

**Quiz 2**  
**10:30 – 11:00**  
**Friday, February 18, 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: \_\_\_\_\_

Signature: \_\_\_\_\_

Question	Mark	Max.
1		3
2		5
Total		8

**Question 1****3 marks**

You are walking in a shopping mall at a speed of 3.6 km/hour while connected to a base station at a frequency of 3 GHz. Assuming Clarke's model applies, how many times *per minute* does the received signal level drop 10 dB below the mean?

**Question 2****5 marks**

A multipath channel has three paths with lengths  $d_0 = 300$  m,  $d_1 = 600$  m and  $d_2 = 900$  m. The received signal level on each path is inversely proportional to the square of the path length:  $P_i = \frac{k}{d_i^2}$  where  $k$  is unknown. What are the excess delays, the normalized power delay profile, the mean excess delay and the RMS delay spread? *Hint: assume  $k = 300^2$ .*