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

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