GUJARAT TECHNOLOGICAL UNIVERSITY
BE- SEMESTER–V EXAMINATION – WINTER 2025
Subject Code:3151108   **Date:17-11-2025**
Subject Name:Python Programming
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. **Simple and non-programmable scientific calculators are allowed.**

			Marks
Q.1	**(a)**	Write a Python Program to check whether a given number is a palindrome or not.	**03**
	(b)	Provide a brief explanation of bitwise AND, OR, and XOR operators.	**04**
	(c)	Explain the difference between a list and a tuple in Python. Provide suitable example for it.	**07**
Q.2	**(a)**	How does the operator // differ from / in Python? Explain with the help of suitable example.	**03**
	(b)	Write a Python Program to Return the Length of the Longest Word from the given list of words.	**04**
	(c)	Explain assignment operator and arithmetic operator in Python.	**07**
		OR	
	(c)	List and briefly explain built-in data types in Python.	**07**
Q.3	**(a)**	How does the "else" statement differ from the "elif" statement? Explain with the help of suitable example.	**03**
	(b)	How does "continue" differ from "break" in terms of loop control? Explain with example.	**04**
	(c)	Write a Python Program to print the largest even and largest odd number in a list.	**07**
		OR	
Q.3	**(a)**	Explain use of break statement in side while loop with the help of suitable example.	**03**
	(b)	How can you use a "for" loop to iterate over the keys of a dictionary in Python?	**04**
	(c)	Write a Python Program to print the sum of negative numbers, positive even numbers and positive odd numbers in a given list.(assume suitable List)	**07**
Q.4	**(a)**	Describe the use of following built-in methods for the dictionary in python. clear(), keys(), get().	**03**
	(b)	What is module in python? Give examples of any two external Python modules and explain their use.	**04**
	(c)	Explain what is an exception in Python. Provide an example of a common built-in exception in Python.	**07**
		OR	
Q.4	**(a)**	Describe the use of following built-in methods for the list in python. append(), pop(), remove()	**03**
	(b)	Write a simple custom function in Python that takes two parameters and returns their sum.	**04**
	(c)	Explain the concept of variable scope in Python. Provide an example of a local variable and a global variable in Python.	**07**

Q.5 **(a)** Explain the steps involved in installing MicroPython on a microcontroller or development board. **03**

(b) Explain file exception handling. What are the reasons for file exceptions? **04**

(c) With the help of suitable example explain reading and writing data to CSV file in python. **07**

OR

Q.5 **(a)** Explain the role of MicroPython in Internet of Things (IoT) applications. **03**

(b) What is MicroPython, and how does it differ from the standard Python language? **04**

(c) List and briefly MicroPython libraries that are commonly used in embedded systems. **07**