R20 Regulation *Subject code: 3O7AA*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech VII Semester Supplementary Examinations, October 2026

DATABASE MANAGEMENT SYSTEMS

(CE)

Maximum Marks: 70 Date: 02.11.2026 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	Define the terms instance and schema.	2M	1	L1
2	Mention disadvantages of file processing system?	2M	1	L1
3	Explain union operation and conditions for union compatibility?	2M	2	L1
4	What is meant by loss less join decomposition?	2M	2	L1
5	What is functional dependency?	2M	3	L1
6	What is foreign key?	2M	3	L1
7	List different types of Locks?	2M	4	L1
8	Define Two Phase Commit protocol?	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	Define data model and describe relational data model, Interpret data independence and how does DBMS support it?	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
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 and compare how BCNF differs from 3NF with an example.	10M	3	L2

16	What is normalization and describe the conditions required for a relation to be in INF, 2NF and 3NF.	10M	3	L2
17	Compare and contrast different types of Advanced Recovery Techniques.	10M	4	L2
18	Analyze Shadow copy technique for Atomicity and Durability?	10M	4	L2
19	Construct in detail about index data structures.	10M	5	L2
	OR			
20	Construct and explain the structure of B+tree in detail with an Example.	10M	5	L2