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

Roll No .....

MCIT-204

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

Examination, December 2017

Soft Computing

Time : Three Hours

Maximum Marks : 70

Note : i) Attempt any five questions.
ii) All questions carry equal marks.

1. a) Write the algorithm for deciding entailment in propositional logic. 7
   b) Explain standard quantities of first order logic with example. 7

2. a) Explain A* algorithm. Take any example to elaborate the algorithm. 7
   b) What is knowledge representation? Discuss the problems in representing knowledge. 7

3. a) Differentiate the structure and function of a biological Neuron and Artificial Neuron. 7
   b) What do you mean by linear separable problem? Also state the differences between radial basis function networks and multilayer perceptions. 7

4. a) Draw and explain the architecture of Hopfield network? Mention the applications of Hopfield networks. 7
   b) Discuss the important features of Kohonen self organizing maps. Also give its applications. 7

5. a) Compare and contrast classical logic and fuzzy logic. Why the excluded middle law does not get satisfied in fuzzy logic. 7
   b) What are various types of composition techniques? Discuss fuzzy composition techniques with on example. 7

6. a) What is mamdani type fuzzy inference system? Explain in working with the help of diagram. 7
   b) Draw a flowchart and explain an evolutionary algorithm. 7

7. a) Design a fuzzy logic controller to simulate a temperature control system for a room. 7
   b) How TSP can be solved using genetic algorithm? Describe operations performed in different phases. 7

8. a) Discuss few applications of hybrid fuzzy GA systems and neuro fuzzy systems. 7
   b) Write short notes : (any two) 7
      i) Cross over operation
      ii) Regression trees
      iii) Classification

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