Roll No ....

MCTA - 201

M.E./M.Tech., II Semester

Examination, July 2015

Soft Computing

Time : Three Hours

Maximum Marks : 70

Note : Total Numbers of **Eight** Questions. All questions carry Equal marks. Attempt any **five** from each unit. Assume missing data, if any, suitably.

1. a) How Artificial Neural Network differ from Human neurons?

   b) Explain the architecture of Multilayer Perceptron.

2. a) Explain Learning and give difference between supervised and unsupervised learning.

   b) Derive the back propagation training algorithm for the neuron in the hidden layer using logistic functions and the neurons in the output layer using linear function.

3. a) What is classification tree? How can rule based Structure identified in Fuzzy modeling?

   b) What is Genetic Algorithm? Explain the working of GA with Example.

4. a) What is reproduction? Give methods of selecting chromosomes for parents to cross over.

   b) What is Defuzzification? Explain with example.

5. a) Explain Hindi character Recognition method using ART2.

   b) Explain, What is the Evolutionary computation? Which kind of evolutionary algorithms are used for solving the multi objective problem?

6. a) What are the similarities in Soft Computing and Conventional Artificial Intelligence?

   b) Explain rank space methods for solving the optimization problems?

7. a) What are semantic networks? What is Hybrid Models? Explain.

   b) Explain Predicate logic with examples.

8. Write short notes on following : (Any Four)

   a) Constrained optimization

   b) Hybrid systems

   c) Soft Computing MATLAB Toolbox

   d) Neuro-Genetic System

   e) Fuzzy logic controlled GA

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