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Department Of electrical and computer Engineering

ENEE2103 CIRCUITS AND ELECTRONICS LABORATORY

Experiment No.6 Prelab

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1. Part A (Impedance):
   1. Resistive circuit

Frequency = 1 kHz

Diagram

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1.1.2 Frequency = 500 Hz





1.1.3 Frequency = 1500 Hz





* 1. RC circuit

Diagram, schematic

Description automatically generated

* + 1. Frequency = 1000 Hz





* + 1. Frequency = 500 Hz





* + 1. Frequency = 1500 Hz



* 1. RL circuit

Diagram

Description automatically generated

1.3.1 Frequency = 1000 Hz





1.3.2 Frequency = 500 Hz



1.3.3 Frequency = 1500 Hz



* 1. Capacitive and inductive behavior

Calendar

Description automatically generated

F=1KHZ





F = Fo (Resonance Frequency):

5033





F = 2Fo





* + 1. Double the value of the capacitor:

Diagram

Description automatically generated with medium confidence





* + 1. Double the value of the inductor

Calendar

Description automatically generated





* 1. Sinusoidal steady state power

Plot the voltage and current across R2





Plot Vs and Is and measure phase shift





Phase shift= 350.2u-161.6u=188.6u \*360 /0.5= 33948

Plot Vc and Ic and measure phase shift





Phase shift= zero as the change in time is zero

Plot VL and IL and measure phase shift





Phase shift=(161.65-4.152)\*360/0.5

=157.498\*360/0.5= 113,398.56

Must be= 87

Plot voltage across R1 and Is and measure phase shift





Phase shift is almost zero