, ALL in nested queries? Explain with example queries.	10M	3	L2
OR				
16	Explain different normal forms based on functional dependencies.	10M	3	L2

17	Describe Timestamp based locking protocols.	10M	4	L2
	OR			
18	Explain Buffer Management.	10M	4	L2
19	Write in detail about index data structures.	10M	5	L2
	OR			
20	Why are tree-structured indexes good for searches especially range selections?	10M	5	L2