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 : 05-07-22

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) Mention the principle behind k-nearest neighbor technique.

b) What is the use of linear regression?

c) What are multivariate trees?

d) List the issues in machine learning.

e) What do you mean by parallelizing genetic algorithms?

f) What are the support vectors in SVM?

g) Name any two clustering techniques.

h) List the basic components of a neural network.

i) What is logistic discrimination?

j) What is genetic programming?

SECTION - B

2. Define Bayes theorem. Illustrate the usage of Bayesian belief networks with an example.

3. Differentiate between supervised, unsupervised, instance-based and reinforcement learning. List the various techniques under each type of learning.

4. What do you mean by decision tree? Explain the basic decision tree learning algorithm with a suitable example.

5. Design a 2-input XOR using perception model. Illustrate the weight updates in detail.

6. Explain the basic components of a genetic algorithm with an example.

7. Write short notes on :

   a) Recurrent Network.

   b) Q-learning.