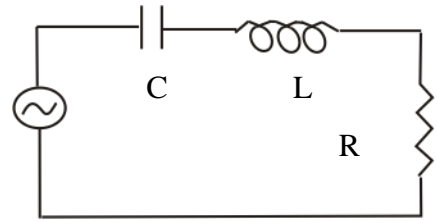


Physics 112 Data Sheet 10
Exp.#9: Resonance

A. Connect RLC-series circuit shown ($C=0.1\mu\text{F}$ and $L=10\text{ mH}$).

Display V_R and the input voltage on the DSO screen and fill the table below:



Frequency, f (KHz)	$R_1=1000\Omega$		$R_2=510\Omega$	
	V_{R0} , volts	I_0 , mA	V_{R0} , volts	I_0 , mA
0.1				
0.4				
0.8				
1.0				
2.0				
3.0				
4.0				
4.5				
5				
5.5				
6.0				
8				
10				
20				
40				
70				
100				

- Plot I_0 as a function of frequency f for both cases (on a semi-log graph paper).
- Measure the band width for both curves.
- Determine the resonance frequency.
- Determine the quality factor for both cases
- Compare your experimental results with theoretical values.