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

00173   **Term-End Practical Examination**

December, 2016

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

Time : $1\frac{1}{2}$ Hours   *Maximum Marks : 40*

Note : (i)   This question paper has two questions worth 30 marks. Answer **both** questions.

(ii) Remaining 10 marks are for viva-voce.

1. Write a program in 'C' language to implement the FCM algorithm. Also, test it to find the final fuzzy partition and cluster centers for the following data :

	f_1	f_2
x_1	11	6
x_2	14	9
x_3	7	9
x_4	13	6
x_5	9	10

The initial cluster centers are : $v_1 = (5, 5)$, $v_2 = (10, 10)$ with c = m = 2.   *15*

2. Write a program in 'C' language to write the Children Solution of a Travelling Salesman Problem consisting of n cities using

(a)   Cyclic crossover, and

(b)   Position-based crossover.

Test your program for   *15*

Parent 1 :	A	B	C	D	E	F	G	H
Parent 2 :	C	B	A	F	E	D	H	G