Exam. Code : 206701
Subject Code : 4648

M.Sc. Computer Science Semester—I

MCS-105 : SOFT COMPUTING

Time Allowed—3 Hours]   [Maximum Marks—100

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

1. What is fuzzy logic ? How is it different from binary logic ? Discuss applications of fuzzy logic.

2. Explain architecture of an Artificial Neural Network with the help of a diagram.

3. What is a combinatorial problem ? How are genetic algorithms suitable for solving these problems ? What two requirements should a problem satisfy in order to be suitable for solving it by a GA ? Explain your answer with the help of the travelling salesman problem.

4. Explain the following :

    (a) The models : Adalines and Madalines

    (b) Conditional probability.

5. Write short notes on :

    (a) Adaptive Resonance Theory

    (b) Neuro-Fuzzy Systems.

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6. What is a random variable ? How is a probability distribution used to generate data for a random variable ? Give at least two examples of different probability distributions.

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.