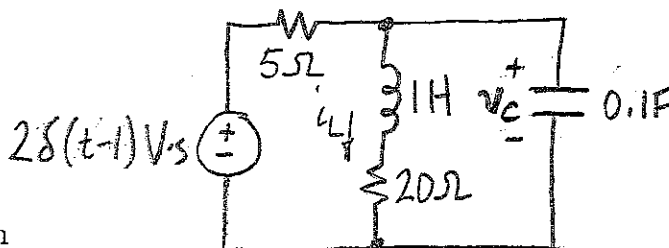


Final Exam — EE 233  
Fall 2006

The test is closed book, with two sheets of 8.5 by 11 inch notes and standard (non-graphing) calculators allowed. Show all work. Be sure to state all assumptions made and **check** them when possible. The number of points per problem are indicated in parentheses. Total of 150 points in 6 problems on 6 pages. A table of Laplace transform pairs are attached as page 7.

1. In the circuit to the right,  
 $v_C = 3\text{ V}$  and  $i_L = 0.1\text{ A}$  at  
 $t = 0^-$ .

Draw the  $s$ -domain circuit  
valid for  $t > 0$  and determine  
 $V_C(s)$ . Check your result with  
the Initial Value Theorem. (25)



4. Find the time-domain behavior of the following  $s$ -domain functions:

(a)  $V_1(s) = \frac{2s+1}{s+3}$  (10)

(b)  $V_2(s) = \frac{10s+5}{s^2+9s+13}$ . (15)