Roll No. | | | | | | | | | | | | | **Total No. of Pages : 01**

Total No. of Questions : 08

M.Tech.(ECE) (2016 & 2017 Batch) (Sem.–1)

NEURAL NETWORKS & FUZZY LOGIC

Subject Code : MTEC-104

M.Code : 74149

Time : 3 Hrs. **Max. Marks : 100**

INSTRUCTION TO CANDIDATES :

1. **Attempt any FIVE questions out of EIGHT questions.**
2. **Each question carries TWENTY marks.**

Ql. What is artificial neural network? How it resembles the biological neuron? Compare the functioning of brain and computer. Give the historical development of neural network. Draw labeled diagram explaining function of each part of ANN and Biological neuron.

Q2. What is the need of learning and training of neural networks? Explain different learning algorithms/methods. How supervised learning differs from unsupervised learning? Realise hebb net for OR function with bipolar input and targets.

Q3. a) What are the steps to follow k-mean clustering algorithm?

b) What do you understand from counter propagation network? Explain with suitable example.

Q4. Explain the architecture and training algorithm of a radial basis function network. What are the applications of RBF and why is it preferred over others? Differentiate between back propagation and net and RBF net.

Q5. What is the difference between crisp value and fuzzy value? Explain with the help of block diagram the functioning of fuzzifier and defuzzifier .What are operations and properties in fuzzy set theory?

Q6. a) Explain the application of neural network for pattern recognition. How it is optimizing the performance of the system?

b) How the technology of neural network is used to implement VLSI technology?

Q7. Explain the following in reference to fuzzy logic with neat diagrams and also compare the systems with conventional systems

a) Antilock breaking system

b) FKBC and PID control

Q8. What is the basic concept behind adaptive resonance theory? Write about d architecture and operation about ART network. What are two types of ART learning and two forms of ART network?

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.