Enrollment No./Seat No.:

GUJARAT TECHNOLOGICAL UNIVERSITY
M.SC INTEGRATED - SEMESTER - V EXAMINATION - WINTER 2025

Subject Code: 1350505   **Date: 25-11-2025**

Subject Name: Python Programming-1

Time: 10:30 AM TO 01:00 PM   **Total Marks: 70**

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)**	What are the steps to install Python on Windows?	**03**
	(b)	Differentiate between list and tuple with example.	**04**
	(c)	Explain various string operations in Python with examples.	**07**
Q.2	**(a)**	Write a short note on break, continue, and pass.	**03**
	(b)	Explain if...else and elif statements with example.	**04**
	(c)	Write a program using loops to display even numbers from 1 to 20.	**07**
		OR	
	(c)	Demonstrate list iteration using for and while loops.	**07**
Q.3	**(a)**	What is recursion?	**03**
	(b)	Explain function parameters and return values with example.	**04**
	(c)	Explain function definition, calling, and argument types in Python with examples.	**07**
		OR	
	(a)	What are global variables?	**03**
	(b)	What is a module in Python?	**04**
	(c)	Write a recursive function to calculate factorial of a number.	**07**
Q.4	**(a)**	What is a string in Python?	**03**
	(b)	Explain list mutability with example.	**04**
	(c)	Write a program to demonstrate list operations.	**07**
		OR	
	(a)	What is software testing?	**03**
	(b)	Differentiate between black-box and glass-box testing.	**04**
	(c)	Explain the process of debugging in Python.	**07**
Q.5	**(a)**	What is an Abstract Data Type (ADT)?	**03**

(b) Explain Information Hiding with example. **04**

(c) Explain the concept of inheritance in detail with types and example. **07**

OR

(a) What is a search algorithm? **03**

(b) Explain Linear Search with example. **04**

(c) Explain the concept and working of a Hash Table with an example program. **07**

***