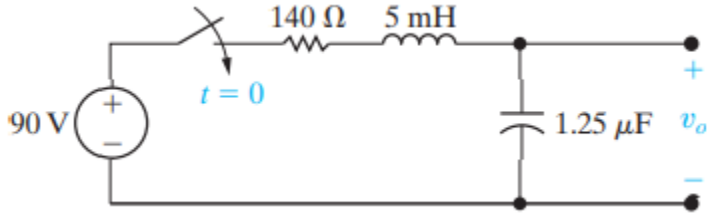
Homework-04 ENGR 117 Due date 04/06/2022

5 Questions 20 points each

Q-1 Find V_o and v_o in the circuit shown below if the initial energy is zero and the switch is closed at t=0. Also find the transfer function and identify the poles and zeros for this circuit. (Use circuit transform method)

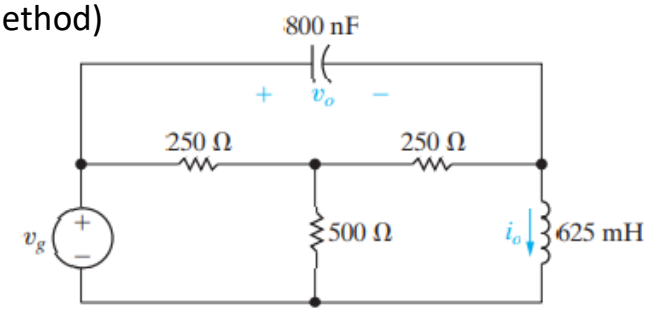


Q-2 There is no energy stored in the circuit shown below at the time the voltage source is turned on. (Use circuit transform method)

vg = 325u(t) V.

a) Find V_o and I_o

b) Find v_o and i_o



Q-3 Draw the magnitude and phase Bode diagram for the following transfer function.

$$H(s) = \frac{s(s+100)(s+1000)}{(s+10)(S+10000)}$$

Q-4 Draw the magnitude and phase Bode diagram for the following transfer function.

$$H(s) = \frac{(s+3)}{(s+30)(S+300)}$$

Q-5 Draw the magnitude and phase Bode diagram for the following transfer function.

$$H(s) = \frac{(s+1)(s+10)}{s(s+10)\text{^}2}$$