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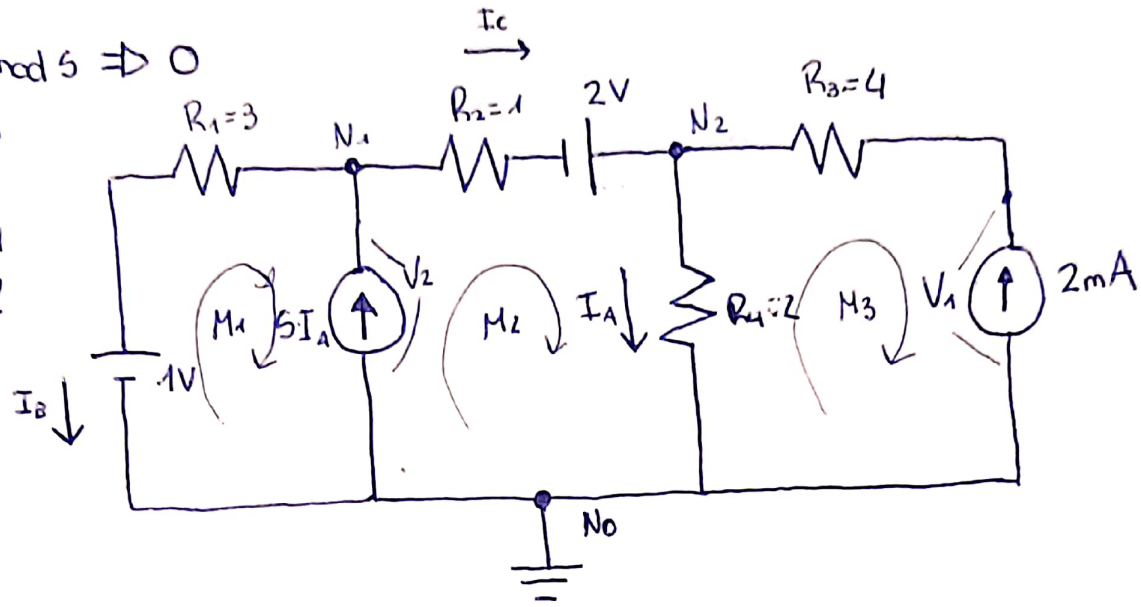
total ⇒ 7+7+2+2+8+5+5+4 = 40

total mod 5 ⇒ 0

$R_1 = 3$
$R_2 = 1$
$R_3 = 4$
$R_4 = 2$



$N_0 \Rightarrow I_B + 5I_A - I_C = 0$; $I_B - I_C + 5I_A = 0$

$N_1 \Rightarrow I_B - I_A = -2$; $I_C - I_A = -2$

$M_1 \Rightarrow 3I_B + V_2 - 1 = 0$; $3I_B + V_2 = 1$

$M_2 \Rightarrow I_C - 2 + 2I_A - V_2 = 0$; $I_C + 2I_A - V_2 = 2$

$M_3 \Rightarrow 2I_A - V_4$; $+2I_A - V_4 = -8$

$$\left(\begin{array}{ccccc|c} 1 & -1 & 5 & 0 & 0 & 0 \\ 0 & 1 & -1 & 0 & 0 & -2 \\ 3 & 0 & 0 & 1 & 0 & 1 \\ 0 & 1 & 2 & -1 & 0 & 2 \\ 0 & 0 & 2 & 0 & -1 & -8 \end{array}\right) \Rightarrow \left(\begin{array}{ccccc|c} 1 & -1 & 5 & 0 & 0 & 0 \\ 0 & 1 & -1 & 0 & 0 & -2 \\ 0 & 3 & -15 & 1 & 0 & 1 \\ 0 & 1 & 2 & -1 & 0 & 2 \\ 0 & 0 & 2 & 0 & -1 & -8 \end{array}\right) \Rightarrow \left(\begin{array}{ccccc|c} 1 & 0 & 4 & 0 & 0 & -2 \\ 0 & 1 & -1 & 0 & 0 & -2 \\ 0 & 0 & -12 & 1 & 0 & 7 \\ 0 & 0 & 3 & -1 & 0 & 4 \\ 0 & 0 & 2 & 0 & -1 & -8 \end{array}\right) \Rightarrow$$

$$\left(\begin{array}{ccccc|c} 1 & 0 & 4 & 0 & 0 & -2 \\ 0 & 1 & -1 & 0 & 0 & -2 \\ 0 & 0 & 1 & -1/12 & 0 & -7/12 \\ 0 & 0 & 3 & -1 & 0 & 4 \\ 0 & 0 & 2 & 0 & -1 & -8 \end{array}\right) \Rightarrow \left(\begin{array}{ccccc|c} 1 & 0 & 0 & 1/3 & 0 & 1/3 \\ 0 & 1 & 0 & -1/12 & 0 & -31/12 \\ 0 & 0 & 1 & -1/12 & 0 & -7/12 \\ 0 & 0 & 0 & -3/4 & 0 & 23/4 \\ 0 & 0 & 0 & 1/6 & -1 & -41/6 \end{array}\right) \Rightarrow \left(\begin{array}{ccccc|c} 1 & 0 & 0 & 1/3 & 0 & 1/3 \\ 0 & 1 & 0 & -1/12 & 0 & -31/12 \\ 0 & 0 & 1 & -1/12 & 0 & -7/12 \\ 0 & 0 & 0 & 1 & 0 & -23/3 \\ 0 & 0 & 0 & 1/6 & -1 & -41/6 \end{array}\right) \Rightarrow$$

$$\left(\begin{array}{ccccc|c} 1 & 0 & 0 & 0 & 0 & 26/9 \\ 0 & 1 & 0 & 0 & 0 & -29/9 \\ 0 & 0 & 1 & 0 & 0 & -11/9 \\ 0 & 0 & 0 & 1 & 0 & -23/3 \\ 0 & 0 & 0 & 0 & 1 & 50/9 \end{array}\right)$$

$I_A = \frac{-11}{9} = -1'\hat{2}\,mA$; $V_1 = \frac{50}{9} = 5'\hat{5}\,V$

$I_B = \frac{26}{9} = 2'8\,mA$; $V_2 = \frac{-23}{3} = 7'6\,V$

$I_C = \frac{-29}{9} = -3'\hat{2}\,mA$

Escaneado con CamScanner