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*******