Roll No. | | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 09

B.Tech.(ECE) (2011 Batch E-III)/(ETE) (2011 Onwards E-III) (Sem.–7,8)

NEURAL NETWORKS & FUZZY LOGIC

Subject Code : BTEC-916

M.Code : 71921

Time : 3 Hrs. Max. Marks : 60

INSTRUCTION TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students has to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students has to attempt any TWO questions.**

SECTION-A

1. Answer briefly :

a. Explain delta learning rule.

b. Explain solving EXOR problem using RBF.

c. Explain Widro & Hoff learning rule.

d. Differentiate between crisp and fuzzy set theory.

e. Explain Recurrent Neural Network.

f. Mention the properties of λ-cut for Fuzzy set.

g. Compare supervised learning with unsupervised learning.

h. What do you mean by the term ANFIS?

i. Write various features of Kohonen's self organizing learning algorithm.

j. Define any two Fuzzy set operations with example.

SECTION-B

2. Explain function approximation using Radial Basis Function Neural Network. Compare RBF and MLP.

3. Write an algorithm for calculating min-max decisions. What is the role of alliances in multiplayer games?

4. Explain Boltzmann Machine with architecture and algorithm.

5. Give the comparison between the radial basis function networks and the multilayer perceptron.

6. Explain the common activation functions used in neural network.

SECTION-C

7. Draw the block diagram of Fuzzy logic. Explain in brief the basic concept of fuzzy logic control.

8. Explain in detail the procedure for designing the neural network using competitive learning

9. Write short note on :

   a. Fuzzy Logic Controller *vs*. PID controller.

   b. ART networks.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.