

King Fahd University of Petroleum and Minerals

Electrical Engineering Department

Homework 6
EE 202 - Electric Circuits - Semester 132

Problem 1.

In Fig. 1 the switch has been closed for a long time. The maximum voltage rating of the $1.6\mu F$ capacitor is 14.4 (KV). How long after the switch is opened does the voltage across the capacitor reach the maximum voltage rating?

Problem 2.

The switch in Fig. 2 was in its open position for a long time, see Fig. 2. Let $K = 10^3$. At $t = 0$ the switch is closed. Find the expressions of $v(t)$ and $V_2(t)$ for all $t \geq 0$.

Problem 3.

In Fig. 3 the switch is closed at time $t = 0$. Obtain the current $i(t)$ and the capacitor voltage $V_c(t)$ for all $t \geq 0$.

Problem 4.

Solve problem referenced (8.32, page 322) in your text book.

Problem 5.

Solve problem referenced (8.33, page 322) in your text book.

END OF HOMEWORK 6

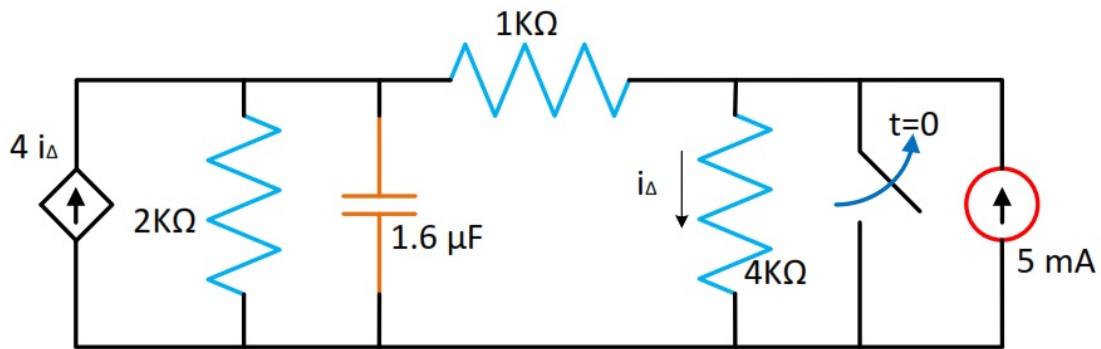


Figure 1: Circuit of Problem 1.

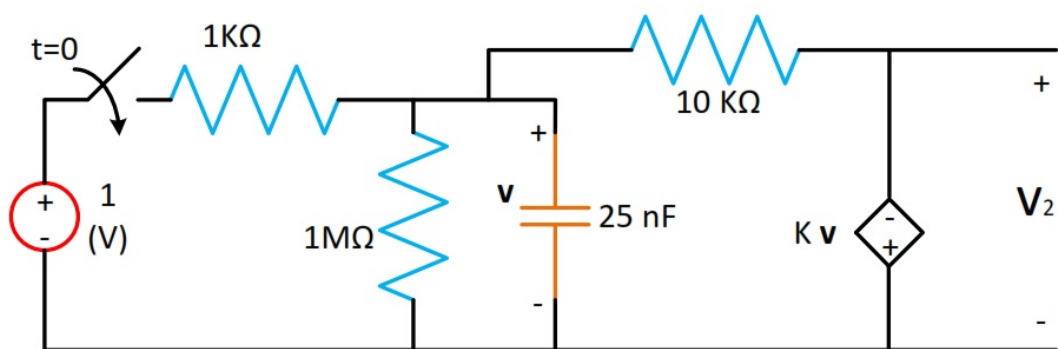


Figure 2: Circuit of Problem 2.

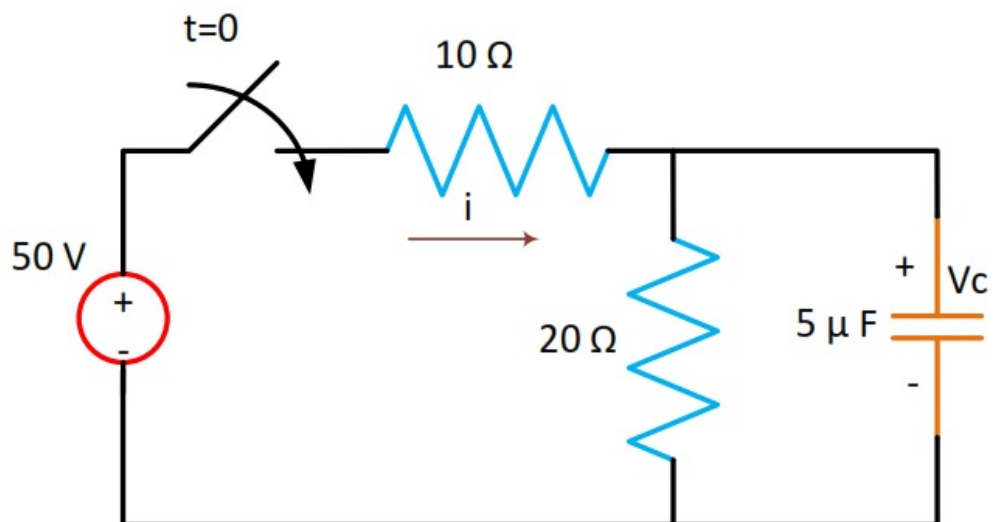


Figure 3: Circuit of Problem 3.