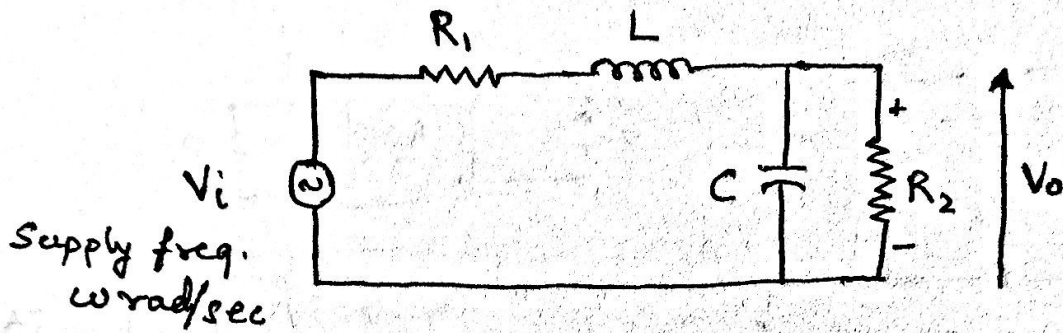


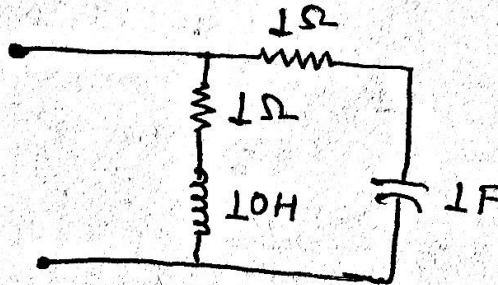
## Tutorial-4

Q1- For the circuit shown below, find  $\frac{V_o}{V_i}$

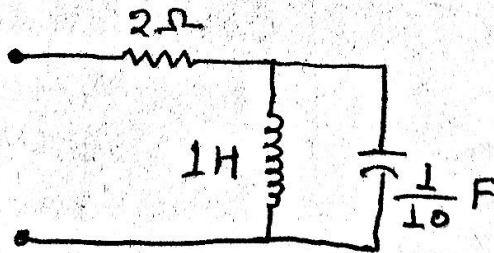


Q2- For the <sup>ckts</sup>~~admittance~~ shown in figure below, find the resonance frequency :-

