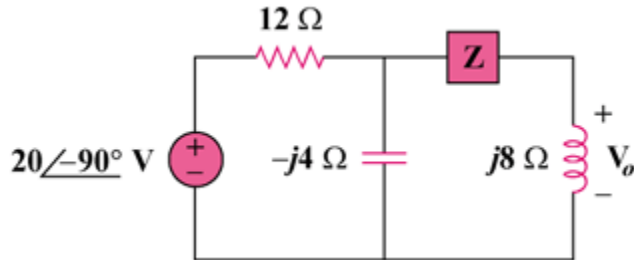


# EE1002 Tutorial 9

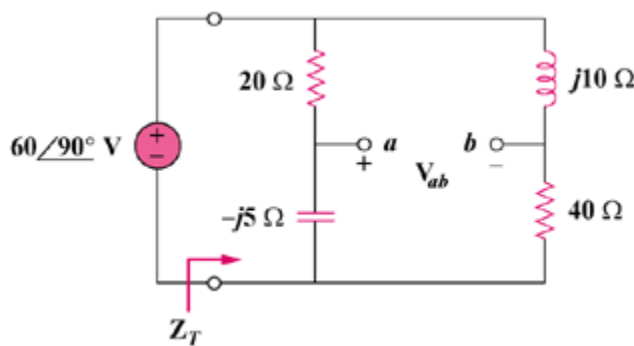
(Questions from Alexander & Sadiku, 7<sup>th</sup> edition, Problems 9.55, 9.66, & 9.91)

- Find  $Z$  in the following network, given that  $V_o = 4\angle 0^\circ \text{ V}$



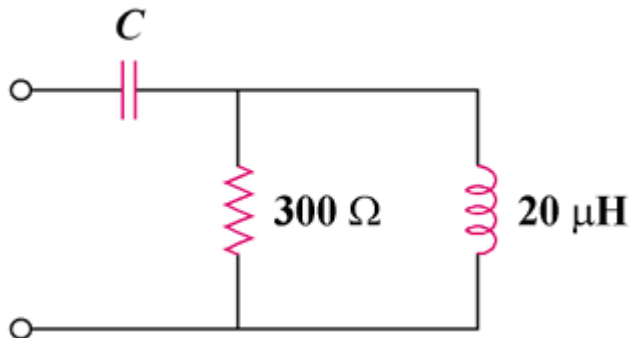
Ans.:  $Z = (2.798 - j16.403) \Omega$

- For the following circuit, calculate  $Z_T$  and  $V_{ab}$ .



Ans.:  $Z_T = 14.069 - j1.172 \Omega = 14.118\angle -4.76^\circ \Omega$ ;  $V_{ab} = 52.94\angle 273^\circ \text{ V}$

- The following figure shows a parallel combination of an inductance and a resistance. If it is desired to connect a capacitor in series with the parallel combination such that the net impedance is resistive at 10 MHz, what is the required value of  $C$ ?



Ans.:  $C = 235 \text{ pF}$