

**M.Sc. (Mathematics with Applications in Computer Science)**  
**Term End Examination**  
**December 2020**  
**MMTE-007(P), Soft Computing and its Applications**

*Time allowed: 1½ hours*

*Maximum Marks 40*

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**Note:**

- 1) The question paper has two questions worth 40 marks each. Attempt both of them.**
  - 2) Write program in C language in your answer booklet.**
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1) Write a program in 'C' language to maximize  $f(x) = \sqrt{x}$ , subject to  $1 \leq x \leq 900$  by considering the string length 10 using Genetic algorithm. (20)

2) Write a program in 'C' language to find the modified cluster centers by applying FCM algorithm upto 10 iterations, and extend your program for the following data for two features  $f_1$  and  $f_2$ . (20)

$f_1$	1	2	3	4	5	6	7	8	9	10
$f_2$	5	10	12	13	10	11	9	8	7	8