ANKARA YILDIRIM BEYAZIT UNIVERSITY

CENG205- Electrical Circuit and Electronic Devices

Homework 2

1. (40p) The circuit shown in Figure-1 has been operating for along time when the switch is positioned at “a”. It is moved to position “b” at t=0.
   (a) Obtain expressions for i(t) and Vc(t) valid for all values of t.
   (b) Determine the energy remaining in the capacitor at t = 33 μs.

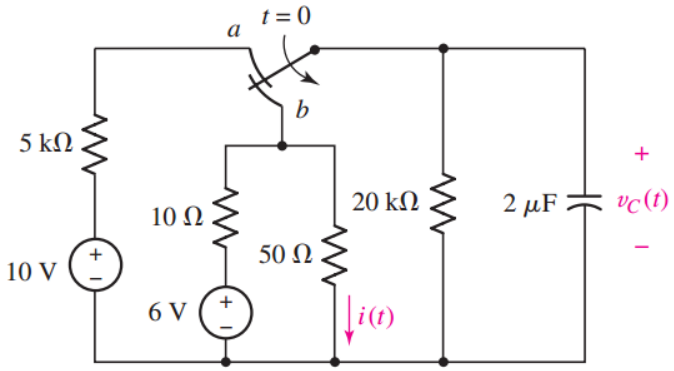


Figure 1 RC circuit analysis with natural and forced response

2. (40p) For the two-source circuit of Fig. 2, note that one source is always on.
   (a) Obtain an expression for i(t) valid for all t.

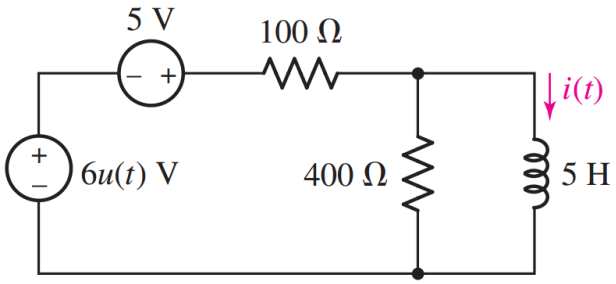
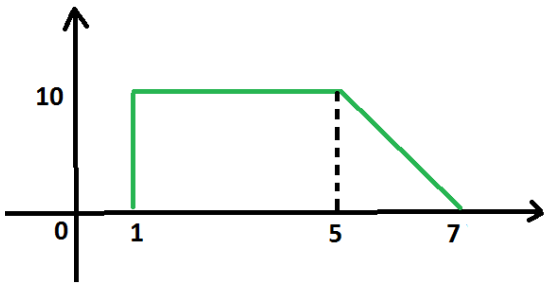


Figure 2 RL circuit analysis with natural and forced response

3. (20p) Find the representation of the following signal in terms of singularity functions (unit step, ramp and impulse function).



Dead-line: December 14, 2017 at 13:00.

Late submissions will be graded as -50 point for each day. Please do not copy the homework from any of your friend. Such plagiarism tendency will be punished as -50 from this homework.

GOOD LUCK!