

Seat No./Enrollment No.: _____

GUJARAT TECHNOLOGICAL UNIVERSITY
BACHELOR OF ENGINEERING – SEMESTER 5 – EXAMINATION – SUMMER 2026

Subject Code: 3151108

Date: 21/05/2026

Subject Name: Python Programming

Time: 02:30 PM TO 05:00 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.**

- Q.1**
- (a) Describe logical operator and identity operator with example. **03**
 - (b) Discuss the following function of List in python. **04**
 - a) append()
 - b) insert()
 - c) sort()
 - d) remove()
 - (c) Differentiate between List and Tuple in Python. Write advantages of tuple. **07**
- Q.2**
- (a) Explain the structure of for loop in python with suitable example. **03**
 - (b) Describe elif ladder structure and nested if..else.. statement. **04**
 - (c) Write a Python function to calculate the factorial of a number (a non-negative integer). **07**
- OR
- Q.2**
- (c) Write a Python program to construct the following pattern using a nested for loop. **07**

```
*
* *
* * *
* * * *
* * *
* *
*

```
- Q.3**
- (a) What is meant by module in python? List some built in modules in python. **03**
 - (b) Describe dictionary in python with suitable example. **04**
 - (c) What is an exception? Explain about the different types of Exceptions in Python. **07**
- OR
- Q.3**
- (a) What are negative indexes and why are they used? **03**
 - (b) Describe break, continue, pass statement with example. **04**
 - (c) Write a Python function that takes a number entered by user and checks whether the number is prime or not. **07**
- Q.4**
- (a) Write a python program to display current year, month and day separately using datetime module. **03**
 - (b) List and give brief explanation of different modes for opening a file in Python. **04**

(c) Write a Python program to copy the contents of a one .txt file to another .txt file. **07**

OR

Q.4 (a) Enlist various IDE available to program MicroPython program. **03**

(b) Describe try-except block with suitable example. **04**

(c) With the help of suitable example explain how can we read and write to a CSV file in python? **07**

Q.5 (a) What is micro python? Discuss unique features of micro python. **03**

(b) Write a micropython program to blink led pin connected to GPIO digital pin 1 to 4 of ESP8266 continuously. **04**

(c) Write a micropython program to read and print DHT Sensor data for ESP8266 continuously. **07**

OR

Q.5 (a) Discuss the steps of Installation of MicroPython on Hardware. **03**

(b) Explain the difference between python and micro python. **04**

(c) Write MicroPython program to read proximity sensor connected at Pin1, blink the LED if sensing is detected. **07**
