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Total No. of Questions : 5] *[Total No. of Printed Pages : 2*

Roll No .....

CS - 801

B.E. VIII Semester

Examination, December 2016

Soft Computing

Time : Three Hours

Maximum Marks : 70

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.

ii) All parts of each question are to be attempted at one place.

iii) All questions carry equal marks, out of which part A and B (Max. 50 words) carry 2 marks, part C (Max. 100 words) carry 3 marks, part D (Max. 400 words) carry 7 marks.

iv) Except numericals, Derivation, Design and Drawing etc.

Unit - I

1. a) Differentiate between soft computing and hard computing.
   b) List various types of soft computing techniques.
   c) Define Breath first and depth first search techniques.
   d) What do you understand by heuristic? Explain hill climbing method. Compare it with generate and test method.

OR

Differentiate the following:

i) Monotonic and non Monotonic Reasoning

ii) Forward and Backward Reasoning

Unit - II

2. a) Define structure and function of single neuron.
   b) What are the characteristic and application of ANN?
   c) Discuss perceptron training algorithm.
   d) What is Multi-layer perceptron? Explain different types of activation functions.

OR

Describe error back propagation algorithm with its characteristics.

Unit - III

3. a) Explain the architecture of counter propagations algorithm.
   b) What do you understand by associative memory?
   c) Write the limitation and applications of hopfield network.
   d) What are the difference in learning approach of counter propagations network to fead forward network.

OR

Draw and discuss the configuration of recurrent network.

Unit - IV

4. a) Differentiate between crisp relations and fuzzy relations.
   b) What are the features of fuzzy membership function?
   c) Define fuzzy rule base system.
   d) What is fuzzy inference system? Discuss various methods of fuzzy inference system.

OR

What is fuzzy logic? Explain its importance.

Unit - V

5. a) Compares and contract genetic algorithm with traditional algorithm.
   b) What two requirements should a problem satisfy it by a genetic algorithm?
   c) Give a brief note on applications and advances in genetic algorithm.
   d) Under the reproduction phase of genetic algorithm what are the various selection techniques and which is the most effective of the rest.

OR

Explain in detail Generation of cycle of genetic algorithm.

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