Total No. of Questions : 8]

SEAT No. :

P2351

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[5254]-684
B.E. (I.T.)
SOFT COMPUTING
(2012 Pattern) (Semester - I) (Elective - I)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Figure to the right indicate full marks.***
2) ***Assume Suitable data if necessary.***

Q1) a) List and characterize the constituents of soft computing. **[6]**

b) Explain the types of pattern recognition tasks. **[6]**

c) What is Boltzman machine? With neat sketch explain its architecture. **[8]**

OR

Q2) a) Give an example of intelligent system and elaborate it. **[6]**

b) Explain the limitations of perceptron as a classifier. **[6]**

c) What is SOM? Explain training algorithm for SOM. **[8]**

Q3) a) Explain the merits and demerits of fuzzy logic. **[8]**

b) Explain the alpha-cut method for discrete fuzzy sets to perform arithmetic operations. **[8]**

i) Subtraction.

ii) Multiplication.

OR

Q4) a) "Behavior of fuzzy logic is deterministic"? Justify. **[8]**

b) What are fuzzy relations? Explain following operation on fuzzy relations.

i) Intersection. **[8]**

ii) Containment.

P.T.O.

Q5) a) Is it advisable to apply genetic algorithm for all kinds of optimization problems? Justify. **[10]**

b) What is evolutionary programming? **[6]**

OR

Q6) a) What are types of crossover and mutation techniques. **[10]**

b) What are limitations of genetic algorithms. **[6]**

Q7) a) Describe an application how soft computing can be used in mobile ad-hoc networks. **[9]**

b) Mention the application area of fuzzy logic. **[9]**

OR

Q8) a) Describe an application how soft computing can be used in software engineering. **[9]**

b) Mention application area of genetic algorithms. **[9]**