

Roll No.

22157

M.E. 3rd Sem. ECE

Examination-May, 2014

NEURAL NETWORKS AND FUZZY LOGIC

Paper-MEEC-601

Time : 3 hours

Max. Marks : 100

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard will be entertained after the examination.

Note : Attempt any **five** questions.

1. (a) Draw the structure and working of a neuron with the help of neat diagrams. 10
(b) Trace the historical development of artificial neurons. 10
2. Compare K-means clustering algorithm with Hopfield model. 20

3. Discuss the different learning laws in detail for supervised and unsupervised learning. 20
4. (a) Draw and explain the architecture of Back Propagation Network (BPN). 10

(b) Discuss radial basis function neural network. Justify their need over classic neural networks. 10
5. Discuss the ART network in detail. 20
6. What is meant by Pattern recognition ? What are its various applications ? How pattern recognition is implemented with the help of artificial neural networks ? Explain it with the help of an example. 20
7. (a) What is Fuzzy set theory ? Differentiate the concept of fuzzy sets from crisp sets with examples. 10

(b) Develop the logic for fuzzy logic based air conditioner. 10

8. Write notes on :

7+6+7

- (a) Associative memories**
 - (b) Defuzzification methods**
 - (c) Fuzzy IF-THEN rule.**
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