Total No. of Questions : 8]   [Total No. of Printed Pages : 2

Roll No ....

MCA-504(C)

M.C.A. V Semester

Examination, November 2018

Soft Computing

(Elective - II)

Time : Three Hours

Maximum Marks : 70

Note: i)   Attempt any five questions.

    ii)   All questions carry equal marks.

    iii)   Assume suitable data wherever necessary.

1. a) What is Neural network? Discuss the advantages and application scope of Neural network.

   b) Differentiate between the following:

     i)   Hard Computing and Soft Computing

     ii)   Biological neuron and Artificial neuron

2. a) Explain Adaline training model. Also discuss adaline network training algorithm.

   b) Describe back propagation Algorithm. List the stages involved in training of back propagation network.

3. a) Discuss two training algorithms for pattern association.

   b) Explain the architecture of BAM Network. Discuss about discrete and continuous Bidirectional Associative Memory.

4. a) State the testing algorithm used in discrete Hopfield Network.

   b) Construct an autoassociative network to store vector [1 1–1+1]. Use iterative autoassociative network to test the vector with three missing elements.

5. a) What are fuzzy sets. Describe fuzzy set operations with examples.

   b) Consider set X = {2, 4, 6, 8, 10}. Find its power set, cardinality and cardinality of power set.

6. a) What is fuzzy Inference System? Describe construction and working principle of FIS.

   b) Explain the application of fuzzy logic systems to image processing applications.

7. a) What is Genetic Algorithm? What are its applications?

   b) Write a detailed note on Parallel Genetic Algorithm.

8. a) What is rough set theory? Discuss some hybrid approaches involving rough sets.

   b) Write short notes on the following:

     i)   Fuzzy decision making

     ii)   Genetic Programming

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