

GUJARAT TECHNOLOGICAL UNIVERSITY**BE- SEMESTER– V EXAMINATION – SUMMER 2026****Subject Code:3150713****Date:21-05-2026****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) Discuss the role of indentation in python	3
	(b) What is the role of Python in Data science?	4
	(c) Write a python program to read data from CSV files using pandas and Explain any two operations on data.	7
Q. 2	(a) Explain Slicing rows and columns with example	3
	(b) List and explain any three Magic functions	4
	(c) What is the use of hash function in EDA? Express various hashing trick along with example	7
	OR	
	(c) What do you mean by Exploratory Data Analysis (EDA)? How t-test is useful for EDA?	7
Q. 3	(a) Explain join and merge functions in pandas with Example	3
	(b) Write a program to perform the following operation about Function 1. Function with multiple return values 2. Default arguments	4
	(c) What kind of data is analyzed with Bag of word model? Explain it with example.	7
	OR	
Q. 3	(a) Explain Z-score standardization	3
	(b) Write python program to demonstrate Tuple, list and Dictionary	4
	(c) Define the term Data wrangling. Explain the steps needed to perform data wrangling	7
Q. 4	(a) Explain hist() and bar()function with code	3
	(b) Write a python program to perform the following operation on Array (Create a single Program to demonstrate all) a. Create b. Insert Element c. Print Array d. Slice Array	4
	(c) Write a python program to demonstrate the concept of skewness and kurtosis	7
	OR	
Q. 4	(a) Explain any three functions from Scikit learn	3
	(b) Define the classification problem. How can it be solved using SciKit-learn?	4
	(c) List various types of graph/chart available in the pyplot of matplotlib library for data visualization. Explain any two of them in brief	7
Q. 5	(a) Write python program to find area of circle (user defined function)	3
	(b) Define the regression problem. How can it be solved using SciKit-learn?	4
	(c) Explain Labels, Annotation and Legends in MatPlotLib	7
	OR	
Q. 5	(a) Differentiate Supervised and Unsupervised learning	3
	(b) Write a brief note on NetworkX library	4
	(c) What are the different ways to remove duplicate values from dataset? Explain with Example	7