

PAPER CODE - MB 404-S-IV

DATA MINING FOR BUSINESS

UNIT – I: Introduction to Data Mining

1. Define data mining and explain its significance in business decision-making.
2. Discuss the major challenges in data mining.
3. Explain the various data mining tasks with suitable examples.
4. Describe the process of knowledge discovery in databases (KDD).
5. Explain the origins and evolution of data mining as a discipline.

UNIT – II: Data Pre-processing

6. What is data pre-processing? Why is it essential before mining?
7. Explain different data cleaning techniques with examples.
8. Describe the steps involved in data transformation and integration.
9. Discuss data summarization and its importance in data mining.
10. Illustrate with examples the impact of poor data quality on mining results.

UNIT – III: Classification and Clustering

11. Differentiate between classification and clustering with examples.
12. Explain decision tree classification using ID3 or C4.5 algorithm.
13. Discuss K-Nearest Neighbor (KNN) algorithm with its advantages and limitations.
14. Explain any one clustering algorithm (K-means or Hierarchical).
15. What are the evaluation measures for classification accuracy?
16. Discuss the steps involved in building a classification model.
17. Explain how clustering helps in market segmentation.
18. Describe the applications of classification in real-world scenarios.
19. Discuss outlier detection and its role in data mining.
20. Compare supervised and unsupervised learning with suitable examples.

UNIT – IV: Association Rule Mining and Prediction

21. Define association rules. Explain the concepts of support and confidence.
22. Illustrate Apriori algorithm with a worked example.

23. Discuss the FP-Growth algorithm and how it differs from Apriori.
24. Explain lift and conviction in association rule mining.
25. Discuss the significance of prediction in data mining.
26. Explain linear regression with an example.
27. Describe logistic regression and its use in classification.
28. What are the key differences between prediction and classification?
29. Discuss challenges in rule generation and evaluation.
30. Explain sequential pattern mining with business applications.

UNIT – V: Web Mining Techniques

31. What is web mining? Classify and explain its types.
32. Discuss the process and applications of web content mining.
33. Explain the working of web usage mining with examples.
34. Describe web structure mining and its techniques.
35. What are the key challenges in web mining?
36. Compare and contrast text mining and web mining.
37. Explain the role of cookies and server logs in web usage mining.
38. Discuss ethical and privacy concerns in web mining.
39. Describe how web mining helps in e-commerce personalization.
40. Explain link analysis and its applications in search engines.

General / Application-Based Questions

41. Design a data mining model for customer churn analysis.
42. Explain how data mining helps in fraud detection.
43. Describe a case study of data mining in retail or banking.
44. How can businesses use data mining to predict customer behavior?
45. What are the software tools used in data mining? Compare any two.
46. Discuss the role of data mining in CRM.
47. Describe the data mining life cycle with a practical example.
48. Explain the ethical considerations in business data mining.
49. What are the emerging trends in data mining technologies?
50. Discuss real-time applications of data mining in digital marketing.