

BTS(C) -VII - 05 - 066 (F)



## ***B.Tech. Degree VII Semester Examination*** ***November 2005***

**IT 701 NEURO COMPUTING**  
*(1999 to 2001 Admissions)*

Time: 3 Hours

Maximum Marks: 100

- |           |    |   |      |
|-----------|----|---|------|
| I         | a) | Explain the characteristics of artificial neural networks.  | (9)  |
|           | b) | Describe the Mc Culloch-Pitts model of a neuron.  | (6)  |
|           | c) | Explain the Hebbian Learning.   | (5)  |
| <b>OR</b> |    |   |      |
| II        | a) | Distinguish between supervised and unsupervised learning.   | (10) |
|           | b) | Explain linearly inseparable problem with an example.   | (10) |
| III       | a) | Describe the different activation functions which function is used in back propagation training algorithm. Why?         | (10) |
|           | b) | Explain the perceptron training algorithm.  | (10) |
| <b>OR</b> |    |   |      |
| IV        | a) | Explain how the weights are adjusted in the output layer of a neural network using back propagation training algorithm. | (10) |
|           | b) | Describe the ADALINE model.   | (10) |
| V         | a) | Explain the characteristics of ART.   | (10) |
|           | b) | Describe the initialization and training in ART operation.  | (10) |
| <b>OR</b> |    |   |      |
| VI        | a) | Describe the major phases in ART classification process.  | (10) |
|           | b) | Explain the functional modules of ART network configuration.  | (10) |
| VII       | a) | Explain with diagram recurrent and non recurrent networks.  | (10) |
|           | b) | Describe how data is stored and retrieved in BAM.   | (10) |
| <b>OR</b> |    |   |      |
| VIII      | a) | Describe the stability condition in a Hopfield network.   | (10) |
|           | b) | Explain any one application for the Hopfield network.   | (10) |
| IX        | a) | Describe Kohonen layer and Grossberg layer in a feed forward counter propagation network.                               | (10) |
|           | b) | Explain what happens when the initial weight vectors are randomly chosen in a Kohonen self organizing map.              | (10) |
| <b>OR</b> |    |   |      |
| X         | a) | Describe neocognitron model.  | (10) |
|           | b) | Explain the role of excitatory neuron and inhibitory neuron in the cognitron model.                                     | (10) |