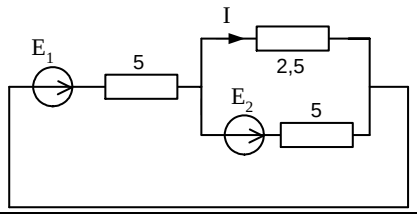
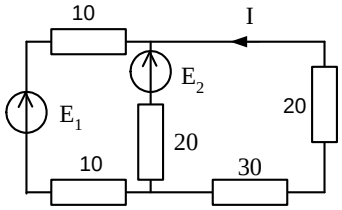
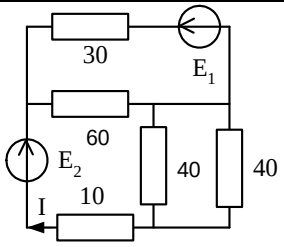
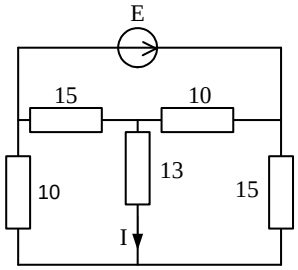
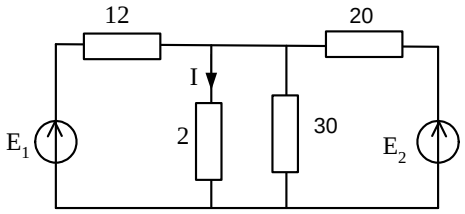
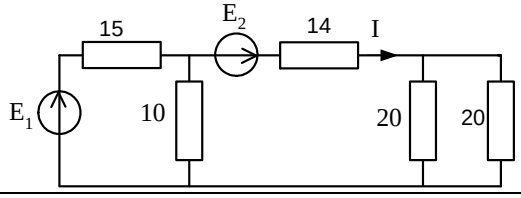
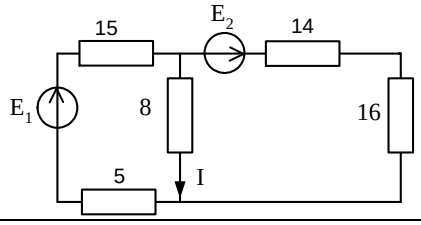
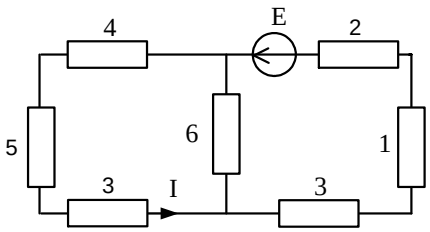
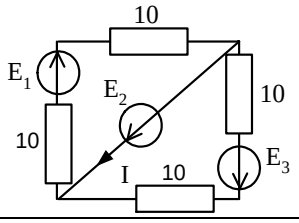
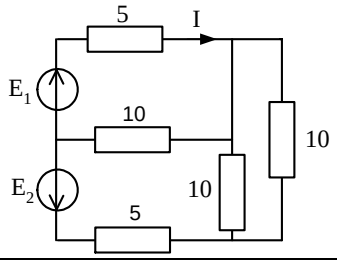
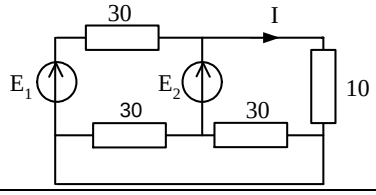
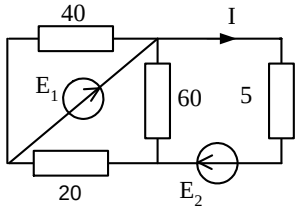
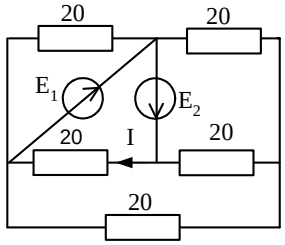
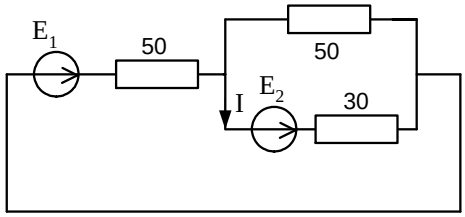
Assignment

