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Code No: A0604

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
M.TECH I - SEMESTER EXAMINATIONS, APRIL/MAY-2012
NEURAL NETWORKS AND APPLICATIONS
(DIGITAL SYSTEMS & COMPUTER ELECTRONICS)

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

Answer any five questions
All questions carry equal marks

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1.(a) Explain with diagrams the different connections between neurons.
(b) Using McCulloch-Pitts rule, draw the architecture for XOR function. Comment about the architecture.
(c) Discuss the main differences among the methods of McCulloch Pitts model and perceptron model.

2. Explain about Winner - take - all learning method. Also give its algorithm.

3. Write and discuss about Single layer Continuous Perceptron Training Algorithm.

4. (a) Design and train a feed forward networks for the problem.
Consider a 4 input and 1 output problem where the Output required to be 'one', if the input configuration is symmetrical and 'zero' otherwise.
(b) Why back propagation is also called as generalized delta rule.

5.(a) Discuss transient response of continuous time networks.
(b) Write short notes on minimization of the travelling salesman tour length.

6. Use the Hebb rule to store the vector (1 1 -1 -1) in an auto associative neural net.
(a) Find the weight matrix.
(b) Test the net with one mistake in the input vector.
(c) Test the input vector X = (1 1 -1 -1).

7. What is Bidirectional Associative memory? Explain the process of recall and update in BAM.

8. Write short notes on:
(a) Hamming NET
(b) MAXNET.

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