NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA
(An Autonomous Institute Affiliated to AKTU, Lucknow)
B.Tech
SEM: VI - THEORY EXAMINATION (20.....- 20.....)
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-a.   _____ is a category of applications and technologies for presenting and   1
        analyzing corporate and external data (CO1, K2)

   (a)   EIS

   (b)   MIS

   (c)   Data warehouse

   (d)   Decision power

1-b.   BI architecture integrates with enterprise infrastructure primarily to (CO1, K2)   1

   (a)   Enhance database normalization

   (b)   Reduce OLTP redundancy

   (c)   Enable strategic decision-making

   (d)   Enforce primary key constraints

1-c.   The benefit of using a balanced scorecard is (CO2, K1)   1

   (a)   A database that stores transactional data

   (b)   A system that manages and analyzes large amounts of historical data

   (c)   A cloud-based storage solution for backup data

   (d)   A software tool that cleanses and transforms data

1-d.   The potential challenge of dashboard and scorecard development is (CO2, K2)   1

   (a)   Files

   (b)   OLTP

     (c)   RDBMS

     (d)   CREATE

1-e.   Choose from the following which is NOT a Tableau Field data type.(CO3, K2)   1

     (a)   String

     (b)   Number (whole)

     (c)   Boolean

     (d)   Float

1-f.   The discrete field in Tableau can be determined by (CO3, K2)   1

     (a)   Green color

     (b)   symbol

     (c)   Blue color

     (d)   None

1-g.   The data dashboard for a marketing manager may have KPIs related to ....(CO4, K1)   1

     (a)   Current sales measures and sales by region

     (b)   Current financial standing of the company.

     (c)   Vehicle's current speed, fuel level, and engine temperature.

     (d)   None of these

1-h.   In Tableau, which option allows you to convert a single column into multiple columns (CO4, K2)   1

     (a)   Data Interpreter

     (b)   Structuring Data

     (c)   Pivoting Data

     (d)   Sorting and Filtering Data

1-i.   A collection of data that you import or connect to--------------. (CO5, K1)   1

     (a)   Dashboards

     (b)   Reports

     (c)   Datasets

     (d)   All of the above

1-j.   KPI charts are designed to _____ the progress towards accomplishing a specific goal or target. (CO5, K1)   1

     (a)   Visualise

     (b)   Measures

     (c)   Organised

     (d)   None

2. Attempt all parts:-

2.a.   List some common data sources used in a Business Intelligence solution.(CO1, K2)   2

2.b.	Discuss the critical factors for the success of BI projects. (CO2, K2)	2
2.c.	Outline the steps involved in connecting a dataset to Tableau and creating a basic chart. (CO3, K3)	2
2.d.	Discuss the differences between using calculated fields and default aggregations in Tableau visualizations. (CO4, K4)	2
2.e.	Describe five types of chart with real time example. (CO5, K2)	2

SECTION-B   30

3. Answer any <u>five</u> of the following:-

3-a.	Define data mining and list the real life applications of data mining. (CO1, K1)	6
3-b.	Discuss how BI solutions help organizations in making better decisions. (CO1, K2)	6
3-c.	Enlighten the problems that business intelligence solve in IT industries. (CO2, K3)	6
3-d.	Discuss the importance of automated tasks and events in enhancing the efficiency of BI systems. (CO2, K2)	6
3-e.	Differentiate between Power BI, Tableau and Excel with respect to data visulaization.(CO3, k4)	6
3.f.	Summarize the process of creating an interactive dashboard in Tableau, emphasizing filter and tooltip customization. (CO4, K4)	6
3.g.	Describe how Power Pivot fits into the Power BI ecosystem and its key features.(CO5, K2)	6

SECTION-C   50

4. Answer any <u>one</u> of the following:-

| 4-a. | Describe the analytical operations that OLAP can perform.(CO1, K2) | 10 |
| 4-b. | Differentiate between BI traditional tools with Modern BI tools in detail.(CO1, K4) | 10 |

5. Answer any <u>one</u> of the following:-

| 5-a. | Mention the steps to build a successful Business Intelligence strategy in detail. (CO2, K3) | 10 |
| 5-b. | Justify the terms Risk Probability and Risk Impact. Give suitable examples of both. (CO2, K4) | 10 |

6. Answer any <u>one</u> of the following:-

| 6-a. | Write the procedure of making line chart in Tableau and its advantages.(CO3, K2) | 10 |
| 6-b. | Write the steps to customize and format the charts created in Tableau. (CO3, K2) | 10 |

7. Answer any <u>one</u> of the following:-

| 7-a. | As a data scientist, why would you want to use an infographic instead of a simple chart or table justify your answer with example.(CO4, K4) | 10 |
| 7-b. | Explain the benefits of Data Story Telling.(CO4, K2) | 10 |

8. Answer any <u>one</u> of the following:-

| 8-a. | Describe the Power BI ecosystem and explain the relationship and integration between Power BI Desktop, Service, and Mobile applications.(CO5, K2) | 10 |
| 8-b. | Discuss the process of connecting to various data sources, cleaning, and transforming data within Power BI. (CO5, K2) | 10 |

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