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M.Sc. COMPUTER SCIENCE WITH SPECIALISATION IN DATA SCIENCE
THIRD SEMESTER EXAMINATION, JANUARY 2022
20-359-0301 SOFT COMPUTING TECHNIQUES
(Regular)

Time : 3 Hours

Maximum Marks:50

(Answer ANY FIVE questions)
 Each question carries EQUAL Marks

Q. No	QUESTIONS	MARKS
1.	Illustrate the architecture of back propagation network. Also explain backpropagation learning?	(10)
2.	Let $X = \{a, b, c, d\}$ $A = \{(a, 0), (b, 0.8), (c, 0.6), (d, 1)\}$ $B = \{(1, 0.2), (2, 1), (3, 0.8), (4, 0)\}$ $C = \{(1, 0), (2, 0.4), (3, 1), (4, 0.8)\}$ $Y = \{1, 2, 3, 4\}$ the universe of discourse could be viewed as $\{(1, 1), (2, 1), (3, 1), (4, 1)\}$ i.e., a fuzzy set all of whose elements x have $\mu(x) = 1$ Determine the implication relations (i) If x is A THEN y is B (ii) If x is A THEN y is B Else y is C	(10)
3.	Using genetic algorithm solve the function $f(x) = x^2$.	(10)
4.	Outline basic genetic algorithm and Explain the flowchart of genetic programming.	(10)
5.	(a) Differentiate between auxiliary and embedded hybrid systems.	(2)
	(b) Briefly explain about fuzzy genetic hybrid systems.	(8)
6.	Using architecture briefly explain the steps of evolutionary computation.	(10)
7.	Write a note on different neural networks.	(10)
