

Total No. of Questions :8]

SEAT No. :

P3635

[Total No. of Pages :2

[4959] - 1124

B.E. (I.T.)

SOFT COMPUTING

(Semester - I) (414456 A) (Elective - I) (2012 Course)

Time : 2½ Hours]

[Max. Marks :70

Instructions to the candidates:

- 1) *Neat diagram must be drawn whenever necessary.*
- 2) *Figures to the right indicate full marks.*
- 3) *Assume suitable data if necessary.*

- Q1)** a) What is Boltzman machine? With neat sketch explain its architecture. [8]
b) What are the issues related to representation of knowledge? [6]
c) List out the strength and weaknesses of Back Propagation algorithm. [6]

OR

- Q2)** a) Explain in brief architecture of multilayer feed - forward neural network. [8]
b) What is difference between behavior of intelligent system and knowledge based system? [6]
c) What is vigilance parameters in ART network? [6]

- Q3)** a) What is Extension Principle for fuzzy arithmetic? Perform following operations. [9]
i) Multiplication
ii) Division
b) Define and explain classical relations and fuzzy relations. [8]

OR

P.T.O.

- Q4)** a) List and explain methods employed for membership value assignment. **[8]**
b) With suitable block diagram, explain construction and working of fuzzy inference system? **[9]**

- Q5)** a) What is difference between genetic algorithm and genetic programming? **[8]**
b) With the neat flowchart explain operation of simple genetic algorithms. **[9]**

OR

- Q6)** a) Is it advisable to apply genetic algorithm for all kinds of optimization problems? Justify. **[8]**
b) What are types of crossover and mutation techniques? **[9]**

- Q7)** a) Describe an application how soft computing can be used in mobile ad-hoc networks. **[8]**
b) Mention the application areas of neuro-fuzzy hybrid soft computing approach. **[8]**

OR

- Q8)** a) Describe an application how soft computing can be used in information retrieval. **[8]**
b) Describe an application of evolutionary computing in image processing. **[8]**

