Roll No .....

MCADD-801

M.C.A. (Integrated), VIII Semester

Examination, November 2023

Soft Computing

Time : Three Hours

Maximum Marks : 70

Note: i) Attempt any five questions.

ii) All questions carry equal marks.

1. a) Explain single layer neural network architecture using perceptron model with suitable activation function.

   b) Explain adaptive feed forward multilayer networks.

2. a) What is the purpose of LVQ network? How initial weights can be determine?

   b) Give application of Hopfield network.

3. a) Explain the working principle of FIS with suitable diagram.

   b) Discuss the importance of fuzzy sets.

4. a) What GA encoding scheme suffers from Hamming cliff problem?

   b) Briefly explain the use genetic algorithm assuming an application in daily life.

5. a) Explain Mamdani's and Zadeh's interpretation of fuzzy rule.

   b) Discuss fuzzy tolerance and equivalence relation.

6. a) Consider set X= {2, 4, 6, 8, 10}. Find its power set, cardinality and cardinality of power set.

   b) Explain the concept of fuzzy rough.

7. a) Explain in detail the optimization of load regulation problem using GA.

   b) Briefly discuss with example any 2 operators involved in simple GA.

8. Write short notes on (any two):

   a) Neural Network

   b) Back Propagation

   c) Madeline network

   d) Boltzmann machine

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