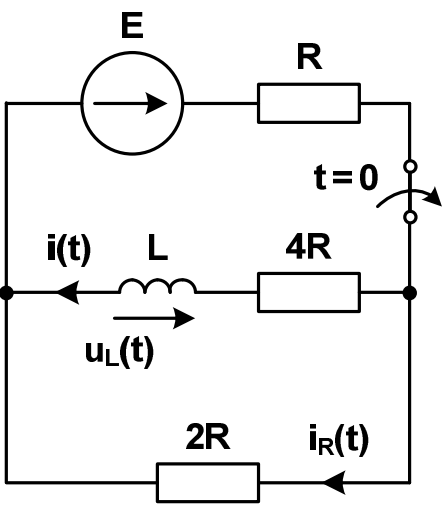
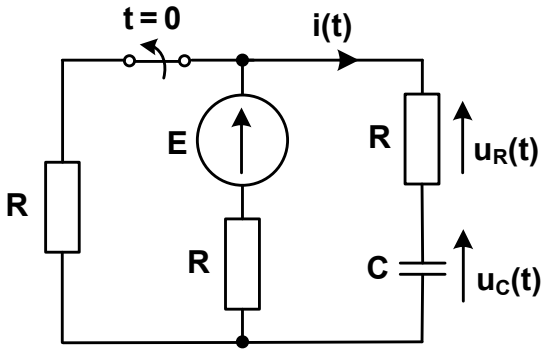


ELECTRICAL CIRCUITS 2 (IS-FEE-10085S) - TEST 3 (EXAMPLE)

| PROBLEM TO BE SOLVED IN A GROUP | Points |
|---|--------|
| <p>1. The circuit shown in the figure has been in a steady-state. At $t = 0$ the switch was open. Find and plot $i(t)$, $u_L(t)$, and $i_R(t)$ for $t < 0$, $t = 0$, and $t > 0$.</p>  | 15 |

| PROBLEMS TO BE SOLVED INDIVIDUALLY | Points |
|---|--------|
| <p>2. The circuit shown in the figure has been in a steady-state. The switch was opened at $t = 0$. Calculate and plot $i(t)$, $u_C(t)$, and $u_R(t)$ for $t < 0$, $t = 0$, and $t > 0$. Calculate the time (in seconds) after which the transient state will end.</p> <p>$E = 10 \text{ V}$, $R = 40 \Omega$, $C = 1\text{mF}$</p>  | 20 |

Note: 18 points are required to pass the test.