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**NOIDA INSTITUTE OF ENGINEERING AND TECHNOLOGY, GREATER NOIDA**

**(An Autonomous Institute Affiliated to AKTU, Lucknow)**

**B.Tech**

**SEM: V - THEORY EXAMINATION DEC - 2023**

**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. Choose from the following which does not form part of BI Stack in SQL Server (CO1) 1
- (a) SSIS
  - (b) OBIEE
  - (c) SSAS
  - (d) None
- 1-b. \_\_\_\_\_ is a category of applications and technologies for presenting and analyzing corporate and external data. (CO1) 1
- (a) EIS
  - (b) MIS
  - (c) Data warehouse
  - (d) Decision power
- 1-c. NumPy is \_\_\_\_\_(CO2) 1
- (a) BI tool

- (b) Map
  - (c) Charts
  - (d) Python Library
- 1-d. \_\_\_\_\_ is a system where operations like data extraction, transformation and loading operations are executed.(CO2) 1
- (a) Data staging
  - (b) Data integration
  - (c) ETL
  - (d) None of the above
- 1-e. Dimension in TABLEAU is (CO3) 1
- (a) A measure that is computed based on the values of one or more dimensions
  - (b) A column in a data source that contains categorical data
  - (c) A data type used to represent numerical values
  - (d) A type of join used to combine data from multiple tables
- 1-f. The type of join used in blending is \_\_\_\_\_ (CO3) 1
- (a) NONE
  - (b) Right join
  - (c) LEFT join
  - (d) OUTER JOIN
- 1-g. The benefits of data visualization is (CO4) 1
- (a) Better analysis
  - (b) Identifying patterns
  - (c) Exploring business insights
  - (d) All of the above
- 1-h. A \_\_\_\_\_ is a line that provides an approximation of the relationship between the variables. (CO4) 1
- (a) sparkline
  - (b) gridline
  - (c) trendline
  - (d) None of these
- 1-i. A function that can only work on numeric fields is\_\_\_\_\_.(CO5) 1
- (a) ISNUMBER

- (b) AVERAGE
- (c) AND
- (d) CONCATENATE

- 1-j. The expression used to indicate the table where the values would be searched from is \_\_\_\_\_ (CO5) 1
- (a) WHERE
  - (b) FROM
  - (c) TABLE
  - (d) SELECT

**2. Attempt all parts:-**

- 2.a. Discuss the advantages of making decision using business intelligence over making decision without business intelligence.(CO1) 2
- 2.b. Define Software Development Kit(SDK). (CO2) 2
- 2.c. Enlist the various data file formats in TABLEAU.(CO3) 2
- 2.d. Write down the steps to publish visualization in TABLEAU online.(CO4) 2
- 2.e. Elaborate about Workspace in Power BI.(CO5) 2

**SECTION B 30**

**3. Answer any five of the following:-**

- 3-a. Explain in detail the features of Data Warehouse.(CO1) 6
- 3-b. Define data mining and its application in Business Intelligence.(CO1) 6
- 3-c. Explain Risk Mitigation with suitable diagram.(CO2) 6
- 3-d. Differentiate between dashboard and scorecard in detail.(CO2) 6
- 3.e. State some ways to improve the performance of Tableau.(CO3) 6
- 3.f. Discuss the various ways in which data can be manipulated in TABLEAU.(CO4) 6
- 3.g. Describe how the Power BI products integrate.(CO5) 6

**SECTION C 50**

**4. Answer any one of the following:-**

- 4-a. Discuss the architecture and the various components of BI with help of diagram.(CO1) 10
- 4-b. Differentiate between BI traditional tools with Modern BI tools in detail.(CO1) 10

**5. Answer any one of the following:-**

- 5-a. Discuss the need of Business Intelligence Reporting Tools in various business with suitable examples.(CO2) 10

5-b. Discuss the various trends and technologies used in Business Intelligence.(CO2) 10

**6. Answer any one of the following:-**

6-a. Explain in detail the various ways to connect your data to TABLEAU.(CO3) 10

6-b. Describe the various types of charts used in TABLEAU with suitable diagrams.(CO3) 10

**7. Answer any one of the following:-**

7-a. Discuss in detail the steps to create a story and dashboard in TABLEAU.(CO4) 10

7-b. Explain the steps of sorting and filtering data in TABLEAU.(CO4) 10

**8. Answer any one of the following:-**

8-a. Discuss the Power BI ecosystem in detail.(CO5) 10

8-b. Define Power BI and its relationship with Excel in detail.(CO5) 10

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