R20 Regulation *Subject code: 3P4HC*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

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

B.Tech IV Semester Supplementary Examinations, June 2026

DATA VISUALIZATION

(CSE(DS))

Maximum Marks: 70 Date: 17.06.2026 Duration: 3 hours

Note: **1.This question paper contains two parts A and B.**
2. Part A is compulsory which carries 20 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, d as sub questions.

Part-A

All the following questions carry equal marks (10X2M=20 Marks)		Marks	CO	BTL
1	What is Data and explain it sources?	2M	1	L1
2	What are the 7 steps of Data Visualization?	2M	1	L1
3	Define Semiology.	2M	2	L1
4	Define Spatial Data.	2M	2	L1
5	What are network maps?	2M	3	L1
6	What are Different types of mapping available in Data visualization?	2M	3	L1
7	What is Tag cloud?	2M	4	L1
8	What are Document Cards?	2M	4	L1
9	Define Data Visualization?	2M	5	L1
10	Write about labels and legends.	2M	5	L1

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	BTL
11	A. Explain the Types of aggregation with mathematical functions in detail for a sample Dataset. B. Explain Neighborhood averaging filtering.	5M 5M	1	L2
	OR			
12	A. Explain Raster and Vector image formats with differences and need for transformation. B. List out the problems with data pre-processing.	5M 5M	1	L2
13	A. Explain Taxonomy of Visualization Goal by keller and keller. B. Explain multiple dimensions of Data with examples.	5M 5M	2	L2
	OR			
14	A. Explain KEM Taxonomy. B. Explain the process of probing two dimensional data.	4M 6M	2	L2
15	A. Explain the process of visualizing area Data. B. Explain the process of dimension sub setting in detail with neat figures and example.	5M 5M	3	L2

	OR			
16	Explain in detail about line-based techniques.	10M	3	L2
17	Explain briefly single and multiple document visualization techniques with examples.	10M	4	L2
	OR			
18	Discuss the vector space model with examples and list the applications in various sectors.	10M	4	L2
19	A. Explain any one modern integrated visualization system with its advantages and disadvantages. B. Illustrate any two visualization systems based on Analysis type.	5M 5M	5	L2
	OR			
20	A. Explain the process of cluster detection in brief. B. Explain the process of outlier detection in detail.	5M 5M	5	L2