Enrolment No./Seat No_____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–V EXAMINATION – SUMMER 2025

Subject Code:3150713 Date:13-05-2025

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)**	Explain range() function of python with suitable example.	**03**
	(b)	Write a short note on List.	**04**
	(c)	Write a python program to display the Fibonacci series. Number of terms will be inputted by user.	**07**
Q.2	**(a)**	Why data visualization is important in Data Science?	**03**
	(b)	List and Explain advantages & disadvantages of Python in context of Data Science.	**04**
	(c)	Explain different stages of the data science pipeline.	**07**
		OR	
	(c)	Explain HTML parsing using Beautiful soup with suitable program.	**07**
Q.3	**(a)**	Differentiate NumPy and pandas.	**03**
	(b)	Write a program in Python to read .CSV file named “PDS. csv”. Display the contents of Column “Grade”. File contents are as follows, Roll No Grade 101 AA 102 BB 103 AB	**04**
	(c)	Explain use of categorical variable with the help of suitable program.	**07**
		OR	
Q.3	**(a)**	Write a program to read and display a text file named “PDS.txt”.	**03**
	(b)	Explain how to deal with the missing data.	**04**
	(c)	Explain time transformation with suitable program.	**07**
Q.4	**(a)**	Explain use of Labels, Annotations and Legends with suitable example.	**03**
	(b)	Explain pie chart with suitable example.	**04**
	(c)	Explain Bag of words model.	**07**
		OR	
Q.4	**(a)**	Explain histograms with suitable example.	**03**
	(b)	Explain bar chart with suitable example.	**04**
	(c)	Explain TF-IDF transformations.	**07**
Q.5	**(a)**	Explain of covariance and correlation in EDA.	**03**
	(b)	Explain skewness and kurtosis.	**04**

	(c)	What is the use of hashing trick and hash function in Scikit-learn? Explain in detail with suitable example.	**07**

OR

Q.5	**(a)**	What is the use of %timeit and %%timeit magic functions?	**03**
	(b)	Explain Z-score standardization.	**04**
	(c)	Explain EDA approach in detail.	**07**

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