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

Roll No .....

EI/IC-8401

B.E. VIII Semester

Examination, June 2017

Fuzzy Logic and Neural Networks

(Elective - IV)

Time : Three Hours

Maximum Marks : 70

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

1. a) What are Crisp relations? How are they different from Fuzzy relations? Explain various properties of crisp relation and fuzzy relation? 7
   b) Define membership function and state its importance in fuzzy logic? 7

2. a) Explain fuzzy reasoning with its methods in detail? 7
   b) What do you mean by Defuzzification? Discuss various defuzzification methods. 7

3. a) Explain artificial neural network. What is the role of Activation function? Explain commonly used activation function? 7
   b) Explain Perceptron network training with and without bias by taking suitable example. 7

4. a) Explain briefly:- 7
   i) Linear separability
   ii) Local Minima
   b) Discuss various stages involved in training of back propagation network. 7

5. a) Explain the architecture of full counter propagation network and explain how CDN nets are used for function approximation. 7
   b) State the applications of Kohonen self-organizing maps. 7

6. a) Discuss the methods which have been developed to improve generalization of neural network training? 7
   b) Explain the association encoding and decoding and stability consideration for bidirectional associative memory. 7

7. a) Explain the various architectures of Hopfield network in detail. How learning process occur in Hopfield network? 7
   b) What are stochastic machines? Describe the application algorithm used in Boltzmann machine. 7

8. Write short notes:- (any three) 14
   i) Training of Grosberg lawyer
   ii) Thermodynamic systems
   iii) Artificial specific heat methods
   iv) Fuzzy control application

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