

I.M.C.A. SEM-IX (2014 Course) CBCS : SUMMER - 2019

SUBJECT: SOFT COMPUTING

Date: Monday
Day: 15/04/2019

S-2019-2146

Time: 02.00 PM TO 05.00 PM
Max. Marks: 100

N.B.

- 1) Attempt ANY FOUR questions form Section-I.
- 2) Attempt ANY TWO questions form Section-II.
- 3) Answer to the both sections should be written in **SAME** answer books.

SECTION-I

- Q.1 Explain the different encoding techniques of genetic algorithm. [15]
- Q.2 a) Explain different types of neural networks. [07]
b) Write a note on rough set theory. [08]
- Q.3 Describe various factors affecting back propagation training. [15]
- Q.4 Give a neat and complete flow chart of typical genetic algorithm and explain it. [15]
- Q.5 a) Explain different fuzzy connectives. [07]
b) Explain different properties of fuzzy set. [08]
- Q.6 Write a note on: [15]
a) Crisp Set
b) Fuzzy logic
c) Discernibility matrix

SECTION-II

- Q.7 Consider following fuzzy sets
 $A = \{(a, 0.33), (b, 0.55), (c, 0.66), (d, 0.77), (e, 1.0)\}$
 $B = \{(a, 0.22), (b, 0.44), (c, 0.55), (d, 0.33), (e, 0.88)\}$
Find the membership function of :
a) $A \cup B$ [05]
b) $A \cap B$ [05]
c) $A \cup B'$ [05]
d) $A' \cap B$ [05]
- Q.8 a) Explain fuzzyfication and defuzzyfication with detailed description of each step involved. [10]
b) Explain different types of neural networks. [10]
- Q.9 Explain back propagation algorithm with example. [20]

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