

Total No. of Questions : 12]

SEAT No. :

P4937

[Total No. of Pages :2

[4959]-1077

B.E. (Electrical)

**Intelligent Systems and it's Application in Electrical Engineering
(2012 Pattern) (Elective - III (D))**

Time : 2½ Hours]

[Maximum Marks : 70

Instructions to the candidates:

- 1) Neat diagrams must be drawn wherever necessary.*
- 2) Figures to the right indicate full marks.*
- 3) Use of logarithmic tables slide rule, Mollier charts, electronic pocket calculator and steam tables is allowed.*
- 4) Assume suitable data, if necessary.*

Unit - I

Q1) Explain biological neuron model with neat sketch. **[6]**

OR

Q2) Explain Single neuron model with activation function. **[6]**

Unit - II

Q3) What are different supervised methods? Draw perceptron model. **[6]**

OR

Q4) Explain learning rules. **[6]**

Unit - III

Q5) Explain ART-1 network with neat sketch. **[8]**

OR

Q6) Explain Self organizing maps. **[8]**

Unit - IV

Q7) a) Explain various membership functions used in fuzzy logic. **[8]**

b) Discuss various fuzzy operators. **[8]**

P.T.O.

OR

- Q8)** a) Explain properties of fuzzy set. [8]
b) Explain crisp logic Vs fuzzy logic. [8]

Unit - V

- Q9)** a) Explain predicate logic used in fuzzy systems. [8]
b) Explain sugeno inference system. [9]

OR

- Q10)** a) Explain various de-fuzzification methods. [8]
b) Explain Mamdani inference system. [9]

Unit - VI

- Q11)** a) Give introduction of genetic algorithm. [8]
b) Explain software architecture used in expert system. [9]

OR

- Q12)** a) Explain various operators used in genetic algorithm. [8]
b) Explain rule based system in expert system. [9]

