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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.