

GEORGIA INSTITUTE OF TECHNOLOGY
School of Electrical and Computer Engineering

ECE 2040
Circuit Analysis

Quiz #4

Wednesday, April 19, 2000

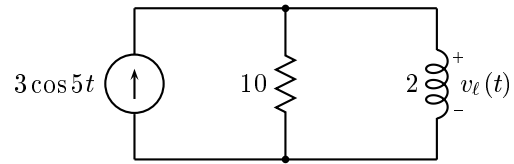
Name: _____

GENERAL INSTRUCTIONS

1. This is a *closed book, closed notes* exam. You may use one 8.5 inch \times 11 inch sheet of handwritten notes and a calculator.
2. Please do all of your work on the exam itself. You may use the backs of the pages, if necessary.
3. Please be as neat and well organized as possible.
4. Clearly indicate your answers.

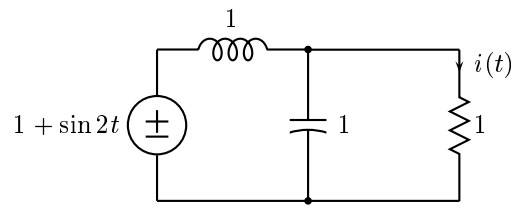
<i>Problem</i>	<i>Max</i>	<i>Score</i>
1	25	
2	25	
3	25	
4	25	
Total	100	

Problem Q4.1:



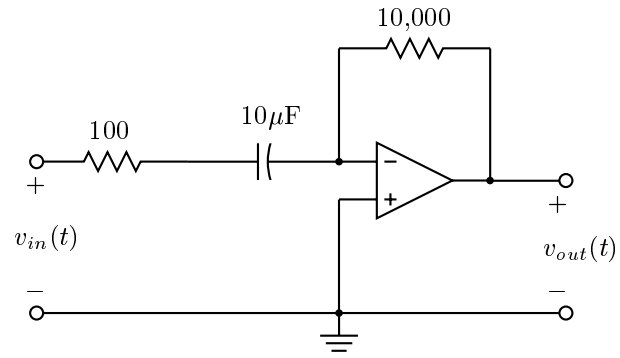
- (a) Sketch the circuit in the complex amplitude domain.
- (b) Determine the complex amplitude of the output voltage, $v_l(t)$.
- (c) Determine $v_l(t)$ for all t . Express your answer as a single real sinusoid.

Problem Q4.2:



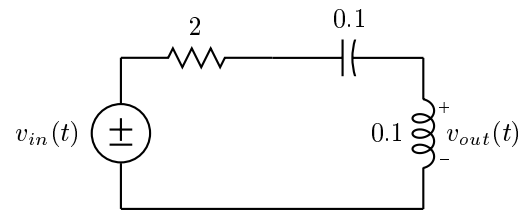
Compute $i(t)$.

Problem Q4.3:



Calculate the frequency response of the above circuit.

Problem Q4.4:



- (a) Calculate the system function of the above circuit.
- (b) Draw the Bode magnitude plot for the circuit.