00310

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

Term-End Practical Examination

June, 2016

MMTE-005 (P) : CODING THEORY

Time : 1½ hours   Maximum Marks : 40

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

1. (a)   Write a 'C' program for computing CRC   **15**
          with CRC polynomial $x^4 + x^3 + x^2 + x + 1$.
          Further, compute the CRC coded output for
          the message below using this programme :
          101011001010111.

    (b)   Write a 'C' program to find the minimum   **15**
          weight of the code C generated by the
          matrix.

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