R18 Regulation *Subject code:* 2P4ED

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech IV Semester Regular/Supplementary Examinations, July 2021

DATABASE MANAGEMENT SYSTEM

(COMPUTER SCIENCE & ENGINEERING)

Maximum Marks: 70 Date:04.08.2021 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 Differentiate physical and logical data independence
2 How integrity constraints affect database transaction?
3 Examine the ways to handle weak entity in ER model
4 Show the query representation in Domain relational calculus
5 Write a SQL query to select students name starting with letter 'S', avg mark is >75 and they are from Hyderabad
6 Define functional dependency with example
7 Discuss the Transaction states i)partially committed ii) aborted
8 Enumerate the ways to recover database from failure
9 What are the pros and cons of B+ tree indexing?
10 Analyze the need of extendible hashing in database management

Part-B

Answer All the following questions. (10MX 5=50Marks)

11 Sketch the DBMS architecture neatly and explain about all of its components. (10)

OR

12 A. Discuss the steps to convert ER to relational model (4)
B. Demonstrate the ER to relational model conversion using Library management system (6)

13 Explain i)selection ii)projection iii)Cartesian product iv)left outer join v)right outer join with syntax and example (10)

OR

14 Draw an ER model for hospital management systems which includes all types of entities, attributes and relations. (10)

15 A. Justify the importance of trigger with an example. (5)
B. Evaluate Intersect and Union operation with proper example. (5)

OR

16 A. Define transitive dependency. (2)
B. Examine the implementation of 3NF with suitable example. (8)

17 A. Demonstrate one serial and concurrent schedule with example. (6)
B. Define Shared and exclusive lock with respect to concurrency control. (4)

OR

18 A. Explain two phase locking protocol with transaction. (8)
B. How to ensure remote backup in DBMS? (2)

19 A. Distinguish sparse and dense index with example. (5)
B. Design a multilevel index system with example. (5)

OR

20 A. Compare indexing and hashing. (5)
B. Develop an example for linear hashing. (5)