

Reg No.....

Name .....

26U655

**B B A DEGREE END SEMESTER EXAMINATION - MARCH 2026**

**SEMESTER 6: BUSINESS ANALYTICS**

**COURSE: 23U6CRBBA21 : DATA MINING AND MACHINE LEARNING**

*(For Regular 2023 Admission)*

Time: Three Hours

Max. Marks: 60

**PART A**

**Answer All (1 mark each)**

1. Explain the meaning of Velocity in Big Data.
2. Explain any one business situation where Marketing Analytics can be applied.
3. Describe the term Text Analytics with the help of an example.
4. Identify any scenario in business where Supply chain Analytics can be applied.
5. Explain the term AB testing in marketing analytics.
6. Describe the term anomaly detection with the help of an example from Banking industry.
7. Explain the term sentiment polarity.
8. Explain the term customer segmentation.

**(1 x 8 = 8)**

**PART B**

**Answer any 6 (2 marks each)**

9. Explain the benefits of marketing analytics.
10. Distinguish the concept of data mining and machine learning.
11. Explain the term data cleaning and its importance in business analytics.
12. Explain the concept of descriptive HR analytics with the help of one scenario.
13. Describe the term emotion-based sentiment analysis.
14. Explain the term vertical analytics solutions with the help of examples.
15. Identify the importance of analytics as a strategic function in organizations.
16. Explain the term big data with an example from customer relations management.

**(2 x 6 = 12)**

**PART C**

**Answer any 4 (5 marks each)**

17. A telecom company is facing a high number of customers discontinuing their services. The company has historical data on customer age, monthly bill amount, type of plan, usage patterns, and whether the customer left the service or not. The management wants to predict which customers are likely to churn in the future.

Answer the following questions

- a) What type of machine learning problem is this (classification or regression)? Why?
  - b) Identify the target variable and input variables in this case.
  - c) Which machine learning technique would be suitable for this problem?
  - d) How can the company use the prediction results for business decision-making?
  - e) Mention any two benefits of using machine learning in this scenario.
18. Discuss the broad classification of Machine Learning.
  19. Differentiate the terms AI, Machine learning and Data mining with the help of examples.
  20. Explain the applications of data mining in business.
  21. Discuss the application of marketing analytics in business.
  22. Explain the objectives of marketing analytics.

**(5 x 4 = 20)**

#### **PART D**

**Answer any 2 (10 marks each)**

23. Discuss the step-by-step process of machine learning with respect to a telecom company which would like to address the customer churn (attrition).
24. Discuss the Vertical and Horizontal Mapping of Analytics Industry.
25. Discuss the importance of data cleaning in Business analytics and explain the situations where the data cleaning can be used in Marketing, HR and finance in business.
26. Describe Supply Chain Analytics in detail, including its types, applications, benefits, challenges, and the role of AI and Big Data.

**(10 x 2 = 20)**