KAMARAJ COLLEGE (Autonomous)

Accredited with A+ Grade by NAAC

(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)

THOOTHUKUDI – 628 003

(6 Pages)   Reg. No: ………………………………………

Question Code No : 25O03210   **Course Code : 24PSAI31**

PG Degree - End Semester Examinations, November 2025

Third Semester

M.Sc. COMPUTER SCIENCE WITH AI

Data Visualization Tools

(For those who joined in July 2024 onwards)

Time : 3Hours   **Maximum : 75 Marks**

PART – A (10 × 1 = 10 Marks)

Answer ALL Questions

Choose the correct answer:

1. Identify the types of data suitable for visualization.

   (a) Qualitative and quantitative   (b) Logical and conditional

   (c) Binary and decimal   (d) Sequential and random

2. Difference between qualitative and quantitative data in visualization is

   (a) Qualitative – numerical; Quantitative – textual

(b) Qualitative – categorical; Quantitative – numerical

(c) Both are numerical

(d) None

3. Identify the primary function of Tableau.

(a) To visualize data interactively

(b) To store big data

(c) To write SQL queries

(d) To design websites

4. Interpret the use of shortcuts in Tableau data connection.

(a) To speed up connection process

(b) To reduce file size

(c) To edit workbook layout

(d) To delete fields

5. Define Power BI.

(a) A data visualization and business analytics tool

(b) A programming IDE

(c) A web browser

(d) A cloud storage service

6. Distinguish between report and dashboard in Power BI.

(a) Report – multiple pages; Dashboard – single page

(b) Report – cloud only; Dashboard – local

(c) Both are identical

(d) None

7. Recall the purpose of the Query Editor in Power BI Desktop.

(a) To clean and transform data

(b) To design dashboards only

(c) To print visuals

(d) To share reports

8. Why sorting months is important in time-series visuals?

(a) Ensures correct chronological order

(b) Adds random sorting

(c) Removes duplicates

(d) Hides values

9. Why improving reports with measures enhances performance?

(a) Reduces computation load

(b) Increases redundancy

(c) Reduces accuracy

(d) None

10. List any two examples of DAX measures used for business reports.

(a) SUM(), AVERAGE()

(b) MAX(), DELETE()

(c) UPDATE(), PRINT()

(d) None

PART – B (5 X 5 = 25 Marks)

Answer ALL Questions choosing either (a) or (b).
Answer should not exceed 250 words.

11. (a) Illustrate the process of transforming raw data into visual formats.

   (OR)

   (b) Analyze data types and choose the best visualization method for each.

12. (a) Demonstrate how to connect Tableau to a cloud-based data source.

   (OR)

   (b) Compare the features of file and server connections in Tableau.

13. (a) Apply Power BI to import a dataset and create a simple visualization.

   (OR)

   (b) Investigate challenges faced while connecting Power BI to cloud data sources.

14. (a) Implement data merging from different sources using Query Editor.

   (OR)

   (b) Compare Power BI's Query Editor with Excel's data

cleaning features.

15. (a) Compare performance differences between calculated columns and measures.

(OR)

(b) Demonstrate how to create and use a DAX measure in a Power BI report.

PART – C (5 X 8 = 40 Marks)
Answer ALL Questions choosing either (a) or (b).
Answer should not exceed 600 words.

16. (a) Evaluate the ethical issues involved in misleading data visualization.

(OR)

(b) Apply advanced visualization techniques to a multidimensional dataset.

17. (a) Create an interactive Tableau dashboard demonstrating insights from connected datasets.

(OR)

(b) Evaluate Tableau's ability to integrate with cloud databases for real-time analytics.

18. (a) Design a comprehensive Power BI dashboard with multiple visual interactions.

(OR)

(b) Formulate guidelines for creating visually appealing and interactive reports.

19. (a) Create an end-to-end Power BI report demonstrating data connection, cleaning and time-series analysis.

(OR)

(b) Evaluate the effectiveness of using Query Editor for large dataset transformations.

20. (a) Analyze the process of creating calculated columns and implementing measures in reports.

(OR)

(b) Develop an automated report showing dynamic budget allocation using DAX formulas.