

Enrollment No./Seat No.:

GUJARAT TECHNOLOGICAL UNIVERSITY
Bachelor of Engineering - SEMESTER - VI EXAMINATION - WINTER 2025

Subject Code: 3165202

Date: 17-11-2025

Subject Name: Data Visualization

Time: 02:30 PM TO 05:00 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) What is data visualization? Why is it important in data analysis?	03
(b) Describe the main features of Python libraries used for data visualization.	04
(c) Explain the role and importance of visualization tools in understanding large datasets.	07
Q.2 (a) List any three commonly used data visualization tools and describe one practical use case for each.	03
(b) Explain the importance of titles, labels, and legends in a chart.	04
(c) Compare Python-based visualization tools with Business Intelligence tools (Power BI or Tableau) in terms of usage and flexibility.	07
OR	
(c) Explain the basic components of Matplotlib and describe how it helps visualize numerical data.	07
Q.3 (a) What is the use of Matplotlib in Python?	03
(b) Differentiate between a Bar Chart and a Line Chart with examples.	04
(c) Describe different types of charts that can be created using Matplotlib and mention when each is useful.	07
OR	
(a) Define Histogram and mention where it can be used.	03
(b) Explain the difference between Matplotlib and Seaborn.	04
(c) Explain the features and advantages of Seaborn for creating advanced visualizations.	07
Q.4 (a) What is a Word Cloud? Write one use of it.	03
(b) Write a short note on the Data Pane and Marks Card in Tableau.	04
(c) What is spatial data visualization? Explain with an example how it helps in real-world data analysis.	07

OR

- (a) What is a Waffle Chart? Explain its purpose and mention one example where it can be used. 03
 - (b) Explain the steps involved in connecting a data source in Tableau. 04
 - (c) Describe the important menu options in Tableau and how they support data visualization. 07
- Q.5**
- (a) What is the function of Data Interpreter in Tableau? 03
 - (b) Explain the role of the “Show Me” panel in Tableau. How does it help users in selecting suitable visualizations for their data? 04
 - (c) Explain the procedure for creating different types of graphs (bar, pie, line) in Tableau. 07
- OR**
- (a) List any three types of graphs commonly used in Tableau. 03
 - (b) What are filters in Tableau? Explain how filters improve the accuracy and clarity of data visualizations. 04
 - (c) Describe the steps to create a dashboard and explain its importance in data analysis. 07
