53 (IT 819) FLNN

2021

FUZZY LOGIC AND NEURAL NETWORK

Paper : IT 819

Full Marks : 100

Time : Three hours

The figures in the margin indicate full marks for the questions.

1. (a) State the significance of fuzzy sets over classical sets.   4

    (b) Define the following membership functions :   16

    (i) Sigmoid

    (ii) Gaussian

    (iii) Triangular

    (iv) Trapezoidal.

2. (a) Briefly discuss the different modules of fuzzy logic controller.   10

(b) Discuss the fuzzy c-means clustering method.   10

3. (a) Briefly explain the architechtance of artificial neural network.   10

(b) Discuss the gradient descent method.   10

4. Describe genetic algorithm. Explain the role of genetic algorithm in fuzzy logic controller.   20

5. Write short notes on the following : *(any two)*   20

(i) Supervised and unsupervised learning

(ii) McCulloch-Pitts model

(iii) Support and α-cut of a fuzzy set.

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