

Roll No

MCSE-205
M.E./M.Tech. II Semester
Examination, June 2023
Soft Computing
Time : Three Hours

Maximum Marks : 70

Note : i) Attempt any five questions.

ii) All questions carry equal marks.

1. a) What is the difference between soft computing vs hard computing? Explain.
b) State the applications of Kohonen's Self organizing maps.
2. a) Explain perceptron network training with and without bias by taking suitable example.
b) What is A* search? Explain various stages of A* search with an example.
3. a) Explain in detail the architecture of McCulloch-Pitts neuron model and also realize 3 input NAND gate, NOR gate using the above neuron model.
b) What are the different activation functions used in ANN?
4. a) Show how fuzzy logic control and genetic algorithm based structural optimization can be used for plant control applications.
b) How to implement Neuro Fuzzy Modeling for Regression Test Cases Prioritization?

5. a) Explain with a neat diagram the neural network architecture of multilayer feed forward network.
b) Find the algebraic sum of two fuzzy sets $A = \{(3, 0.5)(5, 1)(7, 0.6)\}$ and 'B' and $B = \{(3, 1)(5, 0.6)\}$
6. a) How can Fitness functions be found for any optimization problem? Explain in detail, Fitness Function in Genetic algorithm.
b) What are Genetic Algorithms? Draw the general flow diagram of genetic algorithm.
7. a) What are the applications of Supervised Machine Learning in Modern Businesses?
b) Explain Travelling salesman Problem using genetic problem with example.
8. Write short notes on the following:
 - i) Derivation of EBPA
 - ii) Dempster Shafer theorem
