

**B. TECH. (CBCS - 2014 COURSE) SEM - VIII (ELECTRONICS)
: SUMMER - 2018**

SUBJECT: ELECTIVE – II : FUZZY LOGIC AND NEURAL NETWORK

Day : **Saturday**
Date : **09/06/2018**

S-2018-4687

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 the following with respect to fuzzy sets: **(10)**
i) Core.
ii) Height.
iii) Support.
iv) α – Cuts.

OR

Q.1 Define fuzzy number with their properties and example. **(10)**

Q.2 What is the role of defuzzification? Discuss any two defuzzification methods. **(10)**

OR

Q.2 Elucidate Fuzzy Inference System with Mamdani Fuzzy Model. **(10)**

Q.3 Draw the block diagram of Fuzzy Logic Controller. Explain the role of fuzzy reasoning, knowledge base and defuzzification. **(10)**

OR

Q.3 Construct Washing machine application based on FLC. **(10)**

Q.4 Write ANN characteristics and compare Artificial Neural Network with Biological Neural Network. **(10)**

OR

Q.4 Define the role of Activation functions in ANN. Explain the types of activation functions. **(10)**

Q.5 Illustrate back propagation algorithm in detail. **(10)**

OR

Q.5 Discuss Hopfield Networks. **(10)**

Q.6 Draw ANFIS architecture and compare it with Mamdani/ Sugeno FIS models. **(10)**

OR

Q.6 Construct one application based on ANFIS/ CANFIS. **(10)**

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