

**B.TECH SEM – VIII (2007 COURSE) (ELECTRONICS ENGG.) :**  
**SUMMER - 2018**  
**SUBJECT : FUZZY LOGIC AND NEURAL NETWORK**

Day : **Tuesday**                      **S-2018-2881**                      Time : **02.30 PM TO 05.30 PM**  
Date : **05/06/2018**                      Max. Marks : 80

**N. B. :**

- 1) **Q. No. 1 and Q. No. 5 are COMPULSORY.** Out of remaining attempt **ANY TWO** question from section I and Section – II.
- 2) Figures to the right indicate **FULL** marks.
- 3) Answers to both the sections should be written in **SEPARATE** answer books.
- 4) Use of non-programmable calculator is **ALLOWED**.
- 5) Assume suitable data, if necessary.

**SECTION – I**

- Q. 1**    a) Define alpha cuts, core and support of fuzzy set.                      **(05)**  
          b) Define Linguistic variable with example.                      **(05)**  
          c) Define fuzzy functions.                      **(04)**
- Q. 2**    a) Compare set theoretic function and membership functions of crisp and fuzzy sets with example.                      **(07)**  
          b) Write types of t-norms and t-conorms.                      **(06)**
- Q. 3**    a) Explain washing machine application with reference to design steps of fuzzy logic controller.                      **(07)**  
          b) Discuss types of defuzzification.                      **(06)**
- Q. 4**    a) Explain weight, bias and training in ANN                      **(07)**  
          b) Discuss Genetic algorithm with design steps and application.                      **(06)**

**SECTION – II**

- Q. 5**    a) Write short note on ANN.                      **(05)**  
          b) Explain batch and iterative processing in ANN.                      **(05)**  
          c) Define generalized delta rule.                      **(04)**
- Q. 6**    a) Explain Graphics and digraphs in ANN.                      **(07)**  
          b) Explain neural computing applications.                      **(06)**
- Q. 7**    a) With algorithm and structure explain Madaline.                      **(07)**  
          b) Explain elementary building blocks of ANN.                      **(06)**
- Q. 8**    a) Discuss error surfaces and search concepts in feed forward networks.                      **(07)**  
          b) With training, structure and algorithm explain feed forward networks.                      **(06)**

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