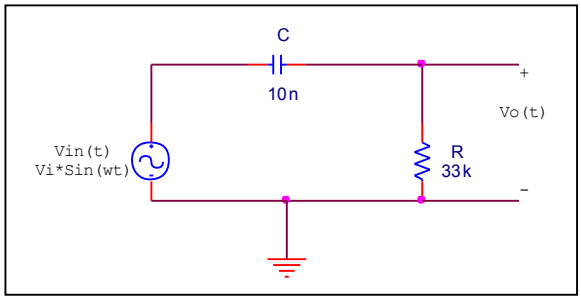
ECE 232-Lab5

Low-pass and High-pass filters

1. Consider the high pass filter below its frequency response is H(jw)=Vo(jw)/Vin(jw)



Fill in the table below due to your observations on the oscilloscope and sketch the magnitude and phase response (only due to the observations in YT mode) using MATLAB.

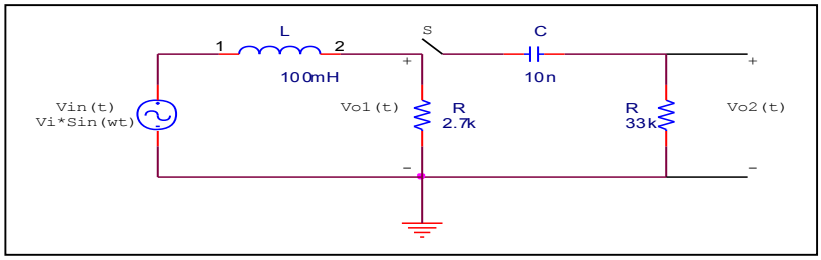
High-pass filter	YT-mode	YT-mode	XY-mode	XY-mode
f(Hz)	$\|H(jw)\|$	$\angle H(jw)$	$\|H(jw)\|$	$\angle H(jw)$
f≈20				
f=200				
f=f_c (half power frequency)				
f=1000				
f=5000				

What is the half-power frequency f_c?

What is the half-power angular-frequency w_c?

2- *When the switch S is open the circuit below becomes a low-pass filter and its frequency response is*

H(jw)=Vo1(jw)/Vin(jw). Fill in the table below due to your observations on the oscilloscope and sketch the magnitude and phase response (only due to the observations in YT mode) using MATLAB.



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