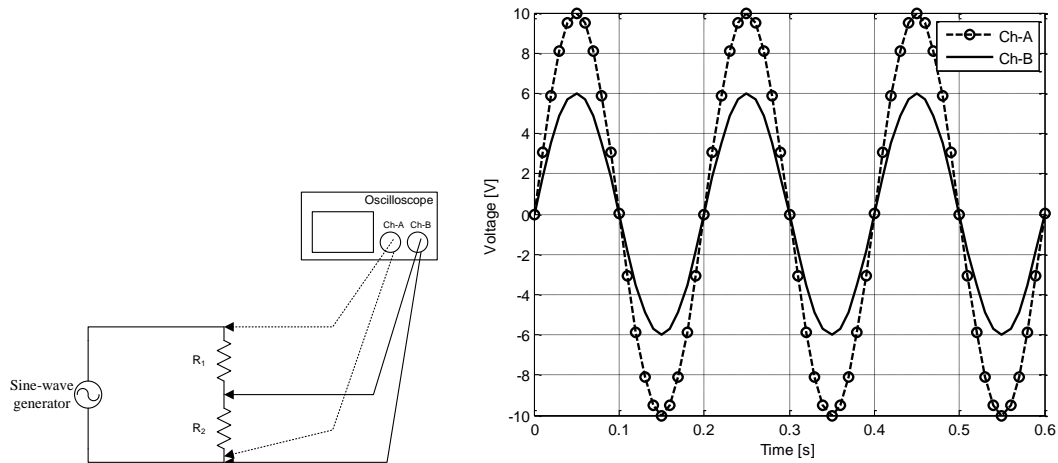


School of Information, Computer and Communication Technology
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ECS204 Quiz 4 Sample

Consider the circuit and its corresponding measurements below.



Note that channel A of the oscilloscope displays the voltage across the generator. Channel B of the oscilloscope displays the voltage across R_2 .

1. Find the peak voltages and the peak-to-peak voltages across each component in the circuit. Put your answers in the table below.

| | Peak voltage | Peak-to-peak voltage |
|--------------------------|--------------|----------------------|
| Voltage across generator | | |
| Voltage across R_2 | | |
| Voltage across R_1 | | |

Hint: For a signal of the form $a(t) = A\cos(2\pi ft + \theta)$, the **peak value** is given by its amplitude A . Its **peak-to-peak (p-p) value** is $2A$. The **rms value** is given by $\frac{A}{\sqrt{2}}$.

2. In part C of lab 04, the signal generator output should be adjusted to 2 V (rms). The corresponding peak voltage value is V. Assume $\sqrt{2} \approx 1.4$.

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ECS204 Quiz 4 Sample

1. What does 'CRO' stand for?

2. A sinusoidal waveform has a period of 1 ms. What is its frequency?

3. Consider a circuit that operates at 1592 Hz.

What is the impedance of a 0.4 μF capacitor?

What is the impedance of a 18 mH inductor?

You may assume that $\frac{1}{2\pi} = 0.1592$.

4. In a pure inductor circuit, the current _____ the voltage by 90 degrees.