

Reg. No. :

--	--	--	--	--	--	--	--	--	--	--

**Question Paper Code: 31932**

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

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. List any two operations on classical sets.
2. What you mean by universal set?
3. List the defuzzification methods.
4. What is the purpose of knowledge base module?
5. What are the classifications of activation function?
6. What are the four main steps in back propagation algorithm?
7. How ANN resembles brain?
8. What is the main purpose of hop field network?
9. What is energy function or lyapunov function?
10. What are fuzzy relations?

PART - B (5 x 16 = 80 Marks)

11. (a) List the various types of membership function that are commonly used in fuzzy logic and also explain any two membership functions in detail. (16)

Or

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

12. (a) Discuss the hierarchical structure of a linguistic variable. (16)

Or

- (b) With a neat sketch discuss the major components of fuzzy controller. (16)

13. (a) Explain Rosenblatts perceptron model single layer and multi-layer perceptrons? (16)

Or

- (b) Explain the back propagation algorithm training with any one example. (16)

14. (a) Describe the general structure of bi-directional associative memories. (16)

Or

- (b) Explain the recurrent networks in ANN. (16)

15. (a) Describe the fuzzy logic application in power systems automatic generation control. (16)

Or

- (b) Explain how to implement the fuzzy controller in washing machine. And also write the algorithm. (16)