

Exam. Code : 206701

Subject Code : 5174

M.Sc. Computer Science 1st Semester

MCS-105 : SOFT COMPUTING

Time Allowed—3 Hours] [Maximum Marks—100

Note :— Attempt any *five* questions. All questions carry equal marks.

1. What is a fuzzy set ? How is it different from a crisp set ? How are fuzzy relations represented ? Explain with the help of examples.
2. What is a neural network ? Explain the working of an artificial neuron. How is it similar to a biological neuron ? Draw neat diagrams to explain the answer.
3. Name and describe major features of a genetic algorithm.
4. Explain the following :
 - (a) The models : Adalines and Madalines
 - (b) Conditional Probability.
5. Write short notes on :
 - (a) Back propagation algorithm
 - (b) Bayes's theorem.
6. What is probabilistic reasoning ? How is probability theory used to reason about uncertain events ?
7. What is conditional probability ? State the Bayes theorem. What are its applications ?
8. What is a perceptron ? Explain the perceptron training algorithm for learning.