B. Tech. Sem - VIII (Electronics) (2014 COURSE) (CBCS) :
SUMMER - 2019
SUBJECT: ELECTIVE – II : FUZZY LOGIC AND NEURAL NETWORK

Day : Thursday
Date : 30/05/2019

S-2019-2907

Time : 02.30 PM TO 05.30 PM
Max Marks : 60

N.B.:

1) All Questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Draw neat diagram **WHENEVER** necessary.
4) Assume suitable data, if necessary.

Q.1 Define continuous and Discrete Fuzzy Sets. Write fuzzy set operations and their properties. **(10)**

OR

Q.1 Explain Max-Min composition and Max product composition of Fuzzy Relation. **(10)**

Q.2 Analyze the following defuzzification methods: **(10)**
i) Max-membership method.
ii) Centroid method
iii) Weighted Average method

OR

Q.2 Illustrate Tsukamoto Fuzzy model and Sugeno fuzzy model. **(10)**

Q.3 Construct Aircraft landing control problem based on FLC. **(10)**

OR

Q.3 Draw the block diagram of Fuzzy logic controller. From design Engineer point of view, write assumptions in Fuzzy control system design. **(10)**

Q.4 Define bias, weights and thresholds in ANN. **(10)**

OR

Q.4 Critically analyze supervised learning, unsupervised learning and reinforcement learning with example. **(10)**

Q.5 Summarize RBFN design steps. **(10)**

OR

Q.5 Construct the application of Multilayer Perceptron for classification and regression. **(10)**

Q.6 Draw ANFIS architecture. Design one application based on ANFIS. **(10)**

OR

Q.6 Elucidate Hybrid learning algorithm. Write all steps. **(10)**

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