Sub Code: REC054

Paper Id: 130504 Roll No: | | | | | | | | | | | | | |

B.TECH
(SEM V) THEORY EXAMINATION 2019-20
ARTIFICIAL NEURAL NETWORK

Time: 3 Hours ***Total Marks: 70***

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. 2 x 7 = 14

a. What is the difference between texture classification and segmentation?
b. Why do we use back propagation?
c. Describe recall in neural networks.
d. What is simple artificial neuron?
e. How does text voice work?
f. What are Feedback neural networks?
g. Define Neocognitron.

SECTION B

2. Attempt any *three* of the following: 7 x 3 = 21

a. What is Perceptron? Describe Ada line model.
b. Explain back propagation algorithm. What are the applications of Back propagation networks (BPN)?
c. Explain pattern mapping tasks in detail.
d. Discuss the summary of basic gradient search methods.
e. What are the Features of ART models? Explain character recognition using ART network.

SECTION C

3. Attempt any *one* part of the following: 7 x 1 = 7

(a) Write a short note on History of neural network research. Also describe characteristics of neural networks terminology.
(b) Describe models of neuron McCulloch - Pitts model.

4. Attempt any *one* part of the following: 7 x 1 = 7

(a) Difference between single layer ANN & multilayer perceptron.
(b) What are the rules for selection of tuning parameters in BPN?

5. Attempt any *one* part of the following: 7 x 1 = 7

(a) Describe Basic feed forward, Basic feedback and basic competitive learning neural network.
(b) Write a short note on Pattern association & pattern classification.

6. Attempt any *one* part of the following: 7 x 1 = 7

(a) Write a short note on Analysis of pattern mapping networks.
(b) Difference between Feed-forward & feed-back neural networks. Also discuss stochastic networks.

7. Attempt any *one* part of the following: 7 x 1 = 7

(a) Difference between **Mapping network & ART networks**.
(b) Discuss in detail Recognition of consonant vowel (CV) segments, texture classification and segmentation.