



c) Lei das Malhas:

$$\begin{cases}
 A & \dot{i}_1 (L_1 D + R_1) - R_1 \dot{i}_2 = V_1(t) \\
 B & (R_1 + R_2 + L_2 D) \dot{i}_2 - R_2 \dot{i}_3 - R_1 \dot{i}_1 = 0 \\
 C & \left( \frac{1}{C_2 D} + R_3 + R_2 + L_3 D \right) \dot{i}_3 - R_2 \dot{i}_2 = V_0(t)
 \end{cases}$$

Lei dos Nós:

$$\begin{cases}
 A & \left( C_1 D + \frac{1}{R_1} \right) V_1 - \frac{1}{R_1} V_2 = \dot{i}_1(t) \\
 B & \left( C_2 D + \frac{1}{R_1} + \frac{1}{R_2} \right) V_2 - \frac{1}{R_1} V_1 - \frac{1}{R_2} V_4 = 0 \\
 C & \left( C_3 D + \frac{1}{L_2 D} + \frac{1}{R_3} \right) V_3 - \frac{1}{C_2 D} V_4 = \dot{i}_0(t) \\
 D & \left( \frac{1}{R_2} + \frac{1}{C_2 D} \right) V_4 - \frac{1}{C_2 D} V_3 - \frac{1}{R_2} V_2 = \dot{i}_0(t)
 \end{cases}$$