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Question Paper Code	12310
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**MBA - DEGREE EXAMINATIONS, NOV / DEC 2023**

Third Semester

**Master of Business Administration**

**20MBS304 - DATA MINING**

(Regulations 2020)

Duration: 3 Hours

Max. Marks: 100

**PART - A (10 × 2 = 20 Marks)**

Answer ALL Questions

- |   | <i>Marks,<br/>K-Level, CO</i> |
|---|-------------------------------|
| 1. Define various types of data.  | <i>2,K1,CO1</i>               |
| 2. Enterprise Data Mode- Describe.                                      | <i>2,K1,CO1</i>               |
| 3. List out any two advantages of data mining.                          | <i>2,K1,CO2</i>               |
| 4. Define the term Data mining.   | <i>2,K1,CO2</i>               |
| 5. List out the assumptions and limitations of associate rule mining.   | <i>2,K1,CO3</i>               |
| 6. Define Decision Tree with a suitable example.                        | <i>2,K2,CO3</i>               |
| 7. Explain Market basket analysis.                                      | <i>2,K2,CO4</i>               |
| 8. State Application of cluster analysis.                               | <i>2,K1,CO4</i>               |
| 9. How to data mining application used in Retailing?                    | <i>2,K2,CO5</i>               |
| 10. Mention any two benefits data mining application in Banking sector. | <i>2,K1,CO5</i>               |

**PART - B (5 × 13 = 65 Marks)**

Answer ALL Questions

- |   |                  |
|---|------------------|
| 11. a) Briefly explain about Enterprise Conceptual Model.                             | <i>13,K2,CO1</i> |
| <b>OR</b>   |                  |
| b) Discuss in detail about the advantages of Enterprise Subject Area Model.           | <i>13,K2,CO1</i> |
| 12. a) Classify the Data Mining system.   | <i>13,K2,CO2</i> |
| <b>OR</b>   |                  |
| b) Discuss the advantages and disadvantages of Data Mining.                           | <i>13,K2,CO2</i> |
| 13. a) Write short notes on a) KDD, b). CRISP c) DM, d) SEMMA.                        | <i>13,K2,CO3</i> |
| <b>OR</b>   |                  |
| b) Describe any four Challenges of Data mining.                                       | <i>13,K2,CO3</i> |
| 14. a) Explain Apriority algorithms for frequent item set using candidate generation. | <i>13,K2,CO4</i> |

**OR**

b) Describe the requirement of clustering in data mining. *13,K2,CO4*

15. a) Explain the role of data mining application in Banking sector. *13,K2,CO5*

**OR**

b) List different views to design a data mining application in Genetics. *13,K2,CO5*

**PART - C (1 × 15 = 15 Marks)**  
**(Case Study - Compulsory)**

16. a) AVIVA Retail, a prominent player in the retail sector, is confronted with significant challenges in optimizing its customer loyalty programs. The company is acutely aware of the potential benefits that data mining tools and techniques could bring to augment customer satisfaction and loyalty. However, a series of issues are impeding the efficacy of their current approaches. One prominent challenge AVIVA faces revolves around the accuracy of customer segmentation. Despite utilizing demographic data and purchase history, the current methods fall short in precisely categorizing its diverse customer base. This inadequacy results in loyalty programs that lack the personalization needed to resonate with specific customer preferences, hindering the overall effectiveness of targeted initiatives. Another critical issue centers on the suboptimal effectiveness of promotions. AVIVA struggles to design and execute promotions that genuinely drive customer engagement. The current strategies lack the necessary precision to target the right products to the right customers, ultimately leading to a suboptimal return on investment. The company is keen on enhancing its promotional strategies to not only maximize engagement but also elevate overall customer satisfaction. Furthermore, AVIVA is grappling with limited cross-selling opportunities. Despite the aspiration to recommend complementary products to customers, the existing market basket analysis and association rules are falling short in identifying meaningful patterns in customer purchasing behavior. This limitation significantly constrains AVIVA's ability to capitalize on potential revenue streams through strategic cross-selling endeavors. *15,K3,CO5*

**Question:**

How might AVIVA leverage advanced data mining techniques to refine its customer segmentation methods and overcome challenges associated with demographic data?