

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

M.Sc. (MACS)

Term-End Practical Examination

00224

December, 2015

MMTE-005(P) : CODING THEORY

Time : $1\frac{1}{2}$ hours

Maximum Marks : 40

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- Note :** (i) *This question paper has **one** question worth 30 marks.*
(ii) *Remaining 10 marks are for the viva-voce.*
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1. (a) Write a 'C' program for computing CRC with CRC polynomial $x^9 + x^2 + 1$.

Compute CRC for the following message using the program above :

110011101000010110010001100001111110

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- (b) Write a 'C' program to generate the code-words of the code generated by the matrix

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

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