

[Time: Three Hours]

[Max.Marks:80]

N.B Please check whether you have got the right question paper.

i) Solve any two questions from each section.

ii) Assume suitable data if necessary.

SECTION - A

- Q.1 a) Explain candidate elimination algorithm with example. 10
- b) Explain – 10
- i) Issues in machine learning.
- ii) Maximally Specific hypothesis
- Q.2 a) What is procedure to build Decision tree using ID3 algorithm with Gain & entropy. Illustrate with example. 10
- b) Explain back propagation algorithm in detail. 10
- Q.3 a) What is linearly inseparable problems? Design a two layer network of perceptron to implement A XOR B. 10
- b) How to estimate the accuracy of a hypothesis? Explain confidence interval, Binomial distribution. 10

SECTION – B

- Q.4 a) Explain salient features of a Genetic algorithm and enumerate the steps in its prototypical algorithm. 10
- b) With the help of block – diagram explain Probability Approximation correct (PAC) Learning model. 10
- Q.5 a) How Naive Bayes algorithm is useful for learning and classifying text. 10
- b) Explain maximum likelihood hypothesis for predicting probabilities and minimum description length principle. 10
- Q.6 a) Explain with reference to Genetic algorithm:- 10
- i) Hypothesis space search
- ii) Models of evolution & learning
- b) Explain K- nearest neighbour learning algorithm in detail. 10