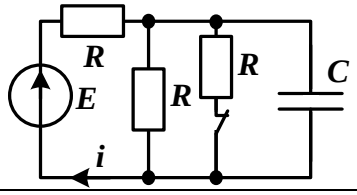
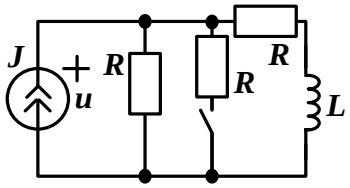
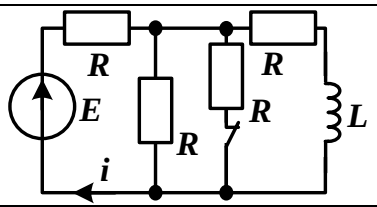
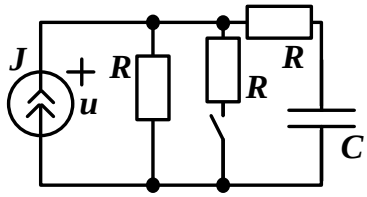
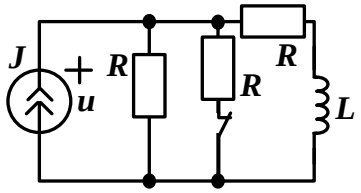
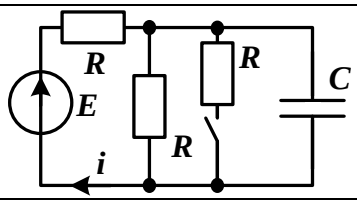
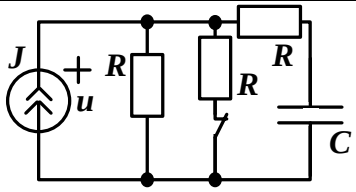
1. Find current *I* by the following methods:
    - Mesh Current Method;
    - Node Voltage Method;
    - Thévenin Equivalent Method.

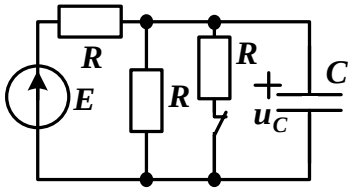
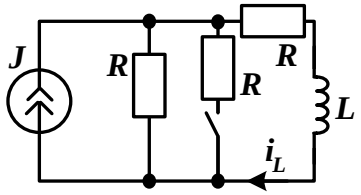
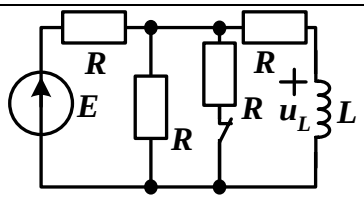
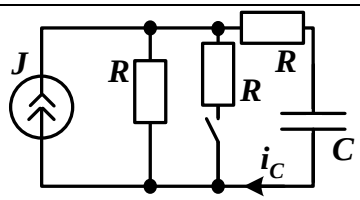
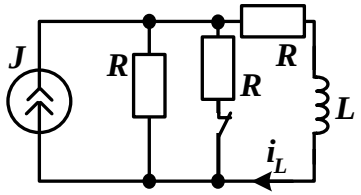
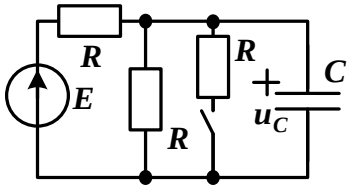
№ of variant	Network parameters	Equivalent circuit
1	Given: $\boldsymbol{E_1}$**=100** (V); $\boldsymbol{E_2}$**=60** (V); ***R*** in Ω (Ohms). Find: *I* -?	
2	Given: $\boldsymbol{E_1}$**=100** (V); $\boldsymbol{E_2}$**=20** (V); ***R*** in Ω (Ohms). Find: *I* -?	
3	Given: $\boldsymbol{E_1}$**=90** (V); $\boldsymbol{E_2}$**=160** (V); ***R*** in Ω (Ohms). Find: *I* -?	
4	Given: ***E*****=50** (V); ***R*** in Ω (Ohms). Find: *I* -?	
5	Given: $\boldsymbol{E_1}$**=100** (V); $\boldsymbol{E_2}$**=60** (V); ***R*** in Ω (Ohms). Find: *I* -?	
6	Given: $\boldsymbol{E_1}$**=26** (V); $\boldsymbol{E_2}$**=6** (V); ***R*** in Ω (Ohms). Find: *I* -?	

