

TCS 455: Quiz 5 *Answers*

Semester/Year: 2/2009

Course Title: Mobile Communications

Name	ID

Instructions

1. Separate into groups of no more than three persons.
2. Closed book. Closed notes.
3. Only one submission is needed for each group. Late submission will not be accepted.
4. **Do not panic.**

Evaluate the following expressions by hand. Show your calculation.

1. $[1 \ 2 \ -1] * [2 \ 1 \ -2]$
 $= [2 \ 5 \ -2 \ -5 \ 2]$

2. $[1 \ 2 \ -1] \otimes [2 \ 1 \ -2]$
 $= [-3 \ 7 \ -2]$

3. $[1 \ 2 \ -1 \ 0] \otimes [2 \ 1 \ -2 \ 0]$
 $= [4 \ 5 \ -2 \ -5]$

4. $[1 \ 2 \ -1 \ 0 \ 0] \otimes [2 \ 1 \ -2 \ 0 \ 0]$
 $= [2 \ 5 \ -2 \ -5 \ 2]$

5. $\text{DFT}\{[1 \ 0 \ 0]\}$
 $= [1 \ 1 \ 1]$