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**PRESIDENCY UNIVERSITY
BENGALURU**

SET-B

**SCHOOL OF ENGINEERING
END TERM EXAMINATION – MAY/JUNE 2024**

Semester : Semester VIII - 2020

Course Code: CSE3138

Course Name: Data Visualization and Decision

Making Systems

Program : B.Tech.

Date : MAY 31-2024

Time : 9:30 AM- 12:30 PM

Max Marks :100

Weightage : 50%

- Note:** 1. Answer ALL 5 FULL Questions.
2. Each Full Question carries 20 Marks
3. Scientific and non-programmable calculator are permitted.
4. Do not write any information on the question paper other than Roll Number.

- 1.a. Recite Applications of Data Visualization. [Knowledge] (C01) (04 Marks)
1.b. Tabulate data visualization Process. [Comprehension] (C01) (06 Marks)
1.c. Illustrate historical perspectives and milestones in the development of data visualisation [Application] (C01) (10 Marks)

OR

- 2.a. List the Best Practices in Data Visualization. [Knowledge] (C01) (04 Marks)
2.b. Contrast Colour usage, Clarity and Relevance. [Comprehension] (C01) (06 Marks)
2.c. Data visualization is a powerful technique. Predict Pros and Cons. [Application] (C01) (10 Marks)

- 3.a. Summarize Animated Visualizations [Knowledge] (C02) (04 Marks)
3.b. Illustrate bivariate analysis. [Comprehension] (C02) (06 Marks)
3.c. Sandeep has made a note of the scores of his classmates in a drawing assignment as 12, 19,36, 33, 27, 19, 9, 66, 55, 44, 42, 71, 37, 39, 28, and 25. Help John find the interquartile range and outlier(s) for this set of marks. Solve this by using the outlier formula. [Application] (C02) (10 Marks)

OR

- 4.a. Outline Filtering and Selection related to data visualization. [Knowledge] (C02) (04 Marks)
4.b. Generalize Dynamic Dashboards. [Comprehension] (C02) (06 Marks)
4.c. Examine key aspects and techniques for creating interactive (C02) (10 Marks)

visualisations for data exploration. **[Application]**

- 5.a. List the steps can be used to create a line chart. **[Knowledge]** (C03) (04 Marks)
- 5.b. Draw the horizontal bar graph for the given data set between the number of people and their preferred beverage. **[Comprehension]** (C03) (06 Marks)

Preferred Beverages				
Water	Tea	Coffee	Orange Juice	Lemon Juice
45	25	30	25	40

- 5.c. Classify any two charts with example. **[Application]** (C03) (10 Marks)
- OR**
- 6.a. Describe compound line chart with example. **[Knowledge]** (C03) (04 Marks)
- 6.b. Review different applications of graph analytics. **[Comprehension]** (C03) (06 Marks)
- 6.c. Examine Graph Analysis with example. **[Application]** (C03) (10 Marks)
- 7.a. Generalize. Visual Decision-Making. **[Knowledge]** (C04) (04 Marks)
- 7.b. Compare Integration of DSS with Visual Decision-Making. **[Comprehension]** (C04) (06 Marks)
- 7.c. The integration of visualization with machine learning and predictive analytics is a powerful approach that enhances the understanding, interpretation, and communication of complex models and data-driven insights. By combining visualization techniques with machine learning algorithms and predictive analytics, organizations can extract actionable insights from large datasets, identify patterns, and make informed decisions. Here's how these components integrate. **[Application]** (C04) (10 Marks)

OR

- 8.a. Defend Explain ability and Interpretability. **[Knowledge]** (C04) (04 Marks)
- 8.b. Translate Communication and Collaboration. **[Comprehension]** (C04) (06 Marks)
- 8.c. Visual analytics is a multidisciplinary field that combines data analysis techniques with interactive visualizations to help people make sense of complex Data-Predict the concept. **[Application]** (C04) (10 Marks)
- 9.a. Interpolate different types of bar graph with example. **[Knowledge]** (C05) (04 Marks)
- 9.b. Draw a bar graph for the given data set. **[Comprehension]** (C05) (06 Marks)

Favorite Color		
Color	Girls	Boys
Red	10	15
Blue	12	11

Pink	7	7
Green	15	13
Brown	6	4

- 9.c Prepare interactive dashboard and illustrate with example. **[Application]** (C05) (10 Marks)
- OR**
- 10.a Explain the components of a DSS. **[Knowledge]** (C05) (04 Marks)
- 10.b Describe Model Training and Evaluation. **[Comprehension]** (C05) (06 Marks)
- 10.c Examine Decision Support Systems. **[Application]** (C05) (10 Marks)