Roll No. ....

OLE-22675

M.Tech. 3rd Semester (ECE) CBCS Scheme Examination – April, 2021
NEURAL NETWORKS & FUZZY LOGICS
Paper : 16ECE23C1

Time : Three hours]   *[Maximum Marks : 100*

Before answering the 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 total. All questions carry equal marks. Question Number **1** is *compulsory*. Attempt *one* question from each Unit.

1. (a) What do you mean by Pattern Association ?   4

   (b) Explain with example Pattern Mapping.   4

   (c) What is Unsupervised Learning ?   4

   (d) What do you mean by Back Propagation ?   4

   (e) What is difference between Fuzzy vs. Crisp set ? 4

UNIT – I

2. (a) Find out the Performance Comparison of Computer and Biological Neural Networks.   10

(b) Write a short note on Historical Development of Neural Network Principles. 10

3. (a) Explain the activation value and output signal of McCulloch-Pitts Model. 10

(b) Explain in detail with block diagram Bidirectional associative memory and Auto-associative memory. 10

UNIT – II

4. (a) Explain in detail Perceptron Learning Law and Delta Learning Law. 10

(b) What are Requirements of learning laws ? Explain Categories of learning. 10

5. (a) Explain in Hebbian Learning and Differential Hebbian Learning. 10

(b) What do you mean by K-means clustering algorithm ? Explain its algorithm. 10

UNIT – III

6. (a) Explain Radial basis function neural networks. 10

(b) Describe the functioning of Recurrent back propagation. 10

7. (a) Explain in detail counter propagation networks.

10

(b) Write a short note on ART networks. 10

UNIT – IV

8. (a) Explain with examples Linguistic variables and Membership functions. 10

(b) Describe the Fuzzy sets & Operations of fuzzy sets. 10

9. (a) Write a detail De-Fuzzification. 10

(b) Explain fuzzy inference algorithm. 10

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