
Below we may use the following notation:
Txbk – "Codinig theory and Cryptography" by Hankerson & others.

Exercises.

Problem set 7.

Let $F = \mathbb{F}_{19}$, $\beta = 2$, consider the normalized RS(19,9)-code with these data.

Task 7.1. Let $\bar{e} = (0, 0, 0, 0, 1, 0, 0, 0, 0, 0, 1, 0, 0, 0, 0, 0, -1, 0)$.
Find polynomials $s_{[\bar{e}]}(X)$, and $\sigma(X)$, $\omega(X)$.
Check that the properties and the main congruence are valid here.

Task 7.2. Given $s_{[\bar{w}]}(X) = X^5 - 7X^2$, find the error vector.