



K.R. MANGALAM UNIVERSITY

THE COMPLETE WORLD OF EDUCATION

Rollno.....

End Semester Examination, December 2024
BSc (H) Data Science – 5th Semester
Data Mining and Predictive Modeling (ETCS503A)

Time: 2.5 hrs.

Max Marks: **50**

Note: *All Questions are compulsory. Marks are indicated against each question.*

PART-A

Q.1 *First question will consist of 7 small questions covering entire syllabus out of which the student has to attempt 5 questions and understanding level will be assessed.*

- (a) What is the primary purpose behind Data Mining? [CO1] [L-1] **2**
- (b) Explain the difference between OLTP and OLAP [CO1] [L-2]
2
- (c) How would you apply the concept of Data Preprocessing in a real-world Data Mining project? [CO1] [L-3] **2**
- (d) Compare the Knowledge Discovery in Databases (KDD) process with Data Mining. How are they related? [CO1] [L-4] **2**
- (e) Evaluate the importance of identifying interesting patterns in Data Mining. How do these patterns impact decision-making? [CO-2] [L-5]
2
- (f) Design a basic Data Mining system that can handle classification of data. What functionalities would it include? [CO-2] [L-6] **2**
- (g) What are the major issues faced during the process of Data Mining? Give examples. [CO-1] [L-6]
2

2x5

PART-B

There will be five questions each covering one specific Course Outcome from the complete syllabus. There shall be an internal choice in each of the questions covering the same (set) of COs and BL. Questions carrying 10 marks can be further subdivided as per the paper setter choice.

Q.2 Differentiate between Data Mining and traditional Query Tools. Provide examples to highlight their differences. [CO1] [L-2] **10**

OR

Discuss the various types of data used in Data Mining (e.g., structured, unstructured, semi-structured). How does the type of data influence the choice of Data Mining techniques? [CO2] [L-2] **10**

Q.3 Explain the process of Data Preprocessing in Data Mining. What are the common steps involved, and why is data preprocessing essential for successful mining? [CO2] [L-3] **10**

OR

Explain the different types of functionalities of data mining. How do classification, clustering, regression, and association rule mining differ in terms of their goals and methods? [CO1] [L-3] **10**

Q.4 Discuss the key differences between Classification and Prediction in Data Mining. Provide real-world examples for each. [CO4] [L-2] **10**

OR

Describe the concept of interesting patterns in data mining. What criteria are used to evaluate the interestingness of a pattern? [CO- 1] [L-4] **10**

Q.5 What are the major issues in the Classification and Prediction tasks in Data Mining? Discuss challenges such as overfitting, underfitting, and model interpretability. [CO-5] [L-5] **10**

OR

Compare and contrast the following classification techniques: Bayesian Classification Back Propagation (Neural Networks) Discuss the strengths and weaknesses of each method and their applications. [CO-5] [L-5] **10**