

M.Sc. (Mathematics with Applications in Computer Science)
Term End Examination
December 2020
MMTE-005, Coding Theory

Time allowed: 1½ hours

Maximum Marks 40

Note: The question paper has two questions worth 20 marks each. Attempt both of them.

- 1) Write a 'C' programme for computing CRC code for the message 1100 1001 0010 1100 with polynomial $x^7 + x^6 + x^4 + 1$. (20)
- 2) Write a 'C' programme to find the minimum weight of the binary code with the generator matrix (20)

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