**PRACTICE SET**

**End Semester (V Sem.) Examination, Dec 2025**

**Course: Data Mining and Warehousing**
**Semester: V**
**Program: BCA**
**Course Code: 3CCDE303**

| Course Outcomes | Description |
|---|---|
| CO1 | BTL the architecture, schemas, and processes of data warehousing and perform OLAP operations and data cube computations. |
| CO2 | BTL data preprocessing, integration, and transformation techniques to prepare data for mining and identify challenges in the knowledge discovery process. |
| CO3 | Implement association rule mining using algorithms such as Apriori and FP-Growth and BTL multi-level and time-series associations. |
| CO4 | BTL classification and clustering techniques such as Decision Trees, K-Means, and Bayesian models, and BTL classifier performance. |
| CO5 | BTL various types of web, spatial, temporal, and text mining techniques and BTL related privacy, security, and ethical concerns. |

## Section A (No. of Question x 5= Total Marks)

1. Define Data Warehouse. Give its application. [**CO1**, Unit I, BTL– LOT, Understand]
2. Differentiate between Data Warehouse and Data Mart. [**CO1,** Unit I, BTL – LOT, Remember]
3. What is Star Schema? Give a small example. [**CO1,** Unit I, BTL – LOT. Understand]
4. Define Fact Table and Dimension Table. [**CO2**, Unit I, BTL- LOT, Remember]
5. List two OLAP operations with examples. [**CO1**, Unit 1, BTL-LOT, Remember]
6. What is Data Pre-processing? Why it is required? [**CO1**, Unit 2, BTL – LOT, Remember]
7. Define Data Integration. Give its advantages. [**CO2**, Unit 2, BTL – LOT, Remember]

8. Write a short note on Discretization. [**CO1,** Unit 2, BTL – LOT, Understand]
9. What is Knowledge Discovery Process (KDP)? Discuss it in detail.

[**CO2,** Unit 2, BTL – LOT, Understand]

10. State two challenges of Data Mining. [**CO1**, Unit 2, BTL – LOT, Understand]
11. Define Association Rule Mining. [**CO3**, Unit 3, BTL – LOT, Understand]
12. Explain Support and Confidence. [**CO3**, Unit 3, BTL – LOT, Understand]
13. State one difference between Apriori and FP-Growth algorithms.

[**CO3**, Unit 3, BTL – LOT, Understand]

14. What is a Single-dimensional Boolean Association Rule?

[**CO3**, Unit 3, BTL – LOT, Understand]

15. Write a short note on Time-series Association Rules. [**CO3**, Unit 3, BTL – LOT, Apply]
16. Define Classification. [**CO4**, Unit 4, BTL – LOT, Understand]
17. Differentiate between Classification and Clustering. [**CO4**, Unit 4, BTL – LOT, Understand]
18. What are Distance Measures in clustering? [**CO4**, Unit 4, BTL – LOT, Understand]
19. Define Outlier Analysis. [**CO4**, Unit 4, BTL – LOT, Understand]
20. Write two applications of Bayesian Classification. [**CO4**, Unit 4, BTL – LOT, Understand]
21. Define Web Mining. [**CO5**, Unit 5, BTL – LOT, Understand]
22. What is Text Mining? [**CO5**, Unit 5, BTL – LOT, Understand]
23. List any two types of Web Mining. [**CO5**, Unit 5, BTL – LOT, Understand]
24. Mention one privacy issue in data mining. [**CO5**, Unit 5, BTL – LOT, Understand]
25. Write a short note on Ethical Issues in data mining. [**CO5**, Unit 5, BTL – LOT, Understand]

## SectionB (No. of Question x10= Total Marks)

26. Explain the Data Warehouse Architecture with diagram.

[**CO1**, Unit 1, BTL – LOT, Understand]

27. Examine how data storage and query processing differ in ROLAP and MOLAP servers..

[**CO1**, Unit 1, BTL – HOT, Analyze]

28. Discuss Data Reduction techniques with examples. [**CO2**, Unit 1, BTL – LOT, Understand]
29. Critically evaluate the challenges involved in the Knowledge Discovery Process and suggest possible solutions. [**CO2**, Unit 2, BTL – HOT, Evaluate]
30. Illustrate the Apriori Algorithm with an example dataset

[**CO3**, Unit 2, BTL – HOT, Evaluate]

31. Assess the performance of Apriori and FP-Growth algorithms in terms of memory usage and speed. [**CO3**, Unit 2, BTL – HOT, Evaluate]
32. Propose a method to generate Multi-level Association Rules for hierarchical data and illustrate with an example. [**CO3**, Unit 3, BTL – HOT, Create]
33. Describe the K-Means clustering algorithm and illustrate its procedure step by step.