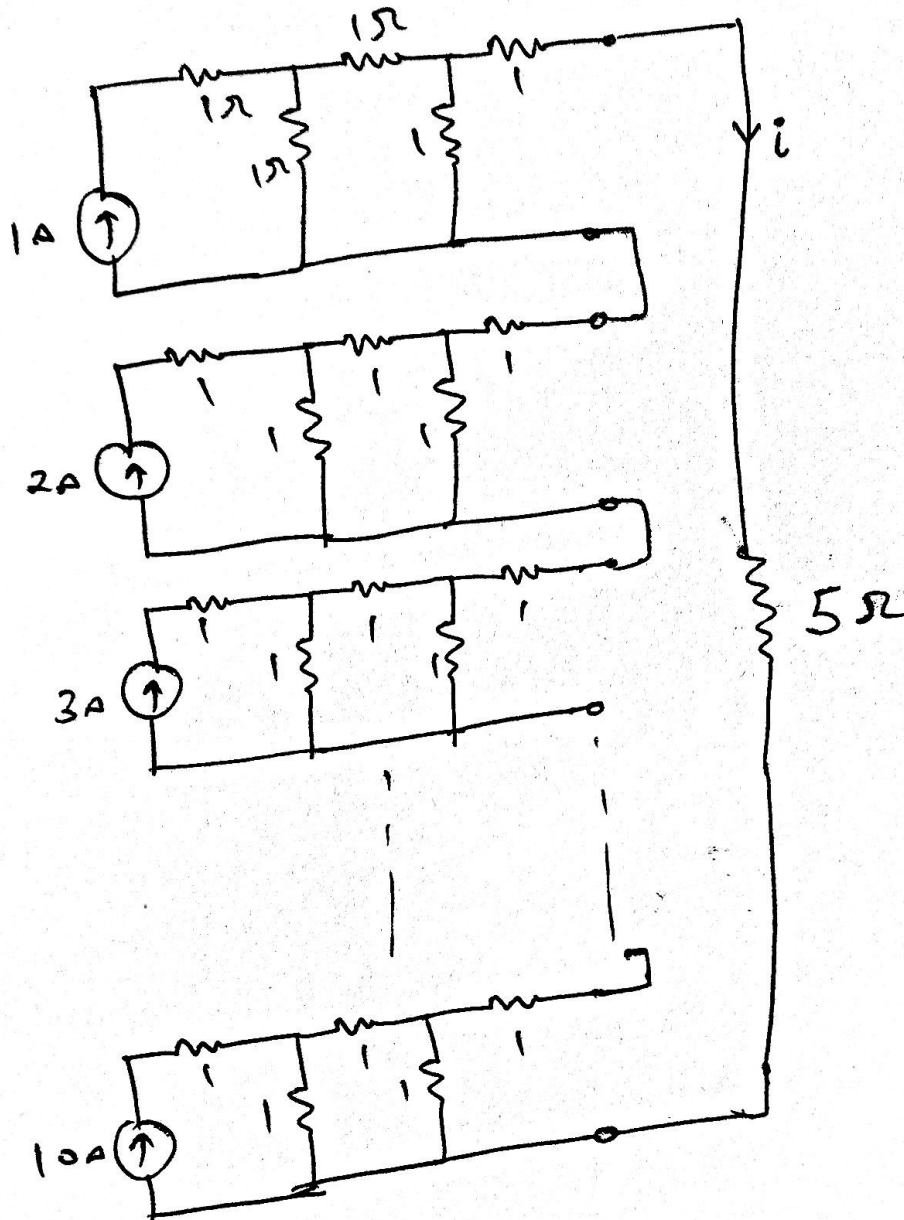
(a)



(b)



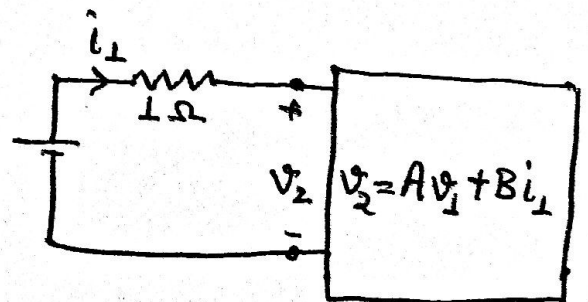
Q3- Calculate the current  $i$  in the network shown below?



Q4- Find the network parameters A & B under given conditions:-

When  $V_1 = 10V$ ,  $i_1 = 2A$

and when  $V_1 = 15V$ ,  $V_2 = 11V$



Q5. An oscillating LC circuit consists of a 75.0 mH inductor and a 3.60  $\mu\text{F}$  capacitor. If the maximum charge on the capacitor is 2.90  $\mu\text{C}$ ,

(a) what is the total energy in the circuit?

(b) what is the maximum current?

Q6. True / False

a) Resistance in an RLC circuit will damp the Oscillations that are produced due to resonance

b) In Series RLC Circuit, at Resonance Phase Angle will be  $180^\circ$

c) With increase in frequency Capacitive Reactance of the RLC circuit will increase

d) Ideal Capacitors and Inductors does not dissipate energy

e) In an RLC circuit, Current Amplitude at Resonant Condition is zero

f) In a Series R-L Circuit, phase angle will be always positive

g) As the frequency of RLC circuit increases, the circuit behaves as inductive

h) Resonant Frequency is the frequency at which the impedance of the circuit is minimum