

21.5.14

B.E. 8th Semester Examination, 2014

**Department of Computer Science and Technology
Indian Institute of Engineering, Science and Technology, Shibpur**

Subject: Soft Computing Techniques

Code: CS-803/3

Full Marks: 35

Time: 2 hr

Answer any three questions. All questions carry equal marks.

Two marks are allotted for neatness

1. State Hebbian Hypothesis and Perceptron Theorem. Describe Perceptron Learning Rule for Linear Threshold unit (LTU). 5+6
2. Explain the difference between crisp and fuzzy set. Give an appropriate example to describe Linguistic variables, fuzzy variables. 5+6
3. What do you mean by hard clustering? When hard clustering fails to group objects and how the situation is tackled? 2+3+6
4. What are the characteristics of Genetic algorithm (GA)? Write the steps of GA. 5+6
5. What is REDUCT? Write steps of quickreduct algorithm for finding reducts from a data set. 3+8
6. Write short notes: Elitism property of GA, Limitations of back propagation algorithm, Approximate Reasoning 3+4+4