

Roll No.

2417

B. E. (7th Semester) (CSE)

Examination – December, 2011

NEURAL NETWORKS

Paper : CSE - 407 - E

Time : Three hours]

[Maximum Marks : 100

Before answering the question, candidates should ensure that they have been supplied the correct and complete question paper. No complain in this regard, will be entertained after examination.

Note : Attempt any *five* questions.

1. (a) Explain the structure of biological neuron in detail. 10
(b) Differentiate between artificial and biological neuron in detail. Also discuss various applications of neural network. 10
2. Explain the various models of artificial neural network with their corresponding advantages and disadvantages. 20

3. (a) What do you mean by discrete perceptron ?
Explain the use of discrete perceptron in single layer perceptron model. 10
- (b) Explain the linearly separable classification with suitable example ? 10
4. (a) Explain the delta learning rule for multi-perceptron neural network with its equations. 10
- (b) Define the following terms : 10
Error Back Propagation Training, Learning Factors, Hoff Learning Rule.
5. Explain the various architectures of Hopfield network in detail. How learning process does occurs in Hopfield network ? 20
6. (a) Explain the architecture of associative memory in detail. Also discuss its retrieval algorithm. 10
- (b) Explain how encoding and decoding takes place in associative memory. 10
7. Describe unsupervised learning of clusters in detail. 20

8. Write short notes on the following :

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| (a) Winner Take All Learning, | 5 |
| (b) Correction learning rule, | 5 |
| (c) Auto associative memory, | 5 |
| (d) Weight adjustment. | 5 |
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