

M.Sc. (MATHEMATICS WITH APPLICATIONS IN COMPUTER SCIENCE)**M.Sc. (MACS)****Term-End Practical Examination****June, 2014**

00271

MMTE-005 (P) : CODING THEORY*Time : $1\frac{1}{2}$ hours**Maximum Marks : 40*

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

1. (a) Write a C program for computing CRC with CRC polynomial $x^9 + x^2 + 1$. 10

(b) Compute CRC for the following message using the above program :
1100111010000101110010001100001111110 10

(c) Write a C program to find the minimum distance of the code whose generator matrix is given by

$$G = \begin{bmatrix} 1 & 0 & 1 & 0 & 1 & 0 & 1 & 0 \\ 0 & 1 & 1 & 0 & 0 & 1 & 1 & 0 \\ 0 & 0 & 0 & 1 & 1 & 1 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 1 \end{bmatrix}$$

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