

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-V (NEW) EXAMINATION – WINTER 2022****Subject Code:3150713****Date:04-01-2023****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.

- Q.1** (a) What is the role of python in data science? **03**  
 (b) Explain the input function of python that demonstrates type casting. **04**  
 (c) Explain following data structures of python with suitable example. **07**  
 1. String  
 2. List  
 3. Tuple  
 4. Dictionary
- Q.2** (a) Differentiate: C and Python. **03**  
 (b) How to format Date and Time in python. Explain it with example. **04**  
 (c) Give comparison between Numpy and Pandas. **07**  
**OR**  
 (c) Write a python code to read data from text file. **07**
- Q.3** (a) Explain %matplotlib magic function. **03**  
 (b) Explain stemming and stop words removal operation in python. **04**  
 (c) Write a python program to implement Fibonacci sequence for given input. **07**  
**OR**
- Q.3** (a) What are the magic functions in Jupyter? Explain with example. **03**  
 (b) With example explain the concept of bags of words model. **04**  
 (c) Write a python program that finds the factorial of a natural number n. **07**
- Q.4** (a) Explain labels, annotations and legends. **03**  
 (b) Explain with example how to parse XML and HTML. **04**  
 (c) Write a python code that demonstrate hashing trick. **07**  
**OR**
- Q.4** (a) Explain any three functions from Scikit learn. **03**  
 (b) Explain how to create data science pipeline. **04**  
 (c) Write a python program to demonstrate the concept of skewness and kurtosis. **07**
- Q.5** (a) Explain EDA in detail. **03**  
 (b) Write a python code to access data from web. **04**  
 (c) Write a small code to perform following operations on data: Slicing, Dicing, Concatenation, Transformation. **07**  
**OR**
- Q.5** (a) Explain Z-score standardization. **03**  
 (b) How to Obtain online graphics and multimedia. Explain with example. **04**  
 (c) Write a code to draw pie chart using python's library. **07**

\*\*\*\*\*