

M.Sc. (MATHEMATICS WITH APPLICATIONS
IN COMPUTER SCIENCE)

M.Sc.(MACS)

Term-End Practical Examination

December, 2013

MMTE-007 (P) : SOFT COMPUTING AND ITS
APPLICATIONS (P)

Time : 1½ hours

Maximum Marks : 40

Note : This question paper has *two* questions worth 30 marks.
Remaining 10 marks are for *viva-voce*.

1. Write a program in 'C' language to write the children solution of a genetic algorithm to solve a TSP consisting of n-cities using crossover order (# 1). 8+4=12

Also, test your program for the following two parents :

Parent 1 : A B C D E F G H

Parent 2 : A D B E C H G F

2. Write a program in 'C' language to implement the FCM algorithm. 12+6=18

Also, test it to find the final fuzzy partition and cluster centers for the following data :

	f_1	f_2
x_1	4	9
x_2	7	13
x_3	11	7
x_4	4	14
x_5	12	11

The initial cluster centers are :

$V_1 = (5, 5)$ and $V_2 = (10, 10)$ with $C = m = 2$.