[**CO4**, Unit 3, BTL – LOT, Apply ]

34. Compare Decision Tree and Bayesian Classification. [**CO4**, Unit 3, BTL – HOT, Analyze]
35. Discuss the methods of measuring classifier accuracy.

[**CO4**, Unit 4, BTL – LOT, Understand]

36. Compare different outlier detection methods and assess their role in fraud detection.

[**CO4**, Unit 4, BTL – HOT, Analyze]

37. Write short notes on:
    (a) Spatial Mining
    (b) Temporal Mining [**CO5**, Unit 4, BTL – LOT, Understand]
38. Discuss the ethical and privacy issues in data mining. [**CO5**, Unit 5, BTL – HOT, Analyze]
39. Design an e-commerce strategy that leverages web mining techniques and explain how each technique adds value. [**CO5**, Unit 5, BTL – HOT]

## SectionC (No. of Question x 20= Total Marks)

40. Discuss in detail the need, architecture, schemas, and implementation challenges of a Data Warehouse. [**CO1**, Unit 1, BTL – HOT. Analyze]
41. Explain the entire Data Pre-processing process (cleaning, integration, transformation, reduction, discretization) with examples. [**CO2**, Unit 1, BTL – HOT, Analyze]
42. Using a sample dataset, demonstrate the working of Apriori Algorithm step by step.

[**CO3**, Unit 2, BTL – HOT, Create]

43. Critically analyze the advantages and disadvantages of Association Rule Mining techniques.

[**CO3**, Unit 3, BTL – HOT, Analyze]

44. Construct a Decision Tree using ID3 Algorithm for a dataset of your choice.

[**CO4**, Unit 4, BTL – HOT, Create]

45. Compare and contrast different clustering methods (Partitioning, Hierarchical, Density-based, Grid-based). [**CO4**, Unit 4, BTL – HOT, Analyze]
46. Explain Web Mining, Spatial Mining, Temporal Mining, and Text Mining with real-world applications. [**CO5**, Unit 5, BTL – LOT, Understand]
47. Critically evaluate the security, privacy, and ethical concerns in Data Mining.

[**CO5**, Unit 5, BTL – HOT, Evaluate]

## Summary Sheet:

**CO Wise**

| CO | Q. No | Marks |
|---|---|---|
| CO1 | 1,2,3,4,5, 6, 8, 10, 26, 27, 40 | 80 |
| CO2 | 4,7,9, 28,29,41 | 55 |
| CO3 | 11, 12, 13, 14, 30, 31, 32, 42, 43 | 90 |
| CO4 | 16,17,18,19,20, 33,34,35,36,44,45 | 105 |
| CO5 | 21,22,23,24,25,37,38,39 | 95 |
| **Total** | | **425** |

**Unit Wise**

| Unit | Q. No | Marks |
|---|---|---|
| Unit 1 | 1,2,4,5, 26,27,28, 40, 41 | 95 |
| Unit 2 | 6,7,8,9,10, 29,30,31, 42 | 75 |
| Unit 3 | 11,12,13,14,15, 32,33,34,43 | 75 |
| Unit 4 | 16,17,18,19,20, 35,36,37, 44,45 | 95 |
| Unit 5 | 21,22,23,24,25, 38,39,46,47 | 85 |
| **Total** | | **425** |

**Blooms Taxonomy Level (BTL) Wise**

| BTL | Q. No | Marks |
|---|---|---|
| LOT | 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16, 17,18,19,20,21,22,23, 24,25, 26, 28, 33, 35, 37, 46 | 195 |
| HOT | 27, 29, 30, 31, 32, 34, 36, 38,39, 40, 41, 42, 43, 44,45,47 | 230 |
| **Total** | | **425** |

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**Disclaimer: -** This is a Practice Set. The Question in End term examination will differ from the Practice set. This Practice set is meant for practice only.