

B.TECH. SEM -VII INFO. TECH. 2014 COURSE (CBCS) :
SUMMER - 2018

SUBJECT: ELECTIVE-III 4) NEURAL NETWORK

Day: **Thursday**
Date: **24/05/2018**

S-2018-2513

Time: **02.30 PM TO 05.30 PM**
Max Marks: 60

N.B.:

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Assume suitable data, if necessary.
-

Q.1 Explain Hebbian learning rule with relevant equations. **(10)**

OR

Compare Biological neurons with Artificial neural network. **(10)**

Q.2 Draw and explain architecture of Feedforward network. **(10)**

OR

How multilayer perceptron model different from single layer perceptron model? **(10)**
Explain the reason for emergence of multilayer perceptron model.

Q.3 Describe storage and retrieval algorithm for associative memory. **(10)**

OR

Using Hebb's rule of discrete BAM, find the weight matrix to store the **(10)**
following input – output pattern pairs.

$S_1 = (1,1,0)$ $t_1 = (1,0)$
 $S_2 = (0,1,0)$ $t_2 = (0,1)$

Q.4 Describe X-OR problem of classification of data using linear equation. **(10)**

OR

How Boltzmann machine works? Explain it with suitable example. **(10)**

Q.5 Discuss in detail how counter propagation network differs from Feed forward networks. **(10)**

OR

Briefly explain about Kohonen Self Organizing Maps (SOM). **(10)**

Q.6 Explain following terms from the perspective of applications of Artificial Neural Network. **(10)**

- i) Pattern Association.
- ii) Pattern Classification.

OR

Write short note on following : **(10)**

- a) Connectionist Expert systems for Medical Diagnosis
- b) NET Talk: To convert English text to speech

* * * * *