

B.Tech IV Year I Semester (R13) Supplementary Examinations June 2017

SOFT COMPUTING

(Computer Science and Engineering)

Time: 3 hours

Max. Marks: 70

PART – A

(Compulsory Question)

1 Answer the following: (10 X 02 = 20 Marks)

- (a) What is biological neuron?
- (b) What is back propagation?
- (c) What is fuzziness?
- (d) Define fuzzy set.
- (e) What fuzzification.
- (f) What is defuzzification?
- (g) What is fuzzy associative memory?
- (h) What is gene?
- (i) Define rough set.
- (j) What is rule induction?

PART – B

(Answer all five units, 5 X 10 = 50 Marks)

UNIT – I

2 Give ANN architecture and explain Adaline and Madaline network.

OR

3 Explain various back propagations and describe applications of back propagation network.

UNIT – II

4 Explain Hopfield network and Boltzman network and application of these networks.

OR

5 Give different operations on fuzzy sets.

Take fuzzy sets $A = [0.3, 0.5, 0.6, 0.8, 0.9]$, $B = [0.2, 0.4, 0.65, 0.7, 0.8]$ and compute fuzzy operations .**UNIT – III**

6 Differentiate classical logic with fuzzy logic with all the necessary concepts.

OR

7 Explain fuzzy associative memory rules with multiple antecedents and consequents and give examples.

UNIT – IV

8 Explain fuzzy logic controller and genetic algorithms in fuzzy logic controller design.

OR

9 Explain fuzzy propositions and approximate reasoning.

UNIT – V10 Match $P_1 = 000011110000$ $P_2 = 111100000000$ with crossover and mutation, and give applications of genetic algorithms.**OR**

11 Explain decision table and rule induction.
