

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

Term-End Practical Examination

June, 2013

**MMT-008 (P) : PROBABILITY AND
STATISTICS PRACTICAL**

Time : 1½ hours

Maximum Marks : 40

*Note : There are two questions in this paper worth 30 marks.
Remaining 10 marks are for the viva-voce.*

1. Write a program in C-language to fit the model $y_i = b_0 + b_1x_{1i} + b_2x_{2i}; 1 \leq i \leq n$. You may assume that $n \leq 20$. Use the programme to fit a linear model for the data given below : 20

y	12	22	30	38	40	25	15	10
x_1	8	3	5	5	17	20	9	5
x_2	1	2	2	5	5	6	6	7

2. Write a program in 'C' language that checks whether a quadratic form in three variables is positive definite or not. It should do the following : 10
- Read the coefficient of the quadratic form.
 - Print the matrix corresponding to the quadratic form.
 - Check whether the quadratic form is positive definite or not and print the result.