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M.Tech.(ECE) (2018 Batch) (Sem.-1)

FUZZY LOGIC AND SYSTEMS

Subject Code : MTEC-PE2Y-18-4

Paper ID : [75180]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

- 1. Attempt any FIVE questions out of EIGHT questions.**
2. Each question carries TWELVE marks.

- Q1 a) What are the various fuzzification techniques? Explain any two of them in detail with suitable example.
b) State the basic principle of Mamdani inference technique.
- Q2 Write short notes on:
a) Kohonen's feature maps
b) Tsukamoto fuzzy model
- Q3 a) Draw a typical McCulloch-Pitts neuron model.
b) What are the different types of Training algorithm suitable for artificial neural network?
- Q4 What is genetic algorithm? Explain the optimization of any function using genetic algorithm with suitable example.
- Q5 With neat architecture, explain the algorithm of ART network with a suitable example.
- Q6 a) What are the major blocks/layers of counter propagation network?
b) Explain genetic-neuro hybrid system with a neat diagram.
- Q7 a) What are associative memories? Explain with an example.
b) Define defuzzification process. Explain two popular methods of defuzzification with example.
- Q8 a) Describe back propagation and explain features of back propagation algorithm in context of multilayer perceptron.
b) Explain briefly the operation of biological neural with a simple sketch. Compare it with artificial neural model.