Problem S9 (Signals and Systems)
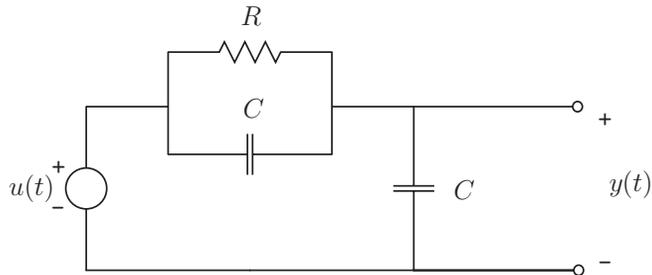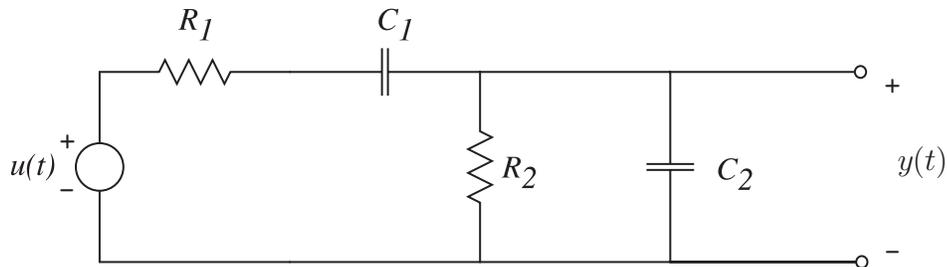
(a) Find and plot the step response of the circuit below, using Laplace transform techniques.

Assume that $R = 2 \ \Omega$, and $C = 0.25$ F. Note: This is a problem that's tricky to do using ordinary differential equation methods — Can you see why?

(b) Find and plot the step response of the circuit below, using Laplace transform techniques.

Assume that $R_1 = R_2 = 2 \ \Omega$, $C_1 = 0.2$ F, and $C_2 = 0.3$ F.