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

00355

Term-End Examination
August, 2011

MMTE-005 (P) : CODING THEORY

Time : 1½ hours   *Maximum Marks : 40*

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

1.   (a)   Write a C–program to simulate LFSR.   **10**

   (b)   Use it to generate log and antilog tables for the primitive polynomial   **10**

   $$p = X^{13} + X^4 + X^3 + X + 1 \in \mathbb{F}_2[X].$$

   (c)   Find X^{104} mod p.   **5**

   (d)   Find n such that   **5**

   $$X^n \bmod p = X^{11} + X^{10} + X^9 + X^7 + X^6 + X^4 + X^2 + X$$