

GUJARAT TECHNOLOGICAL UNIVERSITY

BE- SEMESTER-V (NEW) EXAMINATION – WINTER 2024

Subject Code:3150713

Date:25-11-2024

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) Explain range() function with suitable examples	3
(b) Differentiate List and Tuple in Python	4
(c) Write a python program to read data from CSV files using pandas and Explain Slicing operation using appropriate examples.	7
Q. 2 (a) What do you mean by slicing operation in string of python? Write an example of slicing to fetch first name and last name from full name of person and display it	3
(b) Explain data science pipeline in details	4
(c) Define term n-gram. Explain the TF-IDF techniques	7
OR	
(c) What is the use of following operations on Panda's Data Frames? Explain with a small example of each. shape 2. tail() 3. describe()	7
Q. 3 (a) Explain Groupby function 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) Why we need to perform Z-score standardization in EDA? Justify it with example	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) Define covariance and correlation	3
(b) Define stemming. Explain the concept of stemming with example	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) Explain pie chart plot with appropriate examples	7
Q. 5 (a) Explain Labels, Annotation and Legends in Matplotlib	3
(b) Explain Regression with example	4

(c) Explain Hashing Trick in python with example 7

OR

Q. 5 (a) Differentiate Supervised and Unsupervised learning 3

(b) Write a brief note on NetworkX library 4

(c) What do you mean by missing values? Explain the different ways to handle the missing value with example 7
