

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2023****Subject Code:3150312****Date:05-12-2023****Subject Name: Python Programming for Biomedical Engineers****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) What is a programming language? List out the advantages of high-level language.	03
	(b) Define a variable. How to assign values to them?	04
	(c) Write a short note on data types in Python.	07
Q.2	(a) Explain the syntax of for loop with an example.	03
	(b) Write a program to read the marks of four subjects and find the average of them	04
	(c) Briefly explain the conditional statements available in Python.	07
OR		
	(c) Write a program that uses a while loop to add up all the even numbers between 50 and 100.	07
Q.3	(a) Define function. What are the advantages of using a function?	03
	(b) Explain the advantages of *args and **kwargs with examples.	04
	(c) Write a function that finds the number of occurrences of a specified character in a string.	07
OR		
Q.3	(a) Differentiate between user-defined function and built-in functions.	03
	(b) Differentiate between local and global variables with suitable examples.	04
	(c) Write a program that accepts a string from the user and display the same string after removing vowels from it.	07
Q.4	(a) Explain the different list methods with an example	03
	(b) Define a dictionary. What are the advantages of using dictionary over lists.	04
	(c) Write a program to unpack a tuple to several variables.	07
OR		
Q.4	(a) Identify the primary differences between a list and a tuple.	03
	(b) Explain the usage of tuples and create an empty set.	04
	(c) Write a program that prompts the user to enter a text file, reads words from the file, and displays all the non-duplicate words in ascending order.	07
Q.5	(a) Explain zip() function with an example.	03
	(b) Explain the different file mode operations with examples.	04
	(c) Explain Series in Pandas with example.	07
OR		
Q.5	(a) Illustrate with an example how to read and write a csv file.	03
	(b) Explain Line Graphs and Bar Charts with the help of example in python.	04
	(c) Differentiate Numpy and Pandas.	07
