

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2023****Subject Code:3150713****Date:05-12-2023****Subject Name: Python for Data Science****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) Why python is very popular language in 21 st Century?	03
	(b) Write any four-python command that demonstrate Python as calculator.	04
	(c) Write a python program to display the Fibonacci sequence up to n th term.	07
Q.2	(a) Explain with example use of range () function in python.	03
	(b) Explain the phases of Data Science Pipeline.	04
	(c) List the different data structure used in python. Explain any three with example of each.	07
OR		
	(c) Write a Python program to input the string from user and count number of Vowel in given string.	07
Q.3	(a) What is the use of magic function in python? Explain with the help of example.	03
	(b) Explain the use of following libraries of python in data science. <ol style="list-style-type: none"> i. Matplotlib ii. Scikit-learn 	04
	(c) Write a python code to read the local image, obtain statistics about that image, and display the image onscreen.	07
OR		
Q.3	(a) Write a python code to print current date and time.	03
	(b) Write the difference between numpy and pandas.	04
	(c) Describe the three levels of flat-file dataset. Explain any two with the help of example.	07
Q.4	(a) List the different line styles used in charts.	03
	(b) Explain with the example use of axes () and grid () method in plots.	04
	(c) Write a python code to draw two lines on plot. Both lines should be depicted with different colors.	07
OR		
Q.4	(a) What is the use of %matplotlib inline command?	03
	(b) What is the use of labels and legends in plot? Explain with example.	04

- (c) Write a python code to draw a bar chart utilizing at least three properties of it. **07**
- Q.5** (a) Explain Classification and clustering class of Scikit-learn. **03**
- (b) Illustrate the concept of regression class of Scikit-learn with the help of small example. **04**
- (c) What is the use of hashing trick and hash function in Scikit-learn? Explain in detail with example. **07**
- OR**
- Q.5** (a) What do you mean by categorical data? Explain with small example. **03**
- (b) Explain the use of skew () and kurtosis () function. **04**
- (c) Explain EDA approach in detail. **07**
