

حل التمرين 08

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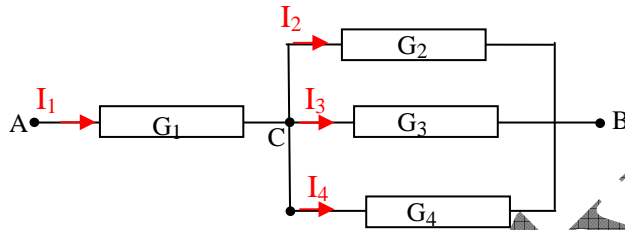
.1

$$\frac{1}{R_{CB}} = \frac{1}{R_2} + \frac{1}{R_3} + \frac{1}{R_4} \Rightarrow \frac{1}{R_{CB}} = G_2 + G_3 + G_4$$

$$\Rightarrow R_{CB} = \frac{1}{G_2 + G_3 + G_4}$$

$$R_{CB} = \frac{1}{1,75} = 0,57\Omega$$

.2



$$R_{AB} = R_1 + R_{CB} \Rightarrow R_{AB} = \frac{1}{G_1} + R_{CB}$$

$$\Rightarrow R_{AB} = \frac{1}{0,45} + 0,57 = 2,79\Omega$$

.3

$$u_{AB} = R_{AB} I_1 \Rightarrow I_1 = \frac{u_{AB}}{R_{AB}} \Rightarrow I_1 = \frac{6}{2,79} = 2,15A \quad .3.1$$

$$u_{CB} = R_{CB} I_1 \Rightarrow u_{CB} = 0,57 \times 2,15 = 1,22V \quad .3.2$$

$$u_{CB} = R_2 I_2 \Rightarrow I_2 = \frac{u_{CB}}{R_2} = G_2 u_{CB} \quad .3.3$$

$$I_2 = 0,5 \times 1,22 = 0,61A$$

$$I_3 = 1,22A$$

$$I_4 = 0,25 \times 1,22 = 0,30A$$

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