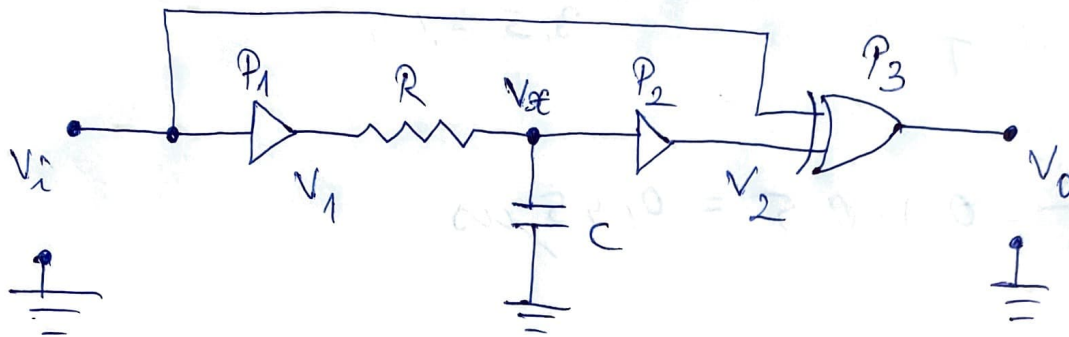


# Lectiunea C

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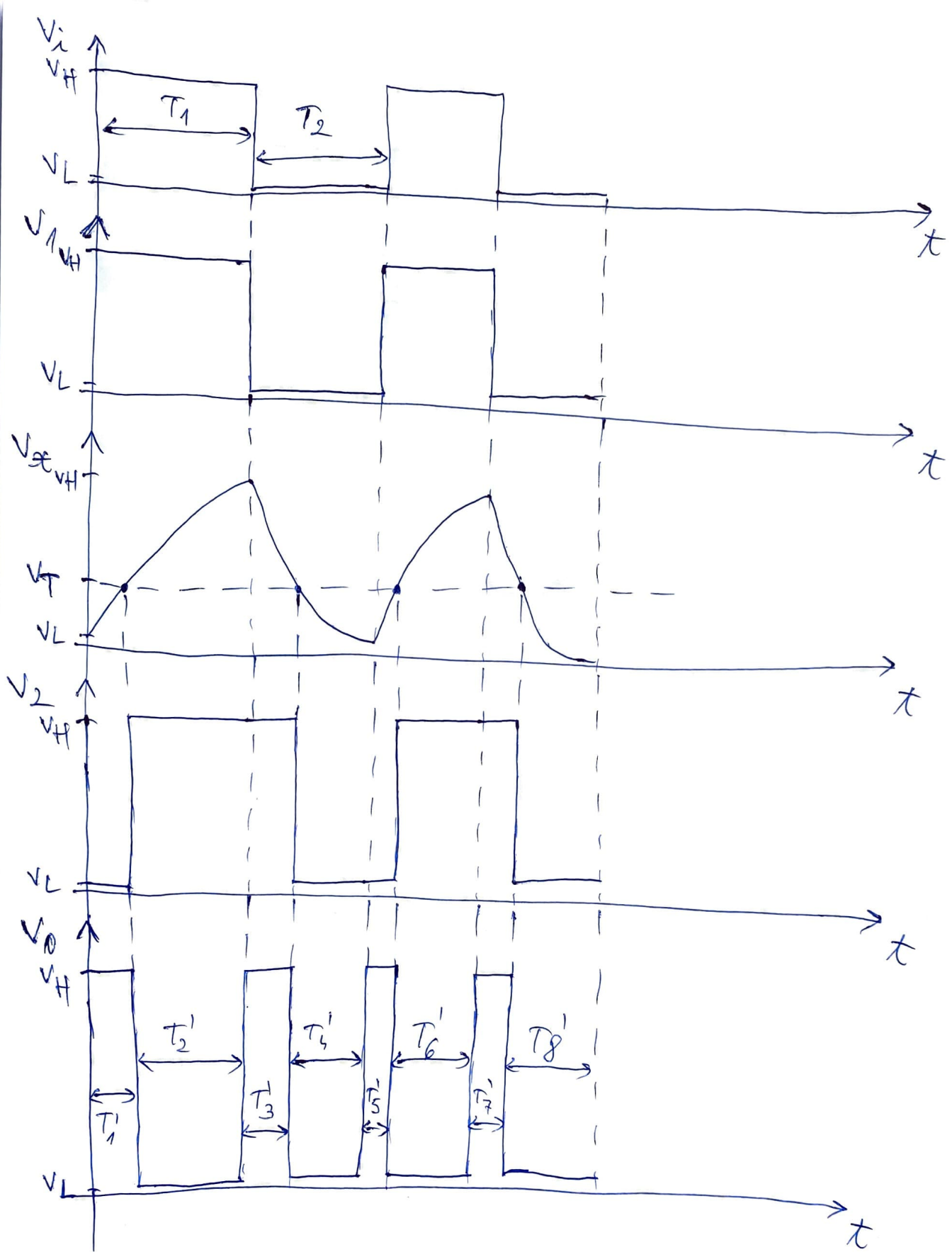


$$V_H = 3,5V; V_L = 0,2V; V_T = 1,5V, V_{CC} = 5V$$

$$T_1 = T_2 = 10\mu s; R = 0,3k\Omega; C = 3mF$$

P3 porta XOR

A	B	F
0	0	0
0	1	1
1	0	1
1	1	0



$$R \cdot C = 0,3 \text{ k}\Omega \cdot 3 \text{ mF} = 0,9 \mu\text{s}$$

$$T_1' = R \cdot C \cdot \ln \frac{V_H - V_L}{V_H - V_T} = 0,9 \cdot \ln \frac{3,5 - 0,2}{3,5 - 1,5} =$$

$$= 0,9 \cdot \ln \frac{3,3}{2} = 0,9 \cdot 0,5 = 0,45 \mu\text{s}$$

$$T_1' = 0,45 \mu\text{s}$$

$$T_2' = T_1 - T_1' = 10 - 0,45 = 9,55 \mu\text{s}$$

$$T_3' = R \cdot C \cdot \ln \frac{V_L - V_H}{V_L - V_T} = 0,9 \cdot \ln \frac{0,2 - 3,5}{0,2 - 1,5} =$$

$$= 0,9 \cdot 0,9 = 0,81 \mu\text{s}$$

$$T_3' = 0,81 \mu\text{s}$$

$$T_4' = T_2 - T_3' = 10 - 0,81 = 9,19 \mu\text{s}$$

$$T_4' = 9,19 \mu\text{s}$$

$$T_5' = R \cdot C \cdot \ln \frac{V_H - V_L}{V_H - V_T} = T_1' = 0,45 \mu\text{s}$$

$$T_6' = T_2' = 9,55 \mu\text{s}$$

$$T_7' = T_3' = 0,81 \mu\text{s} \quad (\text{repetare})$$

$$T_8' = T_4' = 9,19 \mu\text{s}$$