Section—B

4. **Case Study :** (20 Marks) (CO5)

Company Background :

A telecom company based in Mumbai, India, provides mobile, internet, and TV services to millions of customers across the country. The company has been facing high rates of customer churn, with customers switching to competing service providers. The company wants to reduce churn and retain more customers.

Questions :

1. Evaluate the effectiveness of the telecom company's use of predictive analytics in identifying factors that contribute to customer churn, using evidence from the analysis to support your evaluation.
2. Assess the impact of the changes made by the telecom company on customer churn rates and customer satisfaction, using quantitative and qualitative data to support your assessment.

H Roll No. .....

MB–203(BA3)

M. B. A. (SECOND SEMESTER)

MID SEMESTER

EXAMINATION, April, 2023

DATA MINING

Time : 1½ Hours

Maximum Marks : 50

Note : (i) This question paper contains two Sections–Section A and Section B.

(ii) Both Sections are compulsory.

(iii) Answer any *two* sub-questions among (a), (b) and (c) in each main question of Section A. Each sub-question carries 10 marks.

(iv) Section B consisting of Case Study is compulsory. Section B is of 20 marks.

P. T. O.

Section—A

1. (a) Describe the difference between supervised and unsupervised learning in data mining, and provide examples of each type. (CO1, CO2)

   (b) Illustrate the concept of outlier detection in data mining, and explain why it is useful for identifying anomalies in datasets using real-world examples. (CO1, CO2)

   (c) Discuss the importance of human intervention in the data mining process, and explain how human expertise can improve the accuracy and reliability of data mining results. (CO1, CO2)

2. (a) Distinguish between "classification" and "clustering" and give an informal example of an application that would benefit from each technique. (CO3)

   (b) Outline importance of data in current scenario and highlight the different kinds of data. (CO3)

   (c) Explain the concept of clustering and its role in data mining. Provide an example of a real-world application where clustering has been used to gain insights from data.

3. (a) Analyze the potential consequences of skipping the data cleaning stage in the data analytics life cycle, and provide examples of how incomplete or inaccurate data could negatively impact the effectiveness of the business analytics solution. (CO4)

   (b) Compare and contrast the challenges and opportunities for data analytics in the healthcare and finance industries, and evaluate how the specific regulatory requirements in each industry affect the implementation and effectiveness of data analytics solutions. (CO4)

   (c) Analyze the ethical and legal considerations that organizations must take into account when conducting data mining activities, and assess the potential impact of violating these considerations on the organization's reputation and legal standing. (CO4)