



R22 Regulation

Subject code:406FA

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech VI Semester Regular Examinations, May 2025

DATA VISUALIZATION

(IT)

Maximum Marks: 60

Date: 25.06.2025

Duration: 3 hours

- Note:**
1. This question paper contains two parts, A and B.
 2. Part A is compulsory, which carries 10 marks. Answer all questions in Part A.
 3. Part B consists of 5 Units. Answer any one full question from each unit.
 4. Each question carries 10 marks and may have a, b, c, or d as sub-questions.

Part-A

All the following questions carry equal marks (10X1M=10 Marks)		Marks	CO	Bloom Tx
1.a)	Why is visualization important?	1M	1	L1
b)	What is the difference between Visualization and computer graphics?	1M	1	L1
c)	What are the eight visual variables?	1M	2	L1
d)	What are the Visualization stages?	1M	2	L1
e)	List the Line-Based Techniques.	1M	3	L2
f)	List the Visualization Techniques for graphs.	1M	3	L1
g)	What is Data space in document visualization.	1M	4	L1
h)	State Visualization Space.	1M	4	L1
i)	What are the Problems in Designing Effective Visualizations?	1M	5	L1
j)	List the Visualization Characteristics.	1M	5	L1

Part-B

Answer all the following questions. (5X10M=50Marks)		Marks	CO	Bloom Tx
2	a. What is the history of data visualization? Explain in detail b. Explain the relationship between Visualization and other fields in data visualization techniques.	5M 5M	1	L2 L2
OR				
3	a. Explain in detail a scatter plot. b. Describe Data Preprocessing, Analysis & Visualization.	5M 5M	1	L2 L2
4	a. Explain briefly about the semiology of graphical symbols. b. Explain taxonomy of visualization techniques.	5M 5M	2	L2 L2
OR				
5	a. Describe in detail about Eight Visual Variables. b. Demonstrate the Visualization Techniques for Geospatial Data.	5M 5M	2	L2 L2
6	a. Illustrate the Point-Based Techniques in detail. b. Elaborate the Region-Based Techniques.	5M 5M	3	L2 L2
OR				

7	a. Summarize the Visualization Techniques for Trees. b. Differentiate between Displaying Hierarchical Structures and Displaying Arbitrary Graphs.	5M 5M	3	L2 L3
8	a. Describe the Vector Space Model in detail. b. Explain Levels of Text Representations.	6M 4M	4	L5 L4
OR				
9	a. Explain the tools and Libraries for Interactive Text Visualizations. b. Explain the Key Concepts of Animating Transformations.	5M 5M	4	L2 L2
10	a. Explain the Steps in Designing Visualizations. b. Classify and explain the User Characteristics and Data Characteristics.	4M 6M	5	L2 L4
OR				
11	a. Summarize the Visualization Systems. b. Write a short note on Modern Integrated Visualization Systems.	5M 5M	5	L2 L2