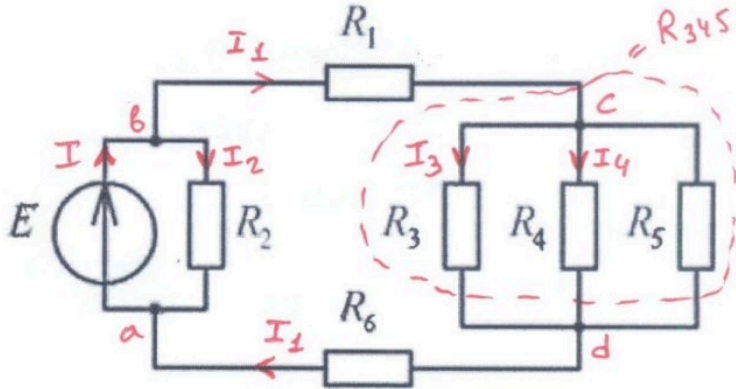


ФІ-12 Бекешева Анастасія



$$P_1 = I_1^2 R_1 \Rightarrow I_1 = \sqrt{\frac{50}{4}} = \frac{5\sqrt{2}}{2}, I_1 = I_6 - \text{послідовне з'єднання}$$

$$\frac{1}{R_{345}} = \frac{1}{R_3} + \frac{1}{R_4} + \frac{1}{R_5} \Rightarrow R_{345} = 8, I_{345} = I_1 = I_6 = \frac{5\sqrt{2}}{2}, I = \frac{U}{R} \Rightarrow$$

$$U_{345} = I_{345} \cdot R_{345} = 20\sqrt{2} = U_3 = U_4 = U_5 - \text{паралельне з'єднання}$$

$$I_3 = \frac{5\sqrt{2}}{12}, I_4 = \frac{5\sqrt{2}}{12}, I_5 = \frac{5\sqrt{2}}{3}$$

$$\varepsilon = U_1 + U_{345} + U_6, U_1 = 10\sqrt{2}, U_6 = 20\sqrt{2}, \varepsilon = 50\sqrt{2} = U_2 \Rightarrow I_2 = \frac{5\sqrt{2}}{2}$$

$$P_2 = 250, P_3 = \frac{50}{3}, P_4 = \frac{50}{3}, P_5 = \frac{200}{3}, P_6 = 100$$

$$I_{\text{дж}} = I_1 + I_2 = 5\sqrt{2}, P_{\text{дж}} = I_{\text{дж}} \cdot \varepsilon = 500$$

$$\frac{1}{R} = \frac{1}{R_2} + \frac{1}{R_1 + R_{345} + R_6} = 10, \sum P = (I_1 + I_2)^2 R = 500$$