

Roll No. ....

Total Pages : 2

**BT-8/M-20**

**38001**

**NEURAL NETWORKS AND FUZZY LOGIC**

Paper–CSE-402-E

Time Allowed : 3 Hours]

[Maximum Marks : 100

**Note** : Attempt **five** questions in all, selecting at least **one** question from each Unit. All questions carry equal marks.

**UNIT-I**

1. (a) What is an activation function in case of an Artificial Neural Network ? What are different types of activation functions ? Give examples.  
(b) What do you understand by Training of a Neural Networks ? Explain the different methods of Training. 20
2. What are the learning rule of perceptron network. Explain in the algorithm used for training the of perceptron network. 20

**UNIT-II**

3. Explain how the Kohonen Layer is trained. Once the Kohonen layer is trained, how does it operate ? 20
4. Explain the recurrent back propagation algorithm using at least two layer Neuron model. 20

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### UNIT-III

5. (a) What do you mean by Bi-Directional Associative memories and also write the structure of it in detail.
- (b) What are different methods to encode the association in Bi-Directional Associative memories ? 20
6. What are the characteristics of ART and also explain classification operation of ART. 20

### UNIT-IV

7. What are vector matrix multipliers ? Also explain Hop field net using electro optical matrix multipliers. 20
8. Explain the following terms :
- (a) Holographic correlator
- (b) Cognitrons
- (c) Neo-Cognitrons 20