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(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2022 ONLY) REG.NO. :

22UDA517

N.G.M.COLLEGE (AUTONOMOUS) : POLLACHI

END OF SEMESTER EXAMINATIONS : NOVEMBER 2024

BSC CS WITH DA **MAXIMUM MARKS: 50**

SEMESTER-V **TIME : 3 HOURS**

22UDA517– DATA VISUALIZATION

SECTION – A (10 X 1 = 10 MARK)

ANSWER THE FOLLOWING QUESTIONS.

1. What is the primary purpose of data visualization?_____

   A) To store data B) To analyze data

   C) To communicate insights D) To create databases

2. What is the primary technique used for visualizing line data in spatial visualization?_____

   A) Heat maps B) Line graphs C) Scatter plots D) Choropleth maps

3. Which of the following techniques is NOT typically used for visualizing multivariate data?_____

   A) Point-Based Techniques B) Heatmaps

   C) Pie Charts D) Region-Based Techniques

4. What is the first step for creating a visualization in Tableau?_____

   A) Creating calculations B) Building a dashboard

   C) Connecting to your data D) Exporting the visualization

5. What feature in Power BI allows users to keep their data current?_____

   A) Data Import B) Data Refresh C) Data Export D) Data Visualization

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES

6. What is the primary purpose of data pre-processing in visualization?
7. Name one technique used for visualizing two-dimensional data
8. What is a point-based technique in multivariate data visualization?
9. What is Tableau primarily used for?
10. What is the purpose of sharing a dashboard in Power BI?

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SECTION – B (5 X 3 = 15 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

11. a)Explain the role of the user in the visualization process.

(OR)

b)What are the key steps in data preprocessing?

12. a)How is two-dimensional spatial data visualized? Explain with an example.

(OR)

b)What are some common challenges when visualizing geospatial data? Explain.

13. a)Describe point-based techniques for visualizing multivariate data.

(OR)

b)What is a hierarchical structure, and how is it visualized? Explain

14. a)How do you connect to data in Tableau, and what are the types of data sources supported?Discuss.

(OR)

b)What is the purpose of calculations in Tableau, and how do you create one? Explain.

15. a)What are the key features of Power BI Desktop? Explain.

(OR)

b)Explain the process of sharing a Power BI dashboard.

SECTION – C (5 X 5 = 25 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.

16. a)Explain the relationship between visualization and other fields like statistics, computer science, and human-computer interaction (HCI)..

(OR)

b)Describe the structure within and between records in a dataset. How does it impact data analysis?

17. a)Compare and contrast the visualization techniques for one-dimensional and three-dimensional spatial data. **(OR)**

b)How will you visualize the Point, Line and Area data? Explain its technique in detail.

18. a)Explain the importance of combining multiple visualization techniques for multivariate data. **(OR)**

b)Discuss the challenges of displaying arbitrary graphs and networks. How can these challenges be mitigated?

19. a)Describe the process of building a basic interactive dashboard in Tableau.

(OR)

b) What are the key advantages of using Tableau over traditional spreadsheets for data analysis?

20. a)Explain the differences between Power BI Desktop and Power BI Service.

(OR)

b)Discuss the significance of data refresh in Power BI and how it can be managed.

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