

GEORGIA INSTITUTE OF TECHNOLOGY  
School of Electrical and Computer Engineering

Course ECE 2040

Circuit Analysis

Assigned: November 3, 2000

Due: November 10, 2000

**Problem Set #11**

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**Reading:** Read the following sections from the class notes:

Chapter 8, Sections 8.2

**Reading:** Read the following sections from Dorf and Svoboda:

Chapter 10, Sections 10.6–10.10

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**Problem 11.1:** Find the value of the voltage  $v(t)$  in the circuit of Figure 1 when the current  $i_s(t)$  is the complex exponential time function  $i_s(t) = e^{j\omega t}$ .

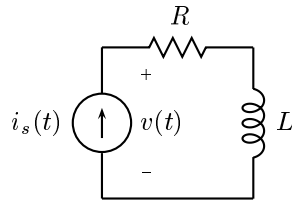


Figure 1: Circuit for Problem 11.1.

**Problem 11.2:** For the circuit in Figure 2 find  $v(t)$  when  $v_s(t) = \cos(\omega t)$ .

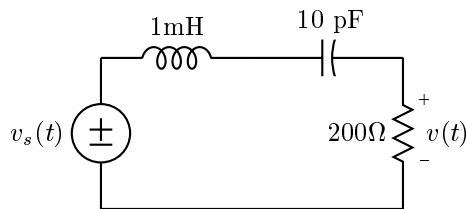


Figure 2: Figure for Problem 11.2.

**Problem 11.3:** Determine  $v_{out}(t)$  for all  $t$  for the circuit in Figure 3.

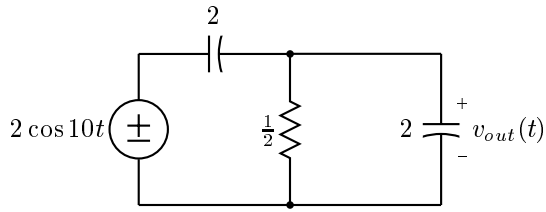


Figure 3: Circuit for Problem 11.3.

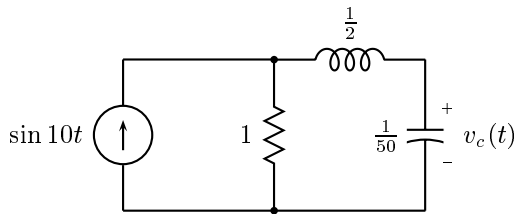


Figure 4: Circuit for Problem 11.4.

**Problem 11.4:** Determine  $v_c(t)$  for all  $t$  in the circuit in Figure 4.

**Problem 11.5:** For the circuit in Figure 5 find  $v(t)$ .

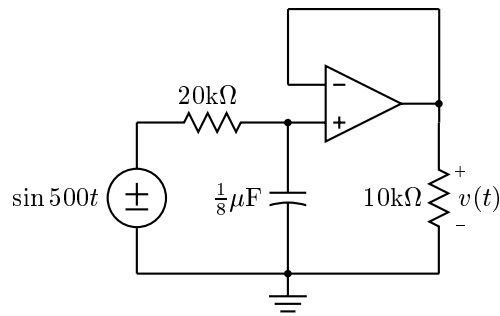


Figure 5: Circuit for Problem 11.5.