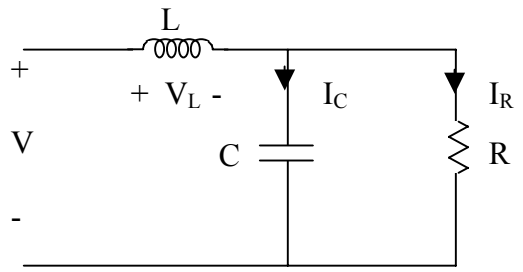
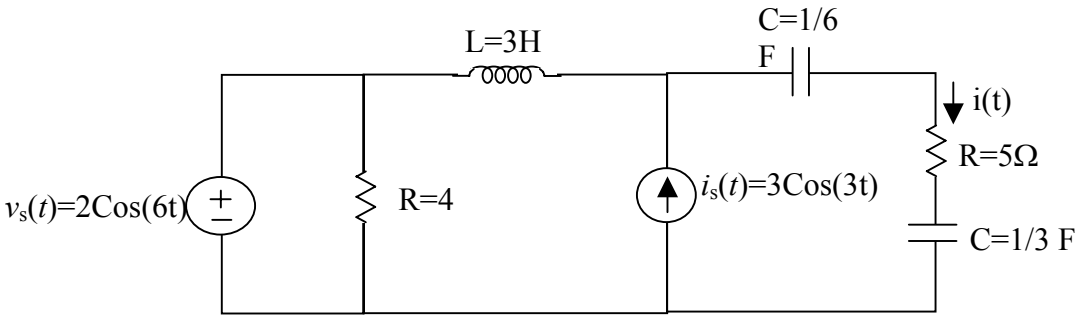
1)



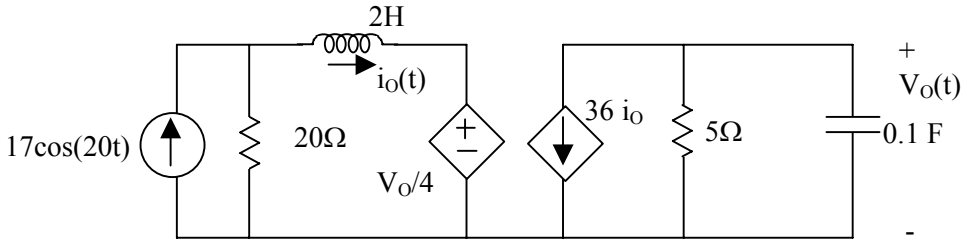
R= 100 Ω, Z_L= j200 Ω Z_C= -j200 Ω ω=6000 rad/s.

a) Find the input admittance at this frequency.
b) Take the angle of I_R as the reference for phase and draw a phasor diagram that includes the voltage and current phasors of each element.
c) Find the angular frequencies at which the impedance will be purely real.

2) Find the current i(t) when the circuit is in steady-state.



3) Find the steady state values of for $i_O(t)$ and $V_O(t)$ by using node analysis in phasor domain.



4) Given the circuit below, find $i_R(t)$ for sinusoidal steady state.