

Roll No.

24489

**B. Tech 7th Semester (CSE)
Examination – May, 2018**

NEURAL NETWORKS

Paper : CSE-407-F

Time : Three Hours]

[Maximum Marks : 100

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

Note : Attempt *five* questions in all, selecting *one* question from each Section. Question No. 1 is *compulsory*. All questions carry equal marks.

1. (a) Correction Learning Rule $4 \times 5 = 20$
(b) Differentiate Auto & Hetro Associative Memory
(c) Learning factors
(d) Applications of ANN

SECTION – A

2. What are biological Neurons ? How they help in creating artificial neuron model. Compare and

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Contrast biological neurons with Artificial Neural Networks. 20

3. (a) Explain Hebbian Learning Rule. 10
(b) Explain McCulloch - Pitts neuron to design logic Networks of AND and OR logic functions. 10

SECTION - B

4. (a) Explain the Single layer continuous perceptron training algorithm for linearly separable classification. 10
(b) Explain linear separable classification with suitable example. 10
5. Write short notes on :
(a) Error Propagation Training 10
(b) Generalized Delta Learning Rule 10

SECTION - C

6. Explain the various architectures of Hopfield networks in detail. How learning process occurs in Hopfield Networks ? 20

7. Explain Bi directional Associative Memory. Design a Bi directional Associative Memory to encode the following Pattern. : 20

$A_1 = 100001$ $B_1 = 11000$

$A_2 = 011000$ $B_2 = 10100$

$A_3 = 001011$ $B_3 = 01110$

Check it for A_3

SECTION – D

8. Explain unsupervised learning of clusters in detail. 20

9. Write short notes on :

(a) Separation limitation of unsupervised learning. 10

(b) Recall Mode. 10
