Q.P.Code:23CS0918	R23	H.T.No.									

SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)
B.Tech. III Year II Semester Regular Examinations April-2026
DATA VISUALIZATION
CSE (Artificial Intelligence and Data Science)

Time: 3 Hours **Max. Marks: 70**

PART-A
(Answer all the Questions **10 x 2 = 20** Marks)

1	a	What is a pre-attentive attribute?	CO1	L2	2M
	b	Name tools used for data visualization.	CO1	L1	2M
	c	Write two advantages of using a scatter plot for quantitative data.	CO2	L1	2M
	d	What is the purpose of boxplots in data visualization?	CO2	L1	2M
	e	Mention some features of a Sunburst Chart.	CO3	L1	2M
	f	Write challenges in Network Visualization.	CO3	L1	2M
	g	List two types of charts that can be created using Panda's visualization capabilities.	CO4	L1	2M
	h	Mention one advantage of using Plotly over Matplotlib for data visualization.	CO4	L1	2M
	i	Define storytelling in data visualization.	CO5	L1	2M
	j	Give examples of a misleading visualization.	CO5	L1	2M

PART-B
(Answer all Five Units **5 x 10 = 50** Marks)

UNIT-I

2	a	Define data visualization and discuss its importance in modern data analysis.	CO1	L1	5M
	b	Explain the scope of data visualization across multiple domains.	CO1	L2	5M
		OR			
3	a	Explain pre-attentive attributes with examples.	CO1	L1	5M
	b	Explain Gestalt principles of perception with diagrams.	CO1	L2	5M

UNIT-II

4	a	Differentiate between line charts and bar charts with neat sketch.	CO2	L1	5M
	b	Write a short note on scatter plots.	CO2	L2	5M
		OR			
5	a	What are the best practices for axis titles, legends, and data labels?	CO2	L1	5M
	b	Discuss the role of coloring and scaling in charts.	CO2	L2	5M

UNIT-III

6		Explain the concept of Parallel Coordinates with an example. How are they used for multivariate data analysis.	CO3	L1	10M
		OR			
7		Explain the role of Geographic Data Visualization. Compare Maps and Choropleths with use cases.	CO3	L1	10M

UNIT-IV

8	a	Discuss the data visualization capabilities of Pandas.	CO4	L1	4M
	b	Explain the step-by-step procedure to create an interactive dashboard using Dash framework.	CO4	L2	6M
		OR			
9	a	What is the main difference between Matplotlib and Seaborn in Python visualization?	CO4	L1	
	b	List two types of charts that can be created using Panda's visualization capabilities.	CO4	L2	

UNIT-V

10	a	Discuss the principles of dashboard design and their application in business reporting for effective decision-making.	CO5	L1	
	b	Identify and describe the key narrative techniques used in data storytelling.	CO5	L1	
		OR			
11	a	Name two narrative techniques used in data storytelling.	CO5	L1	
	b	Mention ethical principles to follow in data visualization.	CO5	L3	

***** END *****