

CCode No.: DS742PE

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**CMR ENGINEERING COLLEGE: : HYDERABAD
UGC AUTONOMOUS**

**IV-B.TECH-I-Semester End Examinations (Supply) - April- 2024
DATA VISUALIZATION
(CSD)**

[Time: 3 Hours]

[Max. Marks: 70]

Note: This question paper contains two parts A and B.

Part A is compulsory which carries 20 marks. Answer all questions in Part A.

Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART-A

(20 Marks)

1. a) What is infographics? [2M]
- b) State the basic steps for initialization of canvas. [2M]
- c) Write the procedure for converting JSON data into a structured table format for display. [2M]
- d) How to configure the columns of a data table to display specific information? [2M]
- e) Describe the steps involved in creating a simple column chart using HTML5 Canvas. [2M]
- f) What options does Google Charts provide for working with chart animations? [2M]
- g) What is the purpose of `d3.selectAll()`? [2M]
- h) What are Data-Joins? . [2M]
- i) How to make "Play" button trigger the animation or update process in a D3 chart? [2M]
- j) What are interactive buttons in the context of D3 charts? [2M]

PART-B

(50 Marks)

2. Explain the key factors of Data visualization and the concept of simultaneous acquisition and visualization of data. [10M]
- OR**
3. Discuss advanced visualization techniques in detail. [10M]
 4. Design a simple table using HTML and describe the necessary HTML elements involved. [10M]
- OR**
5. What is the DataTables library, and how does it simplify the process of working with data tables in web applications? [10M]
 6. How can animations be added to HTML5 Canvas charts, and why are they important for enhancing data visualization? [10M]
- OR**
7. How to create a basic bar chart using the Google Charts API, and what data formats does it support? [10M]
 8. Explain Chaining methods with an example. [10M]
- OR**
9. Illustrate with an example, the process of changing the color attribute of an SVG element using D3's `.attr()` method. [10M]
 10. What advantages does encapsulating the update phase in a function offer when implementing a "Play" feature in a D3 chart? [10M]
- OR**
11. Explain the code or functionality that allows users to interrupt a D3 chart's play sequence. [10M]
