

Enrolment No./Seat No.:

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**Bachelor of Vocation - SEMESTER - IV EXAMINATION - SUMMER 2025**

**Subject Code: 1140501**

**Date: 09-05-2025**

**Subject Name: Advanced 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. Use of simple calculators and non-programmable scientific calculators are permitted.**

	<b>Marks</b>
<b>Q.1 (a)</b> Explain Commit, Save point and Rollback.	<b>05</b>
<b>(b)</b> Explain DML Commands.	<b>05</b>
<b>Q.2 (a)</b> Explain Exclusive (X) Lock & Shared (S) Lock.	<b>05</b>
<b>(b)</b> What is a deadlock in DBMS?	<b>05</b>
<b>OR</b>	
<b>(b)</b> What is Row level locking.	<b>05</b>
<b>Q.3 (a)</b> Explain Sequences with example.	<b>05</b>
<b>(b)</b> Explain Exception Handling using PL/SQL.	<b>05</b>
<b>OR</b>	
<b>(a)</b> Explain Cursors Attributes.	<b>05</b>
<b>(b)</b> What are procedures and functions?	<b>05</b>
<b>Q.4 (a)</b> What is a PL/SQL Package?	<b>05</b>
<b>(b)</b> What is SQL Triggers?	<b>05</b>
<b>OR</b>	
<b>(a)</b> What is Functional Dependency?	<b>05</b>
<b>(b)</b> Difference Between Lossless and Lossy Join Decomposition	<b>05</b>

**Q.5 (a)** Convert Following Example into 2nd Normalization Form.

**05**

Imagine we're building a restaurant management application. That application needs to store data about the company's employees and it starts out by creating the following table of employees:

All the entries are atomic and there is a composite primary key (employee\_id, job\_code)

employee_id	name	job_code	job	state_code	home_state
E001	Alice	J01	Chef	26	Michigan
E001	Alice	J02	Waiter	26	Michigan
E002	Bob	J02	Waiter	56	Wyoming
E002	Bob	J03	Bartender	56	Wyoming
E003	Alice	J01	Chef	56	Wyoming

**(b)** What is Concurrency control in DBMS?

**05**

**OR**

**(a)** Explain Third Normal Form (3NF).

**05**

**(b)** Explain Dirty read problem in DBMS with ~~example~~\*\*\*.

**05**