

TILAK MAHARASHTRA VIDYAPEETH, PUNE
MASTER OF COMPUTER APPLICATIONS
(Specialization in Data Science)
EXAMINATION : JANUARY - 2025
SEMESTER - III
Sub: Data Visualization (MCDS23-301)

Date : 07/01/2025

Total Marks : 60

Time: 10.00 am to 12.30 pm

Instruction:

1. All questions are compulsory unless and otherwise stated.
2. Bold figures to the right of every question are the maximum marks for that question.
3. Candidates are advised to attempt questions in order.
4. Answers written illegibly are likely to be marked zero.
5. Use of scientific calculators, Log tables, Mollier Charts is allowed.
6. Draw neat and labelled diagram wherever necessary.

Q.1. Answer the following in 2-3 lines. (Any 5) (10)

1. What is the significance of Power Query in data preparation?
2. Name two advantages of using Power BI over traditional reporting tools.
3. Define the role of a data source library in Power BI.
4. What are Statistical Functions in DAX?
5. What is the purpose of slicers in Power BI visualizations?
6. What is the difference between PBIX and PBIT Files with Power BI ?
7. What is DAX, and how is it used in advanced data analysis?

Q. 2. Answer the following in short. (Any 4) (20)

1. Explain the importance of Power Pivot in data modeling and analysis
2. Why Python is used in Power BI?
3. Describe the architecture of Power BI and its components.
4. What is the time intelligence function, give three examples with syntax.
5. Describe the process of creating a calculated measure using DAX, with an example.
6. Compare Treemaps and Scatter Plots as advanced visualizations in Power BI.

Q. 3. Answer the following in detail. (Any 3) (30)

1. Compare Power View and Power Query in terms of their functionalities and usage.
 2. Explain the process of creating a sample report in Power BI Desktop and highlight key visualization controls.
 3. Discuss the process of creating interactive dashboards in Power BI, emphasizing cross-filtering, highlighting, and drill-down features.
 4. Provide a detailed comparison between basic and advanced visualizations in Power BI, with examples of when to use each type.
 5. Explain Power BI challenges in handling large data volume and techniques to large data handling in detail.
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