

GUJARAT TECHNOLOGICAL UNIVERSITY**B.VOC- SEMESTER- I EXAMINATION – WINTER 2023****Subject Code:1110501****Date:26-12-2023****Subject Name:Database Management System****Time:10:30 AM TO 12:30 PM****Total Marks:50****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

	Marks
Q.1 (a) What is DBMS? List and explain on applications of DBMS.	05
(b) Explain the Cartesian Product operation in relational algebra.	05
Q.2 (a) Explain Two Phase Commit Protocol in detail.	05
(b) Differentiate Data Administrator and Database Administrator.	05
OR	
(b) Explain different aggregate functions with examples.	05
Q.3 (a) Compute the closure of the following set F of functional dependencies for relation schema R = (A, B, C, D, E, F). F = (A → B, A → C, CD → E, CD → F, B → E)	05
(b) Explain Mapping Cardinality in detail.	05
OR	
Q.3 (a) What is normalization? List out the different forms of normalization. Explain anyone with an example.	05
(b) Describe and explain ER-Diagram with its notations.	05
Q.4 (a) Differentiate shared lock and exclusive lock in lock-based protocol.	05
(b) Explain SQL, DML, DDL, DCL, DQL.	05
OR	
Q.4 (a) What is serializability? Explain view Serializability.	05
(b) What is System Recovery? Explain it in detail.	05
Q.5 (a) Explain Query Processor with a neat and clean diagram.	05
(b) Explain cursors with its types.	05
OR	
Q.5 (a) Explain stored procedures in detail.	05
(b) Describe Join operation in Query Processor.	05
