

Introduction to Time-Varying Electrical Networks : Week 12

Problem 1

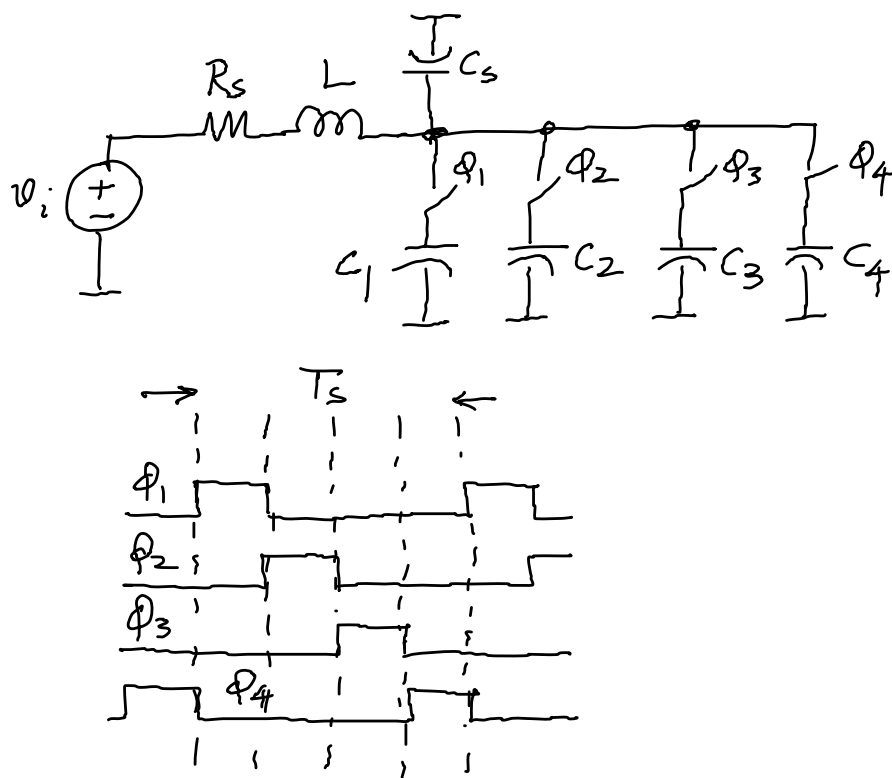


Figure 1: LPTV system for problem 1.

In the figure above, ϕ_1, \dots, ϕ_4 are non-overlapping clocks, each having period T_s and duty cycle of 25%. All the switches have a resistance denoted by R_x . Determine the mean-square noise across C_1, C_2, C_3 and C_4 . Re-evaluate the noise if each of the clocks begin where they do now, but have a duty cycle of 30%, so that they overlap.