IV Semester M.B.A. (Day and Eve.) Examination, November/December 2023
(CBCS) (2022-23 and Onwards)
MANAGEMENT
4.9.3 : Data Warehousing and Data Mining

Time : 3 Hours

Max. Marks : 70

SECTION – A

Answer **any five** of the following. **Each** question carries **five** marks : (5×5=25)

1. What is data mining system ? Classify the different data mining system.

2. Describe the multidimensional data model. Provide an examples of a multidimensional data model.

3. What are frequent patterns in data mining, and why are they important ? Provide an example to illustrate.

4. What are the key issues and challenges in classification and prediction tasks in data mining ?

5. What is cluster analysis ? What are the different types of data that can be analyzed using cluster analysis ?

6. How does social network analysis contribute to understanding relationships in complex networks ?

7. What is meant by outlier analysis and what are the different types of outliers used in data mining ?

SECTION – B

Answer **any three** questions. **Each** question carries **10** marks : (3×10=30)

8. Explain the concept of data exploration in data mining. What techniques can be used for data exploration ?

9. Explain pruning in decision tree induction and when and why is pruning necessary ?

10. Discuss the role of Bayesian belief networks in probabilistic reasoning within data mining.

11. How does data mining contribute to fraud detection and risk management in the financial industry ? Provide specific examples of applications.

SECTION – C

12. Case study (Compulsory) :   (1×15=15)

    An e-commerce company wants to enhance its marketing strategy by utilizing data mining techniques on customer purchase data. The company maintains a database that records customer transactions, including customer ID, purchase date, product category and purchase amount. The goal is to extract valuable insights from this data to optimize marketing campaigns and improve customer engagement.

    Questions :

    (a) How can classification models help in predicting customer behaviour, such as identifying potential high-value customers or predicting customer churn ?

    (b) How can the company use association rule mining to identify patterns in customer purchase behaviour ?