

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER-VI(NEW) EXAMINATION – WINTER 2022****Subject Code:3160717****Date:15-12-2022****Subject Name:Data Visualization****Time:02:30 PM TO 05:00 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.

- Q.1** (a) What is Acquiring and Visualizing Data? **03**  
 (b) Describe Simultaneous acquisition and visualization. **04**  
 (c) What is charting Primitives? List all types of Charts and explain Pie Chart and Area Chart. **07**

- Q.2** (a) Define following terms: Candlestick Charts, Bubble Charts, and Surface Charts. **03**  
 (b) Why is HTML5 so important to data visualization? **04**  
 (c) How to use the HTML5 canvas to render dynamic column charts? **07**
- OR**
- (c) How to use the Google Charts API to render a pie chart for sales data of various electronic devices. **07**

- Q.3** (a) What is Infographics explain with example. **03**  
 (b) How the HTML5 canvas differs from SVG graphics tools. **04**  
 (c) List down installation setup steps of D3. **07**

**OR**

- Q.3** (a) How can we deal with Asynchronous requests? **03**  
 (b) Explain CSS-style selectors with example. **04**  
 (c) How to use the Google Charts API to animate a bar chart? **07**

- Q.4** (a) Which Data formats you can use with D3? **03**  
 (b) Explain Data joins, interactive buttons with examples. **04**  
 (c) Describe Loading and Filtering External Data in data visualization. **07**

**OR**

- Q.4** (a) Prepare column chart using the HTML5 canvas. **03**  
 (b) Explain how you can allow the user to interrupt the play? **04**  
 (c) Explain steps to create and upload data in D3. **07**

- Q.5** (a) Explain Scalable Vector Graphics. **03**  
 (b) Develop Following Program Using HTML5 and Google Chats API and Map API Using Google Charts API Basics draw charts like a Line chart **04**  
 (c) Develop Following Program Using HTML5 and JavaScript Read JSON Data and draw Data Table. **07**

**OR**

- Q.5** (a) Enlist Dashboard design issues in Data Visualization. **03**  
 (b) Develop Following Program Using HTML5 and JavaScript Read the data from XML file and draw Simple Chart **04**  
 (c) Develop Following Program Using HTML5 and D3.js and Canvas.js Showing the Data as a column chart for four age group. **07**

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