

Enrolment No./Seat No.:

GUJARAT TECHNOLOGICAL UNIVERSITY

Bachelor of Vocation - SEMESTER - IV EXAMINATION - WINTER 2025

Subject Code: 1140501

Date: 12-11-2025

Subject Name: Advanced Database Management System

Time: 02:30 PM TO 04:30 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.

	Marks
Q.1 (a) Answer the following questions.	05
1. A functional dependency $X \rightarrow Z$ is redundant if $X \rightarrow Y$ and $Y \rightarrow Z$ already exist due to _____.	
2. In a relation Student(RollNo, Name), the dependency RollNo \rightarrow Name means that RollNo is a _____ key.	
3. A function is a PL/SQL subprogram that returns a single value.[True/False]	
4. A _____ is a collection of related procedures, functions, variables, and cursors.	
5. How is closure denoted?	
(b) Explain DML, DQL, and DCL commands.	05
Q.2 (a) Define Cursor. Explain types of Cursor with example.	05
(b) Explain the FOR, WHILE LOOP in PL/SQL with examples.	05
OR	
(b) What is a view ? Explain how to create, replace, update, and alter a view with suitable examples.	05
Q.3 (a) Discuss the concept of trigger. Explain advantages and disadvantages of triggers.	05
(b) Explain Armstrong's Axioms for functional dependencies.	05
OR	
(a) Define functional dependency .Differentiate between trivial and non-trivial functional dependencies.	05
(b) Explain ACID properties.	05
Q.4 (a) Define Normal Form. Explain 1 NF, 2NF, 3NF with example.	05
(b) Explain the role of a package specification and package body. Explain advantages of using package.	05
OR	
(a) Describe lossless join decomposition and lossy decomposition with an example.	05
(b) Explain the concept of sequence with example.	05

- Q.5 (a)** Discuss the concept of the three phases of optimistic concurrency control. **05**
(b) Define closure of a set of functional dependencies **05**

OR

- (a)** Define Lock. Explain types of lock. **05**
(b) Define Exception. Describe the concept of Exceptions in brief. **05**
