

Enrollment No./Seat No.:

**GUJARAT TECHNOLOGICAL UNIVERSITY**  
**Bachelor of Vocation - SEMESTER - VI EXAMINATION - WINTER 2025**

**Subject Code: 21160204**

**Date: 18-11-2025**

**Subject Name: Python for Data Science**

**Time: 02:30 PM TO 04:30 PM**

**Total Marks: 50**

**Instructions**

- 1. Attempt all questions.**
- 2. Make Suitable assumptions wherever necessary.**
- 3. Figures to the right indicate full marks.**
- 4. Use of simple calculators and non-programmable scientific calculators are permitted.**

	<b>Marks</b>
<b>Q.1 (a)</b> Explain set and dictionary with its operation in detail.	<b>05</b>
<b>(b)</b> Write the python function in detail.	<b>05</b>
<b>Q.2 (a)</b> Explain the different types of operators available in Python with suitable examples.	<b>05</b>
<b>(b)</b> How is Python used in Data Science? Explain its importance with examples.	<b>05</b>
<b>OR</b>	
<b>(b)</b> Differentiate numpy and pandas in python.	<b>05</b>
<b>Q.3 (a)</b> How can Python be used to perform rapid prototyping and experimentation in data science projects?	<b>05</b>
<b>(b)</b> What is Exploratory Data Analysis ? explain the task which needs to be performed in it.	<b>05</b>
<b>OR</b>	
<b>(a)</b> Describe the HTML parsing using Beautiful soup .	<b>05</b>
<b>(b)</b> How to Keras makes things easy for deep learning ? Explain it.	<b>05</b>
<b>Q.4 (a)</b> Explain python magic functions with suitable example.	<b>05</b>
<b>(b)</b> Write python code to read the CSV file.	<b>05</b>
<b>OR</b>	
<b>(a)</b> Explain categorical data with example.	<b>05</b>
<b>(b)</b> Write the python code to read the local image, and display image onscreen.	<b>05</b>
<b>Q.5 (a)</b> Write the python code to draw the boxplots and bargraph.	<b>05</b>
<b>(b)</b> What is label and legends in plot ? Explain in detail.	<b>05</b>
<b>OR</b>	
<b>(a)</b> Explain the scatter plots with an example.	<b>05</b>
<b>(b)</b> Explain Slicing rows and columns with example.	<b>05</b>

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