

No. of Printed Pages : 2 **MMTE-007(P)(Set-II)**

**M. SC. (MATHEMATICS WITH
APPLICATIONS IN COMPUTER
SCIENCE) [M. Sc. (MACS)]**

Term-End Practical Examination

December, 2024

**MMTE-007(P)(Set-II) : SOFT COMPUTING AND ITS
APPLICATIONS (PRACTICAL)**

Time : $1\frac{1}{2}$ Hours

Maximum Marks : 40

Note : (i) *There are two questions in this paper,
totalling 30 marks.*

(ii) *Answer both of them.*

(iii) *The remaining 10 marks are for viva-
voce.*

1. Write a program in 'C' language to implement the back propagation algorithm. Show step-by-step output to input, hidden and output neurons as well as errors. Modify the weights W and V for the following values :

The weights W_{11} , W_{12} , W_{21} and W_{22} on connection from the input neurons to hidden

[2]

layer neurons are $W_{11} = 0.15$, $W_{12} = 0.3$,
 $W_{21} = 0.15$, $W_{22} = 0.3$. The weights on the
connections from hidden layer neurons to
output layer neurons are $V_1 = -0.3$ and
 $V_2 = 0.3$. 15

2. Write a program in 'C' language to write the
children solution of a travelling salesman
problem consisting of n cities using : 15

- (a) Cyclic crossover
(b) Position-based crossover

Test your program for :

Parent 1	Parent 2
1	4
2	3
3	2
4	1
5	8
6	7
7	6
8	5
9	10
10	9

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