

Code No: B9401**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.TECH II SEMESTER EXAMINATIONS, APRIL/MAY-2012
NEURAL AND FUZZY SYSTEMS
(ELECTRICAL POWER ENGINEERING)****Time: 3hours****Max. Marks: 60****Answer any five questions
All questions carry equal marks**

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- 1.a) Explain the organization of human brain.
- b) Describe Mc Culloch-Pitts model of a neuron. Design a network using this model realizes the NAND gate.
2. What is meant by an activation function in an artificial neuron model? Describe the various activation functions that are employed and compare their merits and demerits.
3. Derive the weight update equations for multi-layer feed forward neural network. Explain its learning difficulties and also convergence.
- 4.a) What do you mean by a hetro-associative memory? Give an example of hetro-associative memory and construct an energy function for the same.
- b) State and prove the BAM energy function theorem.
- 5.a) What is meant by stability plasticity dilemma in ART networks.
- b) What is the basic concept behind ART? Explain.
- 6.a) How to use ANN method for the problem of load forecasting? Explain.
- b) Explain the application of fuzzy logic system to LF control.
7. Differentiate between fuzziness and probability. Explain neural fuzzy systems, fuzzy neural networks and fuzzy hybrid systems.
- 8.a) What is fuzzification? Explain.
- b) Explain rule based fuzzy systems and decision making in fuzzy logic.

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