Total No. of Questions : 8]

SEAT No. :

P3128

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[5154]-694

B.E. (Information Technology)

SOFT COMPUTING

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

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Figures to the right indicate full marks.***
2) ***Assume suitable data, if necessary.***

Q1) a) What is soft computing? Explain its components. **[6]**

b) What are performance issues in Error Back Propagation Algorithm. **[8]**

c) Explain resonance in Adaptive - Resonance - Theory networks with diagram. **[6]**

OR

Q2) a) Comment on the nature of problems solved with soft computing. **[6]**

b) What are the weaknesses of EBP algorithm? **[8]**

c) Explain how Neural networks can be used for clustering task. **[6]**

Q3) a) What is meant by fuzzy logic? Illustrate it with examples. **[8]**

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

i) Addition

ii) Division

OR

Q4) a) List out the characteristics features of fuzzy systems. **[8]**

b) List and explain following fuzzy set operations with example. **[8]**

i) Normal fuzzy set

ii) Product of fuzzy set

P.T.O.

Q5) a) Compare: **[8]**

i) evolutionary strategy and

ii) evolutionary programming

b) Explain the basic operations in Genetic Algorithms **[8]**

OR

Q6) a) Explain how Genetic Algorithms are different from Evolutionary Strategy. **[8]**

b) With the neat flowchart explain operation of evolutionary programming. **[8]**

Q7) a) Describe an application how soft computing can be used in semantic web. **[9]**

b) Describe applications of Evolutionary Computing in image processing. **[9]**

OR

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

b) Describe an applications of fuzzy for character recognitions. **[9]**