Roll No	
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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 basicomponents of a fuzzy logic system? Explain each of them in detail.
 - b) Explain multila or 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
