

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER-V (NEW) EXAMINATION – WINTER 2020****Subject Code:3150312****Date:22/01/2021****Subject Name:Python Programming for Biomedical Engineers****Time:10:30 AM TO 12:30 PM****Total Marks:56****Instructions:**

1. Attempt any **FOUR** questions out of **EIGHT** questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Define the term 'Program'. What is a programming language? **03**
(b) Enlist the advantages of Python programming language over other languages. **04**
(c) Define the term 'Identifiers'. Explain them in context to Python programming in brief. **07**
- Q.2** (a) Explain type() function with an example. **03**
(b) Discuss the Machine language, Assembly language and High-level language. **04**
(c) Define the term 'Keywords'. Explain them in context to Python programming in brief. **07**
- Q.3** (a) Explain zip() function with an example. **03**
(b) Explain with example the if..else decision flow in context to Python programming. **04**
(c) Explain with example the For loop in context to Python programming. **07**
- Q.4** (a) Define a variable. How to assign values to them? **03**
(b) Explain with example the Nested if decision flow in context to Python programming. **04**
(c) Explain with example the While loop in context to Python programming. **07**
- Q.5** (a) Differentiate between local and global variables with suitable examples. **03**
(b) Explain how to delete or remove elements from tuples and sets. **04**
(c) Explain with syntax how to create a user-defined functions and how to call the user-defined function from the main function. **07**
- Q.6** (a) Differentiate between user-defined function and built-in functions **03**
(b) What is the use of the len() function? Give one example. **04**
(c) Represent the methodology for Reading and Writing CSV Files in Python. **07**
- Q.7** (a) What is slice operation? Explain with an example. **03**
(b) Explain the different list methods with an example. **04**
(c) Write a technical note on NumPy and Pandas with Python. **07**
- Q.8** (a) Define a dictionary. What are the advantages of using dictionary over lists? **03**
(b) Briefly explain the slice operation of tuples with an example. **04**
(c) Explain with example the Graphing (Line Graphs, Scatter Graph, Pie Charts, Bar Charts) with Python. **07**
