Roll No ....

MCSE-205
M.E./M.Tech. II Semester Examination, June 2020
Soft Computing

Time : Three Hours

Maximum Marks : 70

Note : i)   Attempt any five questions.

      ii)   All questions carry equal marks.

1. a)   What is A* search? Explain various stages of A* search with an example.

     b)   Explain probability and Bayes theorem.

2.   Explain in detail the architecture of McCulloch-Pitts neuron model and also realize 3 input NAND gate, NOR gate using the above neuron model.

3. a)   What are the different activation functions used in ANN?

     b)   Write the weight updated equation of a back propagation algorithm.

4. a)   Explain the basic architecture and algorithm of counter propagation network.

     b)   Discuss support vector machine. Write the various application where support vector machine used.

5. a)   What is meant by membership functions? Explain in detail various membership functions of fuzzy logic systems.

     b)   Write down the energy functions of discrete Hopfield net.

6. a)   What are the basic components of a fuzzy logic system? Explain each of them in detail.

     b)   Explain multilayer perceptron and linear separability.

7. a)   Explain Genetic operations and fitness function in respect of evolutionary computing.

     b)   List different selection mechanisms in genetic algorithm. Explain any two.

8.   Write a short notes (any three)

    i)   DFS

    ii)   Hebbian learning

    iii)   Fuzzy inference systems

    iv)   Travelling salesman problem

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