



B.E/B.TECH DEGREE EXAMINATIONS: NOV/DEC 2023

(Regulation 2018)

Seventh Semester

COMMON TO ALL BRANCHES

U18MAR0205: Data Science Tools

COURSE OUTCOMES

CO1: Dashboard creation

CO2: Tool exploration and working

Time: Three Hours

Maximum Marks: 100

Answer all the Questions:-

PART A (10 x 2 = 20 Marks)

(Answer not more than 40 words)

- | | | |
|--|-----|-------------------|
| 1. List the types of charts and graphs to visualize data. | CO1 | [K ₂] |
| 2. How to create a dashboard in excel? | CO1 | [K ₂] |
| 3. List the classification algorithms used by rapid miner. | CO1 | [K ₂] |
| 4. What are methods to create chart visualization in redash? | CO1 | [K ₂] |
| 5. How to perform data modeling and navigation in PowerBI? | CO1 | [K ₂] |
| 6. List the steps used in MATLAB to plot the graph of a function | CO2 | [K ₂] |
| 7. Describe about the benefits of using KNIME for machine learning models. | CO2 | [K ₂] |
| 8. What is SAS visual analytics used for? | CO2 | [K ₂] |
| 9. Differentiate between Tableau and Alteryx. | CO2 | [K ₂] |
| 10. What is the use of Looker BI tool? | CO2 | [K ₂] |

Answer any FIVE Questions:-

PART B (5 x 16 = 80 Marks)

(Answer not more than 400 words)

- | | | | |
|---|---|-----|-------------------|
| 11. a) How to create pivot table using excel sheet? Explain the steps involved to designing, sorting, and filtering in pivot table. | 8 | CO1 | [K ₃] |
| b) Explain with an example how to perform linear regression using SPSS | 8 | CO2 | [K ₃] |
| 12. a) Enumerate about creating a dashboard to show data insights using tableau. | 8 | CO1 | [K ₃] |
| b) What is Grafana? How to use it to perform multi-platform analytics and visualization solutions? | 8 | CO2 | [K ₂] |

13. a) Consider the following data set, write a structured query that calculates the cumulative amount per year and amount per month for past 24 months (2years) 8 CO1 [K3]

```

+-----+-----+
|YEAR_MONTH|AMOUNT|
+-----+-----+
| 202001 | 500 |
| 202001 | 600 |
| 201912 | 100 |
| 201910 | 200 |
| 201910 | 100 |
| 201909 | 400 |
| 201601 | 5000 |
+-----+-----+

```

Expected Output:

```

+-----+-----+
|year_month|amount|
+-----+-----+
|202001    |1100  |
|201912    |100   |
|201911    |0     |
|201910    |300   |
|201909    |400   |
|201908    |0     |
|201907    |0     |
|...       |      |
|201804    |0     |
|201803    |0     |
+-----+-----+

```

- b) Explain in detail about data visualization libraries in Python. 8 CO2 [K2]
14. a) What are the major components of PowerBI? Explain their roles. 8 CO1 [K2]
- b) Explain in detail about the different types of operators used in MongoDB. 8 CO2 [K2]
15. a) List and explain the various types of Matrix Manipulation functions in MATLAB. 8 CO2 [K3]
- b) Briefly explain decision making statements in Scala. 8 CO2 [K2]
16. a) Describe how to create a model using AIMMS package. 8 CO1 [K2]
- b) Describe how to predict the analytics used by amazon optimize inventory management and order fulfillment. 8 CO2 [K3]