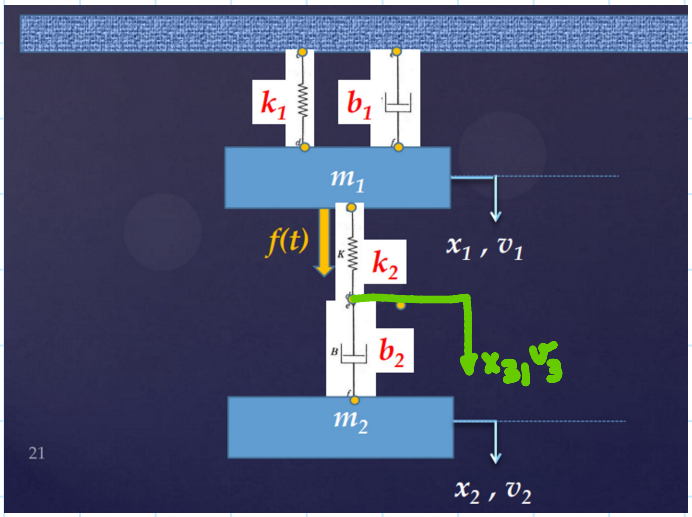
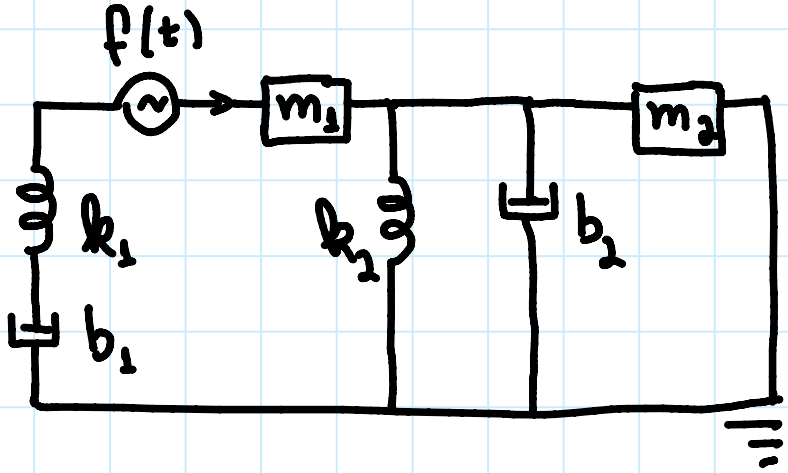
Exercício 6 - Slide analogia tipo 2

quarta-feira, 6 de outubro de 2021 19:29

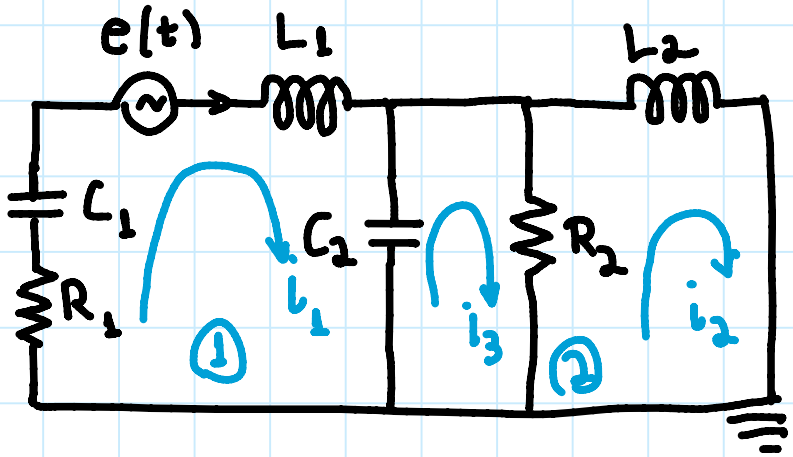
Ex.6)



b) · Circuito mecânico:



c) · Circuito elétrico análogo:



d) • Malha ①: $\left(L_1 D + R_1 + \frac{1}{C_1 D} + \frac{1}{C_2 D}\right) - \frac{1}{C_2 D} i_3 = e(t)$ (I)

• Malha ②: $(L_2 D + R_2) i_2 - R_2 i_3 = 0$ (II)

• Malha ③: $\left(R_2 + \frac{1}{C_2 D}\right) i_3 - \frac{1}{C_2 D} i_1 - R_2 i_2 = 0$ (III)

e) • Da analogia tipo 1:

→ Eq (I): $m_1 \ddot{x}_1 + b_1 \dot{x}_1 + (k_1 + k_2) x_1 = f(t) + k_2 x_3$

→ Eq (II): $m_2 \ddot{x}_2 + b_2 \dot{x}_2 = b_2 \dot{x}_3$

→ Eq (III): $b_2 \dot{x}_3 + k_2 x_3 = b_2 \dot{x}_2 + k_2 x_1$