

IT-802 B.E. VIII Semester
Examination, June 2014 Soft Computing

Time: Three Hours

Maximum Marks: 70

Note: Attempt one question from each unit. All questions carries equal marks.

Unit -I

1. a) State the various learning rules in neural network. 7
b) Explain the difference between a mathematical simulation of biological neural system and a artificial neural network? 7
2. a) Explain the following: 7
i) Supervised learning ii) Incremental learning iii) Unsupervised learning.
b) Explain Mcculloch, pitts neuron model with example. 7

Unit- II

3. a) Explain the back propagation algorithm and derive the expression for weigh update relations. 7
b) Give the comparison between the radial basis function networks and multi layer perceptions? 7
4. a) Discuss the applications of neural network in forecasting. 7
b) Explain Adaline and Madaline briefly. 7

Unit-III

5. a) What are the advantages of ART Network? Discuss about the gain control in ART network. 7
b) Explain the architecture and training of Kohonen's self organizing network. 7
6. a) Discuss the application of Neural networks in Robotic vision. 7
b) Draw the architecture of full CPN and explain how CPN nets are used for function approximation. 7

Unit-IV

7. a) Define membership function and discuss its importance in fiizzy logic. 7
b) Explain the sugeno fiizzy inference model with a suitable example. 7
8. a) Discuss the advantages of fiizzy logic controller over that of conventional controller. 7
b) Explain any four arithmetic operations on closed intervals with examples. 7

Unit-V

9. a) Compare and contrast traditional and genetic algorithm. State the importance of genetic algorithm. 7
b) Explain genetic algorithm in terms of reproduction, selection, evaluation and replacement. 7
10. Write short notes on Roulette wheel selection, Random selection, Tournament selection and Boltzmann selection?