C022633(022)

B. Tech. (Sixth Semester) Examination, April–May 2022

(AICTE Scheme)

(Computer Science Engineering Branch)

SOFT COMPUTING (PROFESSIONAL ELECTIVE)

Time Allowed : Three hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note : *Attempt all questions. Part (a) of each question is compulsory and carry 4 marks each. Attempt any **two** parts out of part (b), (c) and (d) of each question carry 8 marks each.*

Unit-I

1. (a) What is Computing? Explain soft computing.

    (b) What do you understand by soft computing and hard computing in detail?

(c) Write down the various application of soft computing.

(d) Explain characteristics of soft computing in detail.

Unit-II

2. (a) What is Fuzzy logic? What do you understand by fuzzy logic membership function?

(b) Demonstrate the various operations on fuzzy set with example.

(c) Explain about fuzzy proposition, formation, decomposition in detail.

(d) What is Defuzzification? Explain defuzzification method in detail.

Unit-III

3. (a) What is biological neural network structure in detail?

(b) Explain various topology of neural network. What is difference between ANN and BNN?

(c) Demonstrate error back propogation training algorithm.

(d) Explain about perceptron training algorithm with one example.

Unit-IV

4. (a) What is genetic algorithm? Explain its principle.

(b) Explain the differences between traditional and genetic algorithm.

(c) Explain about the mutation operator and the basic operations in genetic algorithms.

(d) Explain different cross over operations perfomed in GA.

Unit-Y

5. (a) Define MOOP and its basic principle.

(b) Write short notes on :

(i) Patrobased approach

(ii) Non patrobased approach

(c) Explain multi objective evolutionary approach in detail.

(d) Explain various application of MOOP with some issues of solving to them.