



B.Tech IV Semester Supplementary Examinations, February 2024
Database Management Systems
(Common to CSE & IT)

Maximum Marks: 70

Date: 21.02.2024 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)		CO	Bloom Tx
1	List the Database Applications.	CO1	L1
2	Define Instances and schemas of database.	CO1	L1
3	Define CROSS PRODUCT operation in Relational algebra?	CO2	L1
4	Write the basic form of SQL query?	CO2	L1
5	Define First Normal Form?	CO3	L1
6	Define Armstrong axioms for FD's?	CO3	L1
7	Define a checkpoint?	CO4	L1
8	Explain about ACID properties?	CO4	L2
9	Define B+ tree index file?	CO5	L1
10	Discuss about data on External storage?	CO5	L2

Part-B

Answer All the following questions. (5X10M=50Marks)			
11	Explain about Database Architecture. [10]	CO1	L2
	OR		
12	Explain about Logical database design. [10]	CO1	L2
13	A. Discuss nested queries. [5] B. Write and explain a query to find the names of sailors who have reserved a red boat? [5]	CO2	L2
	OR		
14	Explain about Aggregate operators in sql with examples. [10]	CO2	L2
15	What is normalization? What are the conditions are required for a relation to be in 2NF, 3NF and BCNF explain with examples. [10]	CO3	L3
	OR		
16	Determine the closer of the following set of functional dependencies for a relation scheme R(A,B,C,D,E,F,G,H), F={ AB→C, BD→EF, AD→G, A→H} List the candidate keys of R. [10]	CO3	L3
17	Explain in detail about the two-phase locking protocol.[10M]	CO4	L2

	OR		
18	Explain about Remote Backup Systems.[10M]	CO4	L2
19	What are the indexed data structures? Explain in detail.[10M]	CO5	L2
	OR		
20	Explain insertion and search operation in B+ trees. [10M]	CO5	L2