

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

Term-End Practical Examination

00353

June, 2015

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

1. Consider the following training data set :

Input		Output
I_1	I_2	
0.4	-0.7	0.1

In a given multilayer perceptrons with two nodes at a hidden layer, the weights between input layer and hidden layer are given by $\begin{bmatrix} 0.1 & 0.4 \\ -0.2 & 0.2 \end{bmatrix}$ and weights between hidden layer and output node are given by $\begin{bmatrix} 0.2 \\ -0.4 \end{bmatrix}$.

Write a program in 'C' language to find

- (i) the output at each node of MLP,
(ii) the updated weights after three iterations. 20
2. Consider the following Travelling Salesman Problem involving 9 cities :

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

Write a program in 'C' language to determine the children solution using order crossover (# 1), assuming 2nd and 8th sites as crossovers. 10