GEORGIA INSTITUTE OF TECHNOLOGY
School of Electrical and Computer Engineering

ECE 2040
Circuit Analysis

Quiz #3

Monday, March 27, 2000

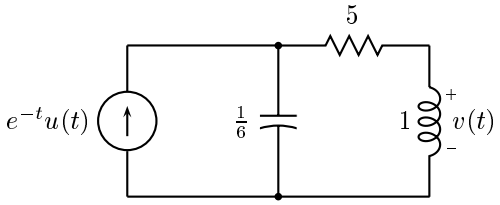
Name: _____

GENERAL INSTRUCTIONS

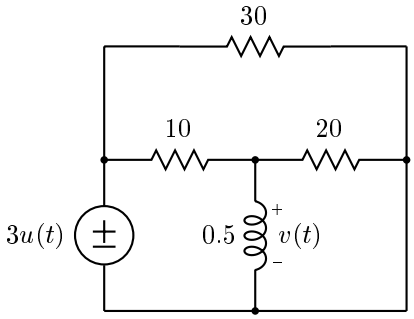
1. This is a *closed book, closed notes* exam. You may one 8.5 inch × 11 inch sheet of handwritten notes and a calculator.
2. Please do all of your work on the exam itself. You may use the backs of the pages, if necessary.
3. Please be as neat and well organized as possible.
4. Clearly indicate your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

Problem	*Max*	*Score*
1	25	
2	25	
3	25	
4	25	
Total	100	

Problem Q3.1: In the circuit below solve for $v(t)$ for all t.



Problem Q3.2: Consider the first-order circuit below

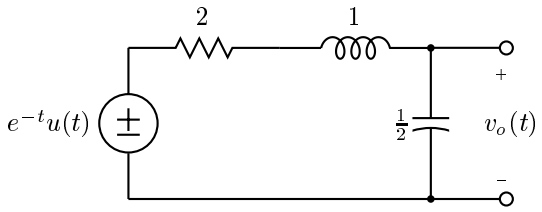


(a) Find $v(0)$.

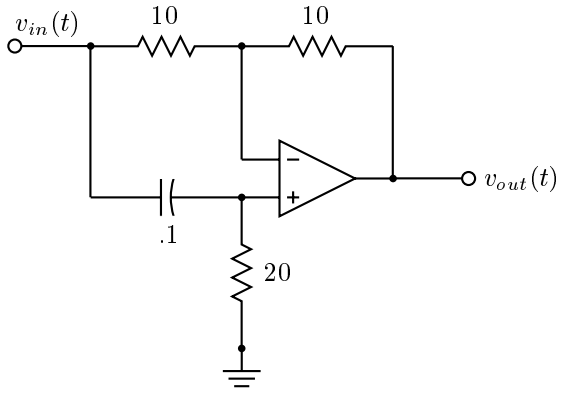
(b) Find $v(\infty)$.

(c) Find $v(t)$ for $t > 0$.

Problem Q3.3: Find the Thevenin equivalent network corresponding to the one-port circuit below.



Problem Q3.4: This problem asks you to analyze the following circuit.



(a) Determine the system function of the circuit if $v_{in}(t)$ is the input signal and $v_{out}(t)$ is the output signal.

(b) Determine the impulse response of the circuit.