ISRA UNIVERSITY
Islamabad Campus

Program: BTECH (Electrical)
Semester – Spring 2018

ETCA-252 Circuit Analysis-II

Assignment – 4 & 5 **Due Date: 19/06/2018**
Marks: 50 **Handout Date: 29/05/2018**

Question # 1:

Perform the following operations:

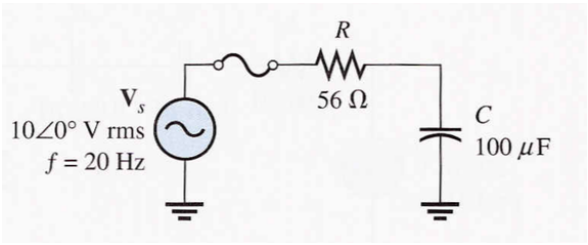
1. $(8 + j5) + (2 + j1)$
2. $(3 + j4) - (1 + j2)$
3. $Multiply$: $(50\angle 10°)(30\angle -60°)$

(Marks 06)

Question # 2:

For the circuit in figure below, determine the following in polar form:

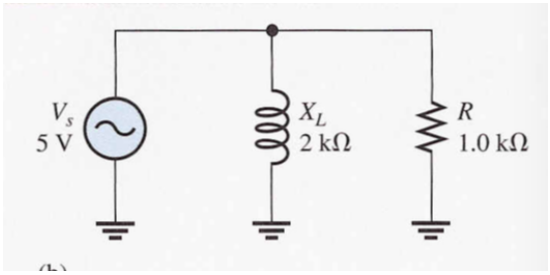
1. **Z**
2. $\mathbf{I}_{tot}$
3. $\mathbf{V}_R$
4. $\mathbf{V}_C$



(Marks 10)

Question # 3:

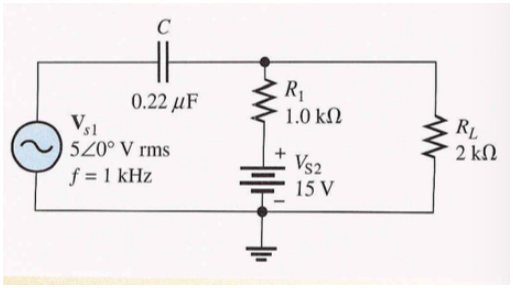
Determine the magnitude and phase angle of the total impedance:



(Marks 10)

Question # 4:

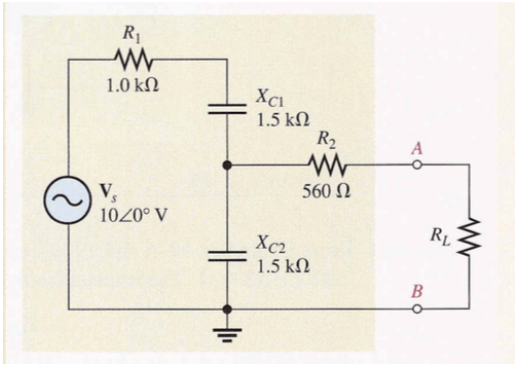
Find the total current in the load resistor, R_L. Assume the sources are ideal.



(Marks 10)

Question # 5:

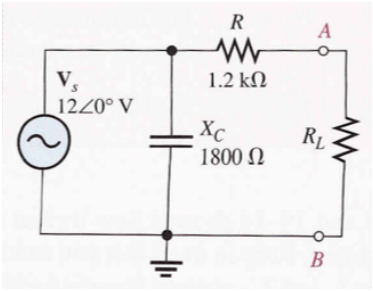
Determine V_{th} and Z_{th} for the circuit within the beige box and draw its Thevenin Equivalent.



(Marks 10)

Question # 6:

For a given circuit, $\boldsymbol{I}_n = 5\angle 0°\ mA$, and $\boldsymbol{Z}_n = 150\ \Omega + j100\Omega$. Draw the Norton equivalent circuit.



(Marks 04)

Good Luck