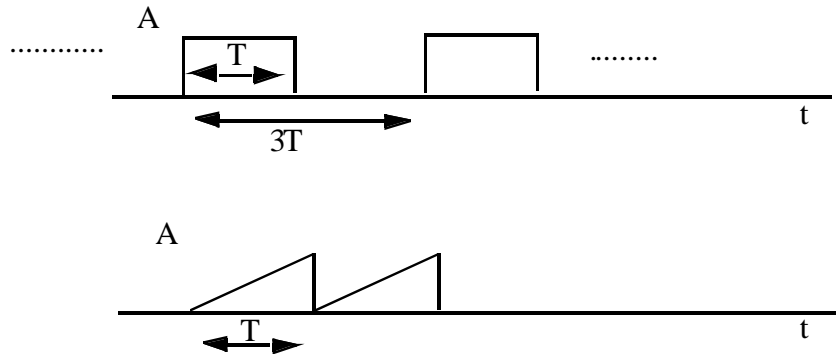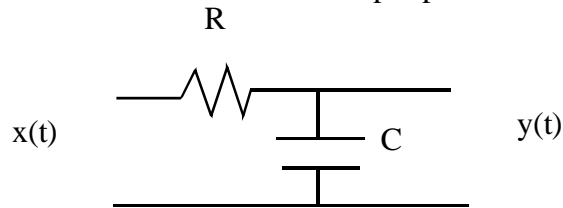EEL 6502
Homework I
Due Jan 25, 2011

Problem I

Compute the time autocorrelation of the first signal and the crosscorrelation function between the two signals. Assume periodic (deterministic) signals

Problem II

Compute the power spectrum at the output of the following linear system when the input is white noise with power No. Estimate also the output power.

Problem III

Consider the random process consisting of a concatenation of rectangular pulses of duration b. The amplitude of the pulse is a random variable, with equal probability of being 1 and –1. This is a good model for a FSK transmission.

a) Show that the process is not widesense stationary.
b) What assumption shall you impose to make the random process wide sense stationary?