data fecha 28.01.22

D S T Q Q S S
D L M M J V S

LAB ELETRICIDADE II

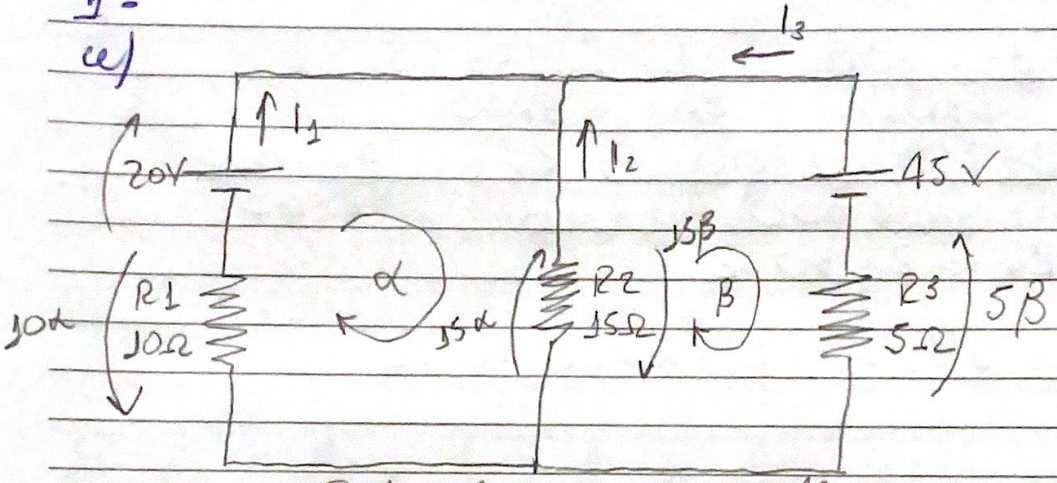
LISTA EXERCÍCIOS 5

KIRCHHOFF - 2021.2

JORGE NAMI HARBES - SIST. DE INFORMAÇÃO

1.

a)



Pela lei de Maxwell

$15\alpha + 10\alpha = 15\beta + 20$ $\quad$ $15\beta + 5\beta = 15\alpha + 45$

$25\alpha - 15\beta = 20$ $\quad$ $20\beta - 15\alpha = 45$

$5\alpha - 3\beta = 4$ $\quad$ $4\beta - 3\alpha = 9$

$$\begin{cases} 5\alpha - 3\beta = 4 \\ -3\alpha + 4\beta = 9 \end{cases} \Rightarrow -3\beta = 4 - 5\alpha$$

$$3\beta = 5\alpha - 4$$

$$\beta = \frac{5\alpha - 4}{3}$$

$$-3\alpha + 4\left(\frac{5\alpha - 4}{3}\right) = -9 \Rightarrow -3\alpha + \frac{20\alpha - 16}{3} = -9$$

$$-9\alpha + 20\alpha - 16 = -27$$

$$11\alpha = -11$$

$$\alpha = -1A \Rightarrow$$

$$-3(-1) + 4\beta = -9$$

$$3 + 4\beta = -9$$

$$\beta = -3A$$

data
fecha

$I_1 = \alpha = -1A$ $\quad I_3 = -\beta = 3A$

$I_2 = \beta - \alpha = -3 - (-1) = -2A$

1) $V = R \cdot i$

$V_1 = 10 \cdot (-1) = -10V$

$V_2 = 15 \cdot (-2) = -30V$

$V_3 = 5 \cdot 3 = 15V$