Code No: D7503 **R09**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.TECH II - SEMESTER EXAMINATIONS, APRIL/MAY 2012
NEURAL NETWORKS AND FUZZY SYSTEMS
(CONTROL SYSTEMS)

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

Answer any five questions
All questions carry equal marks
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1.a) Explain the biological prototype of neuron.
b) List and explain the various activation functions used in ANN.

2.a) Design the logic circuit for NOR and NAND gates using Mc Culloch-Pitte model.
b) Explain the following learning rules
i) Widrow-Hoff
ii) Delta

3. Describe the architecture of a counter propagation networks. Explain the training of computer propagation network and also discuss the practical considerations.

4.a) Describe the architecture of a counter propagation networks.
b) Explain outstar learning.

5.a) Explain the characteristics of recurrent associative memory.
b) Differentiate between crisp sets and fuzzy sets with examples.

6.a) What is Fuzzification? Explain Fuzzy decision making.
b) Explain the operations we can perform on fuzzy relation.

7.a) Explain the application of Fuzzy logic system to LF control.
b) Brief explain Neuro-Fuzzy controllers.

8. Write short notes on:
a) Classical measures of uncertainty
b) Uncertainty and estimation.

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