Roll No. | | | | | | | | | | | | |

Total No. of Pages : 01

Total No. of Questions : 08

M.Tech.(ECE) (2018 Batch) (Sem.–1)

FUZZY LOGIC AND SYSTEMS

Subject Code : MTEC-PE2D-18-4

M.Code : 75180

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1.Attempt any FIVE questions out of EIGHT questions.

2.Each question carries TWELVE marks.

Q1. What is the significance of associated memory in neural network? Draw and discuss any associated memory neural network with neat diagram in detail. [12]

Q2. a) Describe winner-take-all learning rule and outstar learning rule. [6]

b) What are the limitations of back propagation learning algorithm? Discuss the method to improve learning capability of ANN. [6]

Q3. a) What are classical and Fuzzy sets? List and discuss the operations on classical and fuzzy sets. [6]

b) Discuss the need of fuzzification process. Explain one of the fuzzification methods in detail. [6]

Q4. Describe Delta learning rule. How LMS (Widrow & Hoff) learning rule can be treated as a special case of Delta Rule? Justify with an example. [12]

Q5. What is hybrid soft computing technique? Classify them with their advantages and limitations. Explain the fuzzy genetic hybrid systems with diagram in detail. [12]

Q6. What is the role of reinforcement learning in neural network? Draw and explain the steps involved in reinforcement learning algorithm to train a neural network with neat flow diagram. [12]

Q7. Explain fuzzy rule based system design and relate it with any real life example. Demonstrate the Sugeno fuzzy inference system design using above rules. [12]

Q8. Define the terms chromosome, fitness function, crossover and mutation as used in genetic algorithms. Explain how genetic algorithms work. [12]

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.