

**GUJARAT TECHNOLOGICAL UNIVERSITY**

**B.VOC- SEMESTER-VI EXAMINATION – SUMMER 2025**

**Subject Code:21160204**

**Date:16-05-2025**

**Subject Name: Python for Data Science**

**Time:10:30 AM TO 12:30 PM**

**Total Marks:50**

**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.

	<b>Marks</b>
<b>Q.1</b> (a) List and discuss the advantages of Python.	<b>05</b>
(b) Discuss datatypes in Python.	<b>05</b>
<b>Q.2</b> (a) Explain control structure in Python.	<b>05</b>
(b) Explain the phases of Data Science Pipeline.	<b>05</b>
<b>OR</b>	
(b) Explain functions of Scikit learn library.	<b>05</b>
<b>Q.3</b> (a) Explain EDA approach in detail.	<b>05</b>
(b) Write a python code to read the local image, obtain statistics about that image, and display the image onscreen.	<b>05</b>
<b>OR</b>	
<b>Q.3</b> (a) Explain DataFrame in Pandas with example.	<b>05</b>
(b) Write a small code to perform following operations on data: Slicing, Dicing, Concatenation, Transformation.	<b>05</b>
<b>Q.4</b> (a) Explain how to deal with missing data in Pandas.	<b>05</b>
(b) Explain Slicing rows and columns with example.	<b>05</b>
<b>OR</b>	
<b>Q.4</b> (a) Explain imputation in detail with example	<b>05</b>
(b) List various types of graph/chart available in the pyplot of matplotlib library for data visualization. Explain them in detail.	<b>05</b>
<b>Q.5</b> (a) Provide your views on Data wrangling with suitable example.	<b>05</b>
(b) Explain time series plot with appropriate examples.	<b>05</b>
<b>OR</b>	
<b>Q.5</b> (a) Explain importance of Legends, Labels and Annotations in Graphs.	<b>05</b>
(b) Explain Box plot with example.	<b>05</b>

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