

- (c) To collect unstructured data from social media only
 - (d) To perform transaction processing
- 1-d. Scorecards in BI differ from dashboards because they: (CO2,K1) 1
- (a) Track progress toward strategic goals using metrics
 - (b) Provide only visual charts without metrics
 - (c) Focus only on data cleaning tasks
 - (d) Do not use performance indicators
- 1-e. Which of the following statements best describes Tableau's role in a BI system? (CO3,K1) 1
- (a) It acts as a data warehouse to store information
 - (b) It serves as a visualization and analytics layer connecting multiple data sources
 - (c) It replaces ETL processes
 - (d) It is used for database management only
- 1-f. The analytical process in Tableau typically begins with: (CO3,K1) 1
- (a) Connecting to data sources
 - (b) Formatting dashboards
 - (c) Publishing reports
 - (d) Installing drivers
- 1-g. Which of the following actions helps in structuring data for better visualization? (CO4,K1) 1
- (a) Sorting, filtering, and pivoting data
 - (b) Compressing data files
 - (c) Encrypting columns
 - (d) Archiving old datasets
- 1-h. Size panels in Tableau help users to: (CO4,K1) 1
- (a) Adjust visual element proportions to represent quantitative values
 - (b) Resize dashboards for different devices
 - (c) Set data source limits
 - (d) Change color schemes
- 1-i. The Power BI ecosystem includes which of the following components? (CO5,K1) 1
- (a) Power BI Desktop, Power BI Service, Power BI Mobile
 - (b) Power BI Manager, Power BI Client, Power BI Server
 - (c) Power View, Power Page, Power Script
 - (d) Power Excel, Power Access, Power Macro

- 1-j. Power BI's relationship with Excel can be described as: (CO5,K1) 1
- (a) It imports Excel data and enhances it with visualization and analytics tools
 - (b) It replaces Excel entirely
 - (c) It only exports charts to Excel
 - (d) It cannot integrate with Excel

2. Attempt all parts:-

- 2.a. Describe briefly Data Warehouse and OLAP in terms of their roles in the BI process (CO1,K2) 2
- 2.b. Describe briefly How does data visualization improve decision-making in a BI environment? (CO2,K2) 2
- 2.c. Describe briefly the purpose of custom calculations and aggregate functions in Tableau's analytical process flow?(CO3,K2) 2
- 2.d. Describe briefly the steps you would you take to troubleshoot formatting issues in a Tableau dashboard where charts appear misaligned or inconsistent?(CO4,K2) 2
- 2.e. Describe briefly the role of DAX (Data Analysis Expressions) in creating interactive and dynamic dashboards in Power BI?(CO5,K2) 2

SECTION – B

30

3. Attempt all parts:-

- 3.a. Answer any one of the following-
- 3-a.i Explain the process of transforming raw organizational data into actionable intelligence using quantitative models. (CO1,K2) 6
- 3-a.ii Discuss the scope and future of Business Intelligence in modern enterprises. (CO1,K2) 6
- 3.b. Answer any one of the following-
- 3-b.i Explain the key elements of a Business Intelligence (BI) solution. Describe in detail the role of reporting, dashboards, scorecards and metadata models (CO2,K2) 6
- 3-b.ii Describe the role of cost justification and success measurement in BI projects. Discuss how organizations can measure the return on investment (ROI) of BI solutions (CO2,K2) 6
- 3.c. Answer any one of the following-
- 3-c.i Explain the analytical process flow in Tableau. Describe the sequence from File Loading → Formatting Tools and Menus → visualization. (CO3,K2) 6
- 3-c.ii Explain in detail steps involved in creation of charts like (Line, bar charts) for visualization in Tableau. (CO3,K2) 6
- 3.d. Answer any one of the following-
- 3-d.i Discuss the role of interactivity in data visualization. Explain how tools like filters, detail panel, Size panel and tooltips improve analytical depth and user experience in dashboards .(CO4,K2) 6

3-d.ii	Explain in detail Tableau File Types. (CO4,K2)	6
3.e.	Answer any <u>one</u> of the following-	
3-e.i	Describe the process of data preparation in Power BI. Explain how tools such as Power Query Editor and Data Model relationships ensure data quality and consistency before visualization (CO5,K2)	6
3-e.ii	Describe Power BI. Explain in detail the relation of power BI with Excel.(CO5,K2)	6

SECTION – C

50

4.	Answer any <u>one</u> of the following-	
4-a.	Explain in detail the architecture, components and working of a Business Intelligence (BI) system, highlighting how data analysis support real-world business decision-making of Senior Executives.(CO1,K2)	10
4-b.	Explain in detail functional Areas of BI tools. Explain your answer with a suitable example.(CO1,K2)	10
5.	Answer any <u>one</u> of the following-	
5-a.	Discuss in detail how Scorecards and Dashboards development impact decision-making in Business Intelligence systems, emphasizing clarity, interactivity and usability aspects. (CO2,K2)	10
5-b.	Explain in detail SDK , Automated Tasks and Events with suitable diagram or example.(CO2,K2)	10
6.	Answer any <u>one</u> of the following-	
6-a.	Explain in detail the analytical process flow in Tableau—from data connection and preparation to visualization and publishing. Illustrate how Tableau integrates data sources and supports end-to-end business analysis. (CO3,K2)	10
6-b.	Explain in detail the use of ‘Show me’ panel for creating different types of visualizations in Tableau with suitable examples. (CO3,K2)	10
7.	Answer any <u>one</u> of the following-	
7-a.	Discuss the concept of interactivity in Tableau dashboards. Explain in detail all the steps involved in Dashboard and Story Creation. (CO4,K2)	10
7-b.	Evaluate the importance of data cleaning and structuring before visualization in Tableau. Discuss how errors in data preparation can affect dashboard accuracy and visual representation. (CO4,K4)	10
8.	Answer any <u>one</u> of the following-	
8-a.	Describe in detail Power BI Ecosystem. Discuss the importance of interactivity in Power BI dashboards. Provide suitable examples. (CO5,K2)	10
8-b.	Evaluate how Power BI integrates with Microsoft Excel. Discuss how such integration enhances enterprise-wide analytics and collaborative reporting. (CO5,K4)	10