

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA
(An Autonomous Institute Affiliated to AKTU, Lucknow)

B.Tech

SEM: VI - THEORY EXAMINATION (2025 - 2026)

Subject: Business Intelligence and Data Visualization

Time: 3 Hours

Max. Marks: 100

General Instructions:

IMP: Verify that you have received the question paper with the correct course, code, branch etc.

1. This Question paper comprises of **three Sections -A, B, & C**. It consists of Multiple Choice Questions (MCQ's) & Subjective type questions.

2. Maximum marks for each question are indicated on right -hand side of each question.

3. Illustrate your answers with neat sketches wherever necessary.

4. Assume suitable data if necessary.

5. Preferably, write the answers in sequential order.

6. No sheet should be left blank. Any written material after a blank sheet will not be evaluated/checked.

SECTION-A

20

1. Attempt all parts:-

- | | | |
|-------|--|---|
| (1.1) | Identify, the benefits offered by real-time? [CO1,K1] | 1 |
| (a) | Increased storage use | |
| (b) | Immediate insights for quick decision making | |
| (c) | Higher data latency | |
| (d) | More paperwork | |
| (1.2) | Identify, the BI tool that visualizes performance against KPIs? [CO1,K1] | 1 |
| (a) | Scorecard | |
| (b) | Database | |
| (c) | Server | |
| (d) | ETL | |
| (1.3) | State, Python library is? [CO2,K1] | 1 |
| (a) | Decision Support | |
| (b) | Data Mining | |
| (c) | Olap | |
| (d) | None | |
| (1.4) | Select, histogram is the type of? [CO2,K1] | 1 |
| (a) | SSRS | |
| (b) | SSIS | |
| (c) | SSAS | |
| (d) | CIS | |

- (1.5) State, the difference between an aggregate function and a non-aggregate function in Tableau is? [CO3,K1] 1
- (a) Aggregate functions perform calculations on individual rows, whereas non-aggregate functions perform calculations on entire columns
 - (b) Aggregate functions perform calculations on entire columns, whereas non-aggregate functions perform calculations on individual rows
 - (c) There is no difference between an aggregate function and a non-aggregate function in Tableau
 - (d) Aggregate functions perform calculations on numerical data, whereas non-aggregate functions perform calculations on text data
- (1.6) State. the best Feature of Tableau are except_____ ? [CO3,K1] 1
- (a) Collaboration of data
 - (b) Data Blending
 - (c) Real time analysis
 - (d) Data is more small and fit
- (1.7) State, the Tableau feature that can be used to create bins for continuous measures? [CO4,K1] 1
- (a) Groups
 - (b) Bins
 - (c) Sets
 - (d) Parameters
- (1.8) State the purpose of the purpose of the Level of Detail (LOD) expressions in Tableau? [CO4,K1] 1
- (a) To filter data based on complex conditions
 - (b) To create interactive legends
 - (c) To perform calculations at different levels of aggregation
 - (d) To optimize workbook performance
- (1.9) Select from the options, Power View is ? [CO5,K1] 1
- (a) A data visualization tool
 - (b) A data modeling tool
 - (c) A data integration and transformation tool
 - (d) A data analysis tool
- (1.10) Select, what are the group of data sources can Power BI connect to-----.? [CO5,K1] 1
- (a) Files, Content Packs, Connectors
 - (b) Databases, SQL, Azure
 - (c) Files, SQL, Azure
 - (d) Content Packs, Connectors, SQL

2. Attempt all parts:-

- (2.1) State, the term "self-service BI" and its benefits? [CO1,K1] 2
- (2.2) Explain the relationship between BI tools and strategic business goals? [CO2,K2] 2

- (2.3) Explain the impact of dragging a field to the Color shelf in Tableau? [CO3,K2] 2
- (2.4) Explain the steps to add interactivity to dashboards? [CO4,K2] 2
- (2.5) Define what is a report in Power BI? [CO5,K2] 2

SECTION-B

30

Answer any one of the following:-

- (3.1) Explain the key challenges in implementing a BI system and how can organizations address them? [CO1,K2] 6
- (3.2) Evaluate the impact of AI and machine learning on the evolution of BI tools? [CO1,K2] 6

Answer any one of the following:-

- (3.3) Describe how project tasks are organized and managed in a BI project. What tools and methods are commonly used? [CO2,K2] 6
- (3.4) Discuss the effectiveness of mobile BI in remote business monitoring. What limitations does it face? [CO2,K2] 6

Answer any one of the following:-

- (3.5) Discuss the role of dashboards in Tableau Public for data analysis? [CO3,K2] 6
- (3.6) Explain the use of Data Pane and Marks Card with examples? [CO3,K2] 6

Answer any one of the following:-

- (3.7) Discuss performance issues in Tableau Public and how to optimize visualizations, also Explain how you export Tableau visuals for offline use? [CO4,K2] 6
- (3.8) Explain the process of designing dashboards for mobile vs desktop? [CO4,K2] 6

Answer any one of the following:-

- (3.9) Discuss and write the difference between Import and Direct Query modes? [CO5,K2] 6
- (3.10) Explain the concept of Row-Level Security in Power BI, also explain data cleaning techniques in Power BI.? [CO5,K2] 6

SECTION-C

50

4. Answer any one of the following:-

- (4.1) Explain OLAP (Online Analytical Processing) and advanced analytics in Business Intelligence. Discuss different OLAP operations and the importance of predictive and prescriptive analytics? [CO1,K2] 10
- (4.2) Explain the advantages of making decision using business intelligence over making decision without business intelligence?[CO1,K2] 10

5. Answer any one of the following:-

- (5.1) Compare and contrast traditional reporting methods with interactive BI dashboards. What advantages do modern tools offer in data interpretation? [CO2,K2] 10
- (5.2) Discuss and evaluate the alignment of Business Intelligence (BI) systems with organizational strategies to achieve measurable success? [CO2,K2] 10

6. Answer any one of the following:-

- (6.1) Discuss how we can connect to a CSV file, create a tree map, and add interactivity using filters and also Discuss the security features in Power BI. How is data access 10

controlled? [CO3,K2]

- (6.2) Discuss how Tableau Public helps in marketing analytics, also explain the use of Tableau Public in government and public datasets? [CO3,K2] 10

7. Answer any one of the following:-

- (7.1) Explain how pivoted data can be used in performance analysis dashboards? [CO4,K2] 10
- (7.2) Describe and develop a visualization using size and detail panels and describe their role? [CO4,K2] 10

8. Answer any one of the following:-

- (8.1) Explain integration of Power BI with Excel and other tools, also describe sharing and publishing reports in Power BI Service? [CO5,K2] 10
- (8.2) Explain the role of Power BI in cloud computing, also describe real-world applications of Power BI in different industries? [CO5,K2] 10

REG_JAN_JUNE_2026