ELEX 7860 : Wireless System Design
2022 Winter Term

Quiz 1
10:30 – 11:00
Friday, January 21, 2022
SW01-3150

This exam paper is for:

Paper, Test 1   A00123456

Each exam is equally difficult.

Answer your own exam.

Do not start until you are told to do so.

Name: _____

BCIT ID: _____

Question	Mark	Max.
Total		0

Signature: _____

A block code has the following parity check matrix:

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

1. What are n, k, and $n - k$?

2. What is the generator matrix for this code?

3. What codeword would be transmitted if the data bits are all-ones?

4. What is the syndrome if the codeword $\begin{bmatrix} 1 & 0 & 0 & 1 & 1 & 1 & 0 \end{bmatrix}$ is received? Does the received codeword contain an error?

Quiz 1
10:30 – 11:00
Friday, January 21, 2022
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This exam paper is for:

Paper, Test 2   A00123456

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BCIT ID: _____

Question	Mark	Max.
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