Reg. No. :

Question Paper Code: 39310

B.E. / B.Tech. DEGREE EXAMINATION, DEC 2021

Elective

Electrical and Electronics Engineering

01UEE910 - FUZZY LOGIC AND NEURAL NETWORKS

(Regulation 2013)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 2 = 20 Marks)

1. Differentiate classical and fuzzy set.

2. Define boundaries of a membership function.

3. Define Defuzzification.

4. List the components of fuzzy logic controller.

5. Compare artificial neural network and biological network.

6. Define threshold.

7. What is the main purpose of Hop field network?

8. What is Recurrent Network?

9. What are the basic elements of a fuzzy logic control system?

10. What are fuzzy relations?

PART - B (5 x 16 = 80 Marks)

11. (a) Explain different types membership functions used in fuzzification process.   (16)

Or

(b) Describe the properties of crisp sets in fuzzy logic.   (16)

12. (a) Illustrate the fuzzy rule based system with suitable example.   (16)

Or

(b) Explain the process of defuzzification.   (16)

13. (a) Explain Rosenblatts perceptron model single layer and multi-layer perceptrons?

(16)

Or

(b) (i) Explain single and Multilayer feed forward network with example.   (12)

(ii) What is activation function? Give its types.   (4)

14. (a) Sketch and explain the architecture of Bi-directional associative memories.   (16)

Or

(b) Explain the Hopfield network and draw its architectures.   (16)

15. (a) Illustrate the automatic generation control using fuzzy logic controllers.   (16)

Or

(b) Explain the fuzzy set descriptions for the inverted pendulum problem.   (16)

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