

**GUJARAT TECHNOLOGICAL UNIVERSITY****B.VOC - SEMESTER- VI EXAMINATION – SUMMER 2024****Subject Code: 21160204****Date:21-05-2024****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) What is the role of python in data science?	<b>05</b>
	(b) List and explain operators used in Python.	<b>05</b>
<b>Q.2</b>	(a) Write the difference between numpy and pandas.	<b>05</b>
	(b) Explain the use of the following libraries of python in data science. 1) Matplotlib 2) Scikit-learn	<b>05</b>
	<b>OR</b>	
	(b) What are the core competencies needed to become a data scientist? Explain in brief.	<b>05</b>
<b>Q.3</b>	(a) What are the magic functions in python ? explain it with an example.	<b>05</b>
	(b) Write a python code to print current date and time	<b>05</b>
<b>OR</b>		
<b>Q.3</b>	(a) Write a python code to read a csv file.	<b>05</b>
	(b) Explain Slicing rows and columns with examples.	<b>05</b>
<b>Q.4</b>	(a) What is the use of labels and legends in plot? Explain with examples.	<b>05</b>
	(b) What do you understand by Data visualization? Discuss some Python's data visualization techniques.	<b>05</b>
<b>OR</b>		
<b>Q.4</b>	(a) Write a python code to draw a bar chart utilizing at least three properties of it	<b>05</b>
	(b) Explain Scatter plots with an example.	<b>05</b>
<b>Q.5</b>	(a) Explain EDA.	<b>05</b>
	(b) What are the fundamental steps in developing undirected and directed graphs for data visualization purposes?	<b>05</b>
<b>OR</b>		
<b>Q.5</b>	(a) What do you mean by categorical data? Explain with small example	<b>05</b>
	(b) How do histograms and boxplots differ in representing data distributions? explain it.	<b>05</b>

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