

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-V (NEW) EXAMINATION – SUMMER 2021****Subject Code:3150312****Date:07/09/2021****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
<b>Q.1</b>	(a) Discuss Thrust areas of Python.	<b>03</b>
	(b) Give difference between Identifiers & Keywords.	<b>04</b>
	(c) Describe different Programming Languages.	<b>07</b>
<b>Q.2</b>	(a) Write a program to convert temperature from centigrade (read it as float value) to Fahrenheit.	<b>03</b>
	(b) Write a short note on data types in Python.	<b>04</b>
	(c) Discuss Software Development stages.	<b>07</b>
<b>OR</b>		
	(c) Provide List of Assignment and Comparison Operators with its description.	<b>07</b>
<b>Q.3</b>	(a) Differentiate between user-defined function and built-in functions.	<b>03</b>
	(b) Differentiate the syntax of if...else and if...elif...else with an example.	<b>04</b>
	(c) Briefly explain the conditional statements available in Python.	<b>07</b>
<b>OR</b>		
<b>Q.3</b>	(a) Differentiate between local and global variables with suitable examples.	<b>03</b>
	(b) Explain the syntax of for loop with an example.	<b>04</b>
	(c) Write A Program to Check If a 3 Digit Number Is Armstrong Number or Not	<b>07</b>
<b>Q.4</b>	(a) Explain the advantages of *args and **kwargs with examples.	<b>03</b>
	(b) Differentiate between the following. <ol style="list-style-type: none"> <li>1. isidentifier() and isnumeric()</li> <li>2. split() and splitlines()</li> </ol>	<b>04</b>
	(c) Write a program that creates a list of 10 random integers. Then create two lists by name odd_list and even_list that have all odd and even values of the list respectively.	<b>07</b>
<b>OR</b>		
<b>Q.4</b>	(a) Write Python Program to Count the Number of Times an Item Appears in the List	<b>03</b>
	(b) Discuss Various Dictionary Methods.	<b>04</b>
	(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.	<b>07</b>
<b>Q.5</b>	(a) Identify the primary differences between a list and a tuple?	<b>03</b>
	(b) Write a program to unpack a tuple to several variables.	<b>04</b>
	(c) Briefly explain NumPy and Pandas module.	<b>07</b>
<b>OR</b>		
<b>Q.5</b>	(a) Explain the different file mode operations with examples.	<b>03</b>
	(b) Explain how to delete or remove elements from tuples and sets.	<b>04</b>
	(c) Plot a Line Graph of ECG stored in CSV file using Matplotlib module.	<b>07</b>