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) Trance 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)   Defuzzyfication methods

   (c)   Fuzzy IF-THEN rule.

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