

ITEC 350
Quiz 1 (10 points)

Name:

CRC (Cyclic Redundancy Check) Code = Polynomial Code

Suppose that

- (1) $k = 5$, $n - k = 3$,
- (2) Generator polynomial: $g(x) = x^3 + x + 1$
- (3) Information: $(1, 1, 0, 0, 1)$

1. (2 points) What is the polynomial representation of the binary information vector $(1, 1, 0, 0, 1)$?

2. (8 points) What is the transmitted codeword? You must show the intermediate calculation which leads you to the solution. Show the transmitted codeword in a polynomial representation and a binary vector representation.

👉 NOTE:

An answer without showing the intermediate calculation (i.e., explanation) will consider as an incorrect answer.