

DATABASE MANAGEMENT SYSTEMS

(Common to CSE & IT)

Maximum Marks: 70

Date: 06.05.2025

Duration: 3 hours

- Notes:**
1. This question paper consists of 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 Marks. Answer any one full question from each one.
 4. Each section carries 10 marks and each part A, B, C, D, E and F carries 2 marks.

Part-A

All the following questions carry 2 marks each (10X2M=20 Marks)		Marks	CO	BT/L
1	What are the tasks of the database system? Explain.	2M	1	L1
2	Explain levels of data abstraction.	2M	1	L1
3	Explain two types of participation constraints?	2M	2	L1
4	List the data structures implemented by the database system?	2M	2	L1
5	What is meant by lossy decomposition?	2M	3	L1
6	What is forcing?	2M	3	L1
7	Discuss the Procedure to test Serializability?	2M	4	L1
8	Explain about different types of locks?	2M	4	L1
9	What is cluster index?	2M	5	L1
10	What is secondary index of records?	2M	5	L1

Part-B

Answer All the following questions. (5X10M=50 Marks)		Marks	CO	BT/L
11	Describe relational databases, how they have been used in the past, and how they are used currently in modern solutions to technology.	10M	1	L2
OR				
12	Draw an Entity Relationship (ER) for railway reservation system.	10M	1	L2
13	Apply relational algebra and set theory that are supported by the relational model	10M	2	L2
OR				
14	Differentiate between delete drop and truncate command? Give examples for each of them?	10M	2	L2
15	What is functional dependency? Explain computing closures of F with attribute names.	10M	3	L2
OR				
16	Explain different Normal forms based on functional dependencies.	10M	3	L2
17	Discuss in detail Multiple Circularity.	10M	4	L2

OR

18	Explain in detail Storage structure.	10M	4	L2
19	What is the need of indexing? Explain primary and secondary indexing. Differentiate indexing and hashing?	10M	5	L2
	OR			
20	Describe B+ tree insertion algorithm, and explain how it eliminates overflow pages?	10M	5	L2