

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2022****Subject Code:3150312****Date:04-01-2023****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) Define the terms Programme and Programming Language.	03
(b) Enlist the advantages of the Python Programming Language.	04
(c) Explain with examples the Identifiers in context to Python Programming Language.	07
Q.2 (a) Explain in brief the Variable in Python.	03
(b) Explain in brief the Data Types in Python.	04
(c) Explain with examples the Keywords in context to Python Programming Language.	07
OR	
(c) Explain with examples the statements and expressions in context to Python Programming Language.	07
Q.3 (a) Explain with example the Del Statement for Lists.	03
(b) Explain in brief the Return statement and Void function.	04
(c) Differentiate with example the Built-In Functions and User-Defined Functions.	07
OR	
Q.3 (a) Give any method to Accessing Characters in the String.	03
(b) Discuss the process of creating and storing the Strings.	04
(c) Explain with example the Indexing and Slicing in Lists.	07
Q.4 (a) Explain with example the Nested if decision flow in Python.	03
(b) Enlist the Built-In Functions used on Dictionaries. Explain any one of them with example.	04
(c) Write a Python Programme to “Reading and Writing a CSV file.”	07
OR	
Q.4 (a) Explain with example the While loop in Python.	03
(b) Enlist the Built-In Functions Used on Tuples. Explain any one of them with example.	04
(c) Write a Python Programme to “Reading and Writing a Binary file.”	07
Q.5 (a) Define a dictionary. What are the advantages of using dictionary over lists?	03
(b) Explain with example any two Graphing (Line Graphs, Scatter Graph, Pie Charts, Bar Charts) with Python.	04
(c) Write a Python function to calculate the factorial of a number (a non-negative integer). The function accepts the number as an argument	07
OR	
Q.5 (a) Explain how to delete or remove elements from tuples and sets.	03

- (b) Write a technical note on NumPy and Pandas with Python. **04**
- (c) Write a program that accepts the lengths of three sides of a triangle as inputs. The program output should indicate whether or not the triangle is a right triangle. **07**
