MMTE-005 (P)

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

00234

Term-End Practical Examination

December, 2013

MMTE-005 (P) : CODING THEORY

Time : 1½ hours *Maximum Marks : 40*

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

1. (a) Write a C programme for computing CRC with CRC polynomial $x^7 + x + 1 \epsilon F_2[X]$ **10**

(b) Compute the CRC of the following message using the above programme : **10**

01100101101101010111011110101

(c) Write a C program to find the minimum distance of the code whose generator matrix is given below : **10**

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