INSTITUTE OF AERONAUTICAL ENGINEERING
(Autonomous)
M.Tech II Semester End Examinations (Regular) - July, 2017
Regulation: IARE–R16
SOFT COMPUTING
(Computer Science and Engineering)

Time: 3 Hours **Max Marks: 70**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the question must be answered in one place only

UNIT – I

1. (a) Explain architecture of simple artificial neural network in contrast with biological neuron. **[8M]**
   (b) For the network calculate weights and net input to output neuron **[6M]**
   {x1, x2,x3}={0.3,0.5,0.6}, {w1,w2,w3}={0.2,0.1,-0.3}

2. (a) Explain perceptron learning rule with example. **[6M]**
   (b) Explain architecture of back propagation network with neat diagram. **[8M]**

UNIT – II

3. (a) Explain bidirectional associative memory with neat diagram. **[8M]**
   (b) Explain architecture of Hebb's network. **[6M]**

4. (a) Explain the ADALINE model with neat diagram. **[7M]**
   (b) Explain in brief counter propagation networks. **[7M]**

UNIT – III

5. (a) Explain the properties of fuzzy sets. **[8M]**
   (b) Explain in detail fuzzy equivalence relation. **[6M]**

6. (a) What are the various methods of membership value assignments? **[6M]**
   (b) What are the various operations on fuzzy relations. **[8M]**

UNIT – IV

7. (a) Explain in brief about the aggregation of fuzzy rules. **[8M]**
   (b) Discuss about Sugeno fuzzy model in detail. **[6M]**

8. (a) Explain multi person decision making in brief. **[6M]**
   (b) Explain architecture and operation of FLC system. **[8M]**

UNIT – V

9. (a) Explain the terms population and fitness. **[6M]**

   (b) What are the types of encoding in GA. **[8M]**

10. (a) Explain in brief about mutation and flipping. **[8M]**

   (b) How are parallel GA's classified.Explain them in detail. **[6M]**

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