

5.1 Describe three requirements of time synchronization schemes for WSNs

The scheme must be robust such that a node failure does not have a huge impact on other nodes or the whole network.

The scheme must support a sensible scalability factor, such that it can be deployed on a large number of nodes.

The scheme should be precise enough in order to be able to arrange the different events based on microsecond accuracy.

5.2 Two sensor nodes

5.2.1 What is clock B's drift from clock A

The drift of clock B from clock A is $5s/100s$

5.2.2 Give an equation for the linear relation of the two clocks

$$C_B(t) = 1.05 \cdot C_A(t)$$

5.2.3 What is the clock skew of B to A

The skew is 5 seconds.