PRELAB #04

P1) In the Figure 1, $V_R + V_L = 2 \cos(\omega t - 7.5°)V$ and $f = 1\ kHz$.
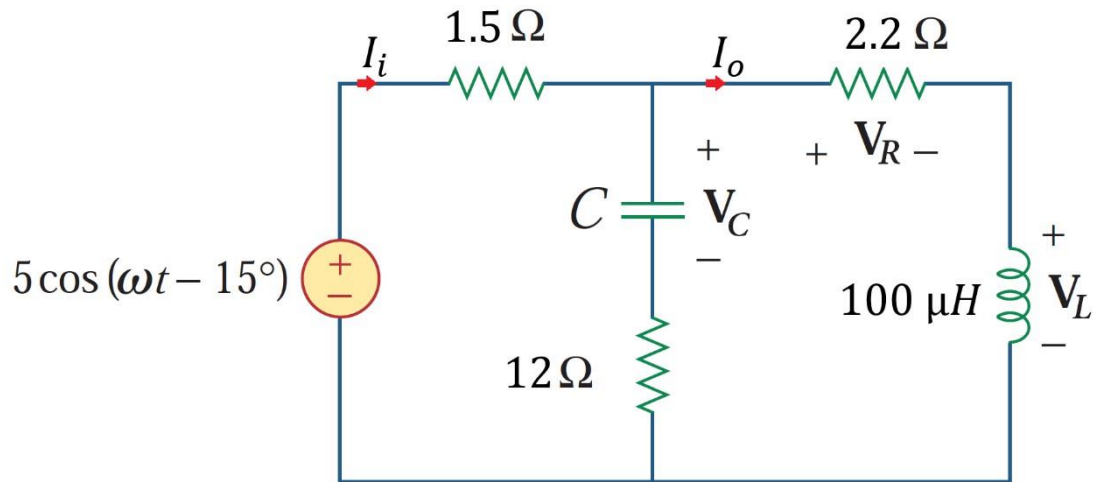

Figure 1: RLC Circuit

a) Determine the value of C in the circuit using given parameters. Show all your steps in the phasor domain.

b) Calculate the values of V_C, I_i and I_o voltage and currents.

P2) Construct the circuit shown in Figure 1 in SPICE (PSPICE, LTSPICE, PSIM, etc.) program and observe the waveforms of V_C, V_L voltages and I_o, I_i currents.