7	Given: $\boldsymbol{E_1}$**=120** (V); $\boldsymbol{E_2}$**=20** (V); $\boldsymbol{R}$ in Ω (Ohms). Find: I -?	
8	Given: $\boldsymbol{E}$**=100** (V); $\boldsymbol{R}$ in Ω (Ohms). Find: I -?	
9	Given: $\boldsymbol{E_1}$**=100** (V); $\boldsymbol{E_2}$**=** $\boldsymbol{E_3}$**=20** (V); $\boldsymbol{R}$ in Ω (Ohms). Find: I -?	
10	Given: $\boldsymbol{E_1}$**=50** (V); $\boldsymbol{E_2}$**=20** (V); $\boldsymbol{R}$ in Ω (Ohms). Find: I -?	
11	Given: $\boldsymbol{E_1}$**=20** (V); $\boldsymbol{E_2}$**=50** (V); $\boldsymbol{R}$ in Ω (Ohms). Find: I -?	
12	Given: $\boldsymbol{E_1}$**=80** (V); $\boldsymbol{E_2}$**=40** (V); $\boldsymbol{R}$ in Ω (Ohms). Find: I -?	
13	Given: $\boldsymbol{E_1}$**=50** (V); $\boldsymbol{E_2}$**=30** (V); $\boldsymbol{R}$ in Ω (Ohms). Find: I -?	

14	Given: $\boldsymbol{E_1}$**=10** (V); $\boldsymbol{E_2}$**=6** (V); $\boldsymbol{R}$ in Ω (Ohms). Find: I -?	

2. Find current $i(t)$ or voltage $u(t)$ by the Classical Method to Transient Analysis:

№ of variant	Network parameters	Equivalent circuit
1	Given: $\boldsymbol{E}$**=80** (V); $\boldsymbol{C}$**=100** (μF); $\boldsymbol{R}$**=50** (Ω). Find: $i(t)$-?	
2	Given: $\boldsymbol{J}$**=1** (A); $\boldsymbol{L}$**=100** (mH); $\boldsymbol{R}$**=100** (Ω). Find: $u_j(t)$-?	
3	Given: $\boldsymbol{E}$**=150** (V); $\boldsymbol{L}$**=50** (mH); $\boldsymbol{R}$**=50** (Ω). Find: $i(t)$-?	
4	Given: $\boldsymbol{J}$**=2** (A); $\boldsymbol{C}$**=100** (μF); $\boldsymbol{R}$**=50** (Ω). Find: $u_j(t)$-?	
5	Given: $\boldsymbol{J}$**=5** (A); $\boldsymbol{L}$**=150** (mH); $\boldsymbol{R}$**=150** (Ω). Find: $u_j(t)$-?	
6	Given: $\boldsymbol{E}$**=50** (V); $\boldsymbol{C}$**=100** (μF); $\boldsymbol{R}$**=50** (Ω). Find: $i(t)$-?	
7	Given: $\boldsymbol{J}$**=3** (A); $\boldsymbol{C}$**=120** (μF); $\boldsymbol{R}$**=120** (Ω). Find: $u_j(t)$-?	

8	Given: ***E*=120** (V); ***C*=80** (μF); ***R*=90** (Ω). Find: $u_C(t)$-?	
9	Given: ***J*=4** (A); ***L*=40** (mH); ***R*=20** (Ω). Find: $i_L(t)$-?	
10	Given: ***E*=160** (V); ***L*=40** (mH); ***R*=60** (Ω). Find: $u_L(t)$-?	
11	Given: ***J*=1** (A); ***C*=100** (μF); ***R*=50** (Ω). Find: $i_C(t)$-?	
12	Given: ***J*=2** (A); ***L*=40** (mH); ***R*=70** (Ω). Find: $i_L(t)$-?	
13	Given: ***E*=110** (V); ***C*=80** (μF); ***R*=70** (Ω). Find: $u_C(t)$-?	
14	Given: ***J*=3** (A); ***C*=80** (μF); ***R*=50** (Ω). Find: $i_R(t)$-?