

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2021****Subject Code:3150713****Date:15/12/2021****Subject Name:Python for Data Science****Time:02:30 PM TO 05:00 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)	What is the role of Python in Data science?	03
	(b)	Differentiate List and Tuple in Python	04
	(c)	Explain data science pipeline in details.	07
Q.2	(a)	What is HTML parsing?	03
	(b)	Write a python code to find factorial of number using function.	04
	(c)	Explain Dictionary in Python with example	07
OR			
	(c)	Is String a mutable data type? Also explain the string operations length, indexing and slicing in detail with an appropriate example	07
Q.3	(a)	List and explain any three Magic function.	03
	(b)	Explain Slicing rows and columns with example.	04
	(c)	What do you mean by missing values? Explain the different ways to handle the missing value with example.	07
OR			
Q.3	(a)	What is Categorical Variables? Explain it with example.	03
	(b)	How to read data from relational database? Briefly explain it.	04
	(c)	What is the use of following operations on Panda's Data Frames? Explain with a small example of each. 1. shape 2. tail() 3. describe()	07
Q.4	(a)	Explain hist() function with code.	03
	(b)	Write a program using Numpy to count number of "C" element wise in a given array.	04
	(c)	What do you understand by Data visualization? Discuss some Python's data visualization techniques.	07
OR			
Q.4	(a)	Explain bar() function with code.	03
	(b)	What are the different ways to remove duplicate values from dataset?	04
	(c)	Write a simple python program that draws a line graph where x = [1,2,3,4] and y = [1,4,9,16] and gives both axis label as "X-axis" and "Y-axis".	07
Q.5	(a)	What is Scikit-learn?	03
	(b)	Explain Box plot with example.	04

- (c) Write a Python programming to create a pie chart with a title of the popularity of programming Languages. **07**

Sample data:

Programming languages: Java, Python, PHP, JavaScript, C#, C++

Popularity: 22.2, 17.6, 8.8, 8, 7.7, 6.7

OR

- Q.5**
- (a) Define covariance and correlation **03**
- (b) Explain scatterplots with example. **04**
- (c) What is Data Wrangling process? Define data exploratory data analysis? Why EDA is required in data analysis? **07**

*****All THE BEST*****