Code No: C5408 **R09**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.TECH I SEMESTER EXAMINATIONS APRIL/MAY-2012
NEURAL AND FUZZY SYSTEMS
(POWER ELECTRONICS AND ELECTRIC DRIVES)

Time: 3hours **Max.Marks:60**

Answer any five questions
All questions carry equal marks

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1.a) Briefly explain about the structure and functions of biological and artificial neural networks.
b) Discuss about Mcculloch – Pitts model.

2.a) Explain the historical developments of ANN.
b) Discuss about integrate – and – fire neuron model.

3.a) Explain activation and synaptic dynamics 0-1 neural networks.
b) Explain the supervised and unsupervised training methods of Artificial neural networks.

4.a) What is Perceptron? Explain Perceptron convergence theorem.
b) Explain the characteristics of recurrent associative memory.

5.a) State and explain Hebbian learning.
b) Explain the decomposition of the credit assignment problem into Sub Problems.

6.a) Differentiate between fuzziness and probability.
b) Write short notes on learning vector quantization.

7.a) What is meant by stability - plasticity dilemma in ART networks.
b) Write short notes on Defuzzification methods.

8. Draw block diagram of fuzzy logic controller structure? Explain each block of it. Also explain the design procedure of FLC.

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