

ADMISSION NUMBER											

School of Computing Science and Engineering

Bachelor of Computer Applications
Mid Term Examination - May 2024

Duration : 90 Minutes
Max Marks : 50

Sem IV - E1UA403B - Machine Learning

General Instructions

Answer to the specific question asked

Draw neat, labelled diagrams wherever necessary

Approved data hand books are allowed subject to verification by the Invigilator

- 1) List out the various methods to perform cross validation. K2 (2)
- 2) Discuss the modeling in machine learning? What are the types of Models in Machine Learning? K1 (3)
- 3) Illustrate the key elements of Machine Learning K2 (4)
- 4) Explain the main distinctions between classification and regression machine learning techniques, and provide specific examples of each K2 (6)
- 5) Apply the Naïve Bayes algorithm to classify continuous attributes and discuss the steps involved in the process. Provide a real-world example where the Naïve Bayes algorithm has been successfully utilized for classification. K3 (6)
- 6) A dataset is defined for attribute and consist of 10 instances as shown below. Construct the decision tree using decision tree algorithm K3 (9)

S No.	Age	Competition	Type	Profit
1	Old	Yes	Software	Down
2	Old	No	Software	Down
3	Old	No	Hardware	Down
4	Mid	Yes	Software	Down
5	Mid	Yes	Hardware	Down
6	Mid	No	Hardware	Up
7	Mid	No	Software	Up
8	New	Yes	Software	Up
9	New	No	Hardware	Up
10	New	No	Software	Up

- 7) Analyze and classify different types of Bayesian classifiers, examining their unique characteristics and applications K4 (8)
- 8) Explain the concept of "deep learning" in artificial intelligence. Provide examples of deep learning architectures and describe how they are utilized in various applications. K4 (12)

OR

Evaluate the potential challenges and consequences that can arise when the training and testing sets are not appropriately separated in machine learning. K4 (12)