

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI EXAMINATION – SUMMER 2025

Subject Code: 3161613

Date: 26-05-2025

Subject Name: Data Analysis and Visualization

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.

		MARKS
Q.1	(a) Define: probability and inferential statistics.	03
	(b) Write a note on data visualization.	04
	(c) Discuss working of classification in brief.	07
Q.2	(a) Discuss outliers with its detection techniques.	03
	(b) Write a note on dimensionality reduction.	04
	(c) Explain working of random forest algorithm.	07
	OR	
	(c) Explain working of k-nearest neighbor algorithm with suitable example.	07
Q.3	(a) Discuss over fitting problem.	03
	(b) Explain working of average nearest neighbor algorithm.	04
	(c) Write the differences between supervised learning and unsupervised learning.	07
	OR	
Q.3	(a) Write a note on nearest neighbor analysis.	03
	(b) Discuss clustering technique with suitable example.	04
	(c) Explain working of tree pruning.	07
Q.4	(a) Write a note on time series analysis.	03
	(b) Briefly discuss use of D3.js for data visualization with its pros and cons.	04
	(c) Write a note on D3-DOM selection methods with appropriate examples.	07
	OR	
Q.4	(a) Discuss the most appropriate design style in data visualization.	03
	(b) Briefly discuss comparative graphics.	04
	(c) Write a note on big three principles of data visualization.	07
Q.5	(a) Write a note on tableau public.	03
	(b) Discuss data visualization graphs.	04
	(c) Explain HTML and DOM in data visualization with the help of appropriate example.	07
	OR	
Q.5	(a) Write a note on plotly for data visualization.	03
	(b) Explain popular web analytics applications used by data scientist.	04
	(c) Discuss various points to design dashboard for data visualization.	07
