B.Tech. 7th Semester, (F) Scheme (CSE)

Examination, December–2018

NEURAL NETWORKS

Paper– CSE–407–F

Time allowed : 3 hours]   *[Maximum marks : 100*

Note: *Attempt 5 questions selecting **one** question from each section and **Question No. 1 is compulsory.***

1. (a) Application of Artificial Neural Networks (ANN).   20

   (b) Define Hebbian Learning Rule.

   (c) What do you mean by Activation Functions and Threshold Function?

   (d) What is Recurrent Auto Associative Memory? Briefly explain.

   (e) Describe Learning factors briefly.

   Section–A

2. What is Artificial Neural Networks? Explain the structure of Biological Neuron in detail.   20

3. (a) What are Feed Forward and Feed Backward Networks? Explain with the help of diagrams. 10

   (b) Describe the following learning Rules: 10
      (i) Correction learning rule.
      (ii) Winner Take All Learning Rule.

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Section–B

4. (a) Discuss the Classification model, features and decision regions in detail. 10

   (b) Explain the delta learning rule for multi-perceptron neural network with its equations. 10

5. What do you mean by discrete perceptron? Explain the use of discrete perceptron in single layer perceptron model. 20

Section–C

6. (a) What is Associative Memory? Explain its various types with suitable example. 10

   (b) Explain retrieval algorithm and storage algorithm. 10

7. (a) Explain how encoding and decoding takes place in associative memory. 10

   (b) Explain Hopfield network in detail. 10

Section–D

8. What is self-organizing network? Explain Unsupervised learning of clusters in detail. 20

9. Briefly Explain. 20

   (a) Explain separability limitations for unsupervised learning.

   (b) Recall Mode for Self organizing network.

   (c) Winner Take All Learning in Unsupervised Learning.

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