Dr Meenakshi

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- May 2019

B.Tech VIII Semester

COURSE CODE: **13B1WEC831**

COURSE NAME: **SOFT COMPUTING TECHNIQUES**

COURSE CREDITS: 3

MAX. MARKS:35

MAX. TIME: 2:00 Hr

Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.

Q1 Answer the following

[6][CO1]

   a) What is Overfitting (overtraining) in NN and how is it different from Generalization?

   b) Significance of Momentum term?

   c) What is the main difference between the classical set and fuzzy sets and logic?

   d) How pattern mode and batch mode of training affect the result of back propagation learning?

Q2. What is meant by Linear Separability? Explain a problem which is not linearly separable and suggest a method to solve it.
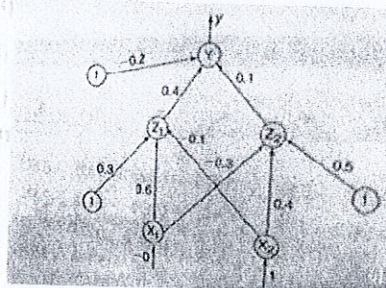
[4][CO1]

Q3. Draw the architecture of Back Propagation network. Explain in detail the functioning involved in training of the network and calculate the error function (delta value) at the output and hidden units and weight updation at output layer of the multi layer NN.

[5] CO3]

Q4. Using back propagation network find the new weights for the net shown in figure. It is presented with input pattern [0,1] and the target output is 1. The learning parameter is 0.25 and binary sigmoidal activation function is used.

[5] [CO4]

Q5. What is Winner–take-all algorithm? Detail components of Competitive Learning network. [5][CO3]

Q6. Elaborate Clustering application of Neural Networks. Discuss the various approaches to Clustering in Unsupervised learning.

[5] [CO4]

Q7. Explain Self-organizing Maps and relate them with Competition, Cooperation and Synaptic Adaptation stages

[5][CO3]