Roll No. | | | | | | | | | | | | **Total No. of Pages : 02**

Total No. of Questions : 07

B.Sc. (AI and ML) (Sem.–4)

MACHINE LEARNING

Subject Code : UGCA-1977

M.Code : 91706

Date of Examination : 13-12-22

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains SIX questions carrying TEN marks each and students have to attempt any FOUR questions.**

SECTION-A

1. Write briefly :

a) What are univariate trees?

b) What is Q-learning?

c) Mention the principle behind support vector machines.

d) What is the use of logistic regression?

e) Name any two clustering techniques.

f) List the basic components of a neural network.

g) What is linear discrimination?

h) Define genetic programming.

i) What is back propagation in neural networks?

j) Define Bayes theorem.

SECTION-B

2. How perception model can be used to design a 2-input XOR? Illustrate the weight updates in detail.

3. What is genetic algorithm? Illustrate the steps of a genetic algorithm with an example.

4. List and explain various types of learning used in machine learning? Give examples.

5. What is the use of a decision tree? Explain the decision tree learning algorithm with an example.

6. Illustrate Naive Bayes Classifier to classify the data using an example with at least four features.

7. **Write short notes on :**

   a) Radial Basis Function

   b) Bayesian belief network.

NOTE : Disclosure of Identity by writing Mobile No. or Marking of passing request on any paper of Answer Sheet will lead to UMC against the Student.