NEURAL NETWORK AND FUZZY LOGIC SYSTEMS

Paper–PE–CS–AIML–420A

Time Allowed : 3 Hours]   [Maximum Marks : 75

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

UNIT–I

1. (a) Differentiate Single layer and multilayer feed forward Networks with suitable diagram.   10

   (b) Write applications of Artificial neural networks. 5

2. Define neural networks. Explain architecture of back Propagation network and back propagation learning method in detail.   15

UNIT–II

3. Define fuzzy set and Classical set. Explain various operations on Classical sets and Fuzzy sets with suitable examples.   15

4. Differentiate Fuzzy set and Crisp set. Explain various fuzzy membership functions with suitable examples.   15

UNIT–III

5. Explain importance of Defuzzification in fuzzy logic. Explain various Defuzzification techniques. 15

6. Discuss how fuzzy relations formed. Explain various operations and properties over a fuzzy relation. 15

UNIT–IV

7. Write short notes on the following : 15

   (a) Machine Intelligence.

   (b) Pattern recognition.

   (c) Person identification.

8. (a) Explain fuzzy logic control system in detail. 10

   (b) Write various Industrial applications of Neural Networks. 5