Reg. No. :

Question Paper Code: 31764

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2016

Seventh Semester

Instrumentation and Control Engineering

01UIC704 - APPLED SOFT COMPUTING

(Regulation 2013)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. List the main components of the biological neuron.

2. Differentiate supervised and unsupervised learning.

3. Define Adaline and also name the rule used to train that network.

4. List few key points to be noted in a perceptron network.

5. Summarize the name of the operations allowed in fuzzy sets.

6. Represent the fuzzy set operation using venn diagram.

7. Mention the features of a simple fuzzy logic controller system.

8. List the various applications of fuzzy logic controller.

9. State the importance of genetic algorithm.

10. Name the basic terminologies used in genetic algorithm.

PART - B (5 x 16 = 80 Marks)

11. (a) Describe the types of artificial neural network architectures. (16)

Or

(b) (i) Explain the McCulloch pitts neuron model. (8)

(ii) Explain the Hebb network. (8)

12. (a) Describe the architecture, training algorithm and testing algorithm of discrete time Hopfield networks. (16)

Or

(b) Explain the process modeling using artificial neural network. (16)

13. (a) Discuss the fuzzy relations. (16)

Or

(b) Explain the different kinds of methods of defuzzification. (16)

14. (a) Explain the architecture and operation of fuzzy logic controller system. (16)

Or

(b) Apply the fuzzy logic controller for inverted pendulum. (16)

15. (a) Explain the classification of genetic algorithm. (16)

Or

(b) Describe the search algorithms used in evolutionary programming. (16)

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