1. Construct the circuit shown in Figure 1 and take the output as the capacitor voltage. Measure the damping frequency $\omega_d$ and the time constant, $\alpha$. Show that the solution is in the form $v = A_1e^{s_1t} + A_2e^{s_2t}$ where $s_1$ and $s_2$ are complex and the values of $A_1$ and $A_2$ are determined from initial conditions.

2. Use LTSpice to verify your measurements with a simulation. Note that to get a proper simulation in LTSpice you will need to set the rise and fall time of the pulse source to about 5 nsec.