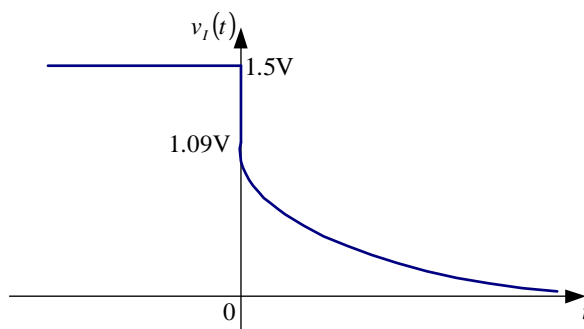


## REŠENJA ZADATAKA

### 1. KOLOKVIJUM

2.

$$v_I(t) = \begin{cases} 1.5V = const, & \text{za } t < 0 \\ 1.09V \cdot e^{-\frac{t}{366.67\mu s}}, & \text{za } t > 0 \end{cases}$$



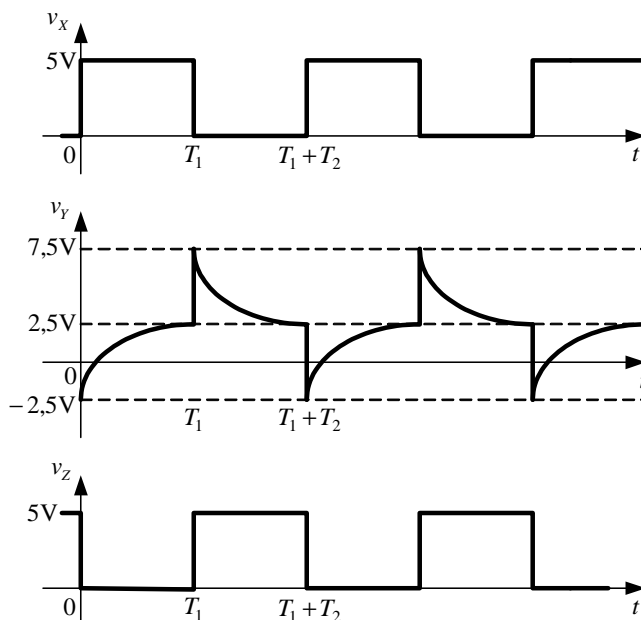
### 2. KOLOKVIJUM

2. a)

$$v_Y(t) = 5V - 7.5V \cdot e^{-2000t}, \text{ za } 0 < t < T_1$$

$$v_Y(t) = 7.5V \cdot e^{-2000(t-T_1)}, \text{ za } T_1 < t < T_1 + T_2$$

$$f = \frac{1}{T_1 + T_2} = 910.25\text{Hz}$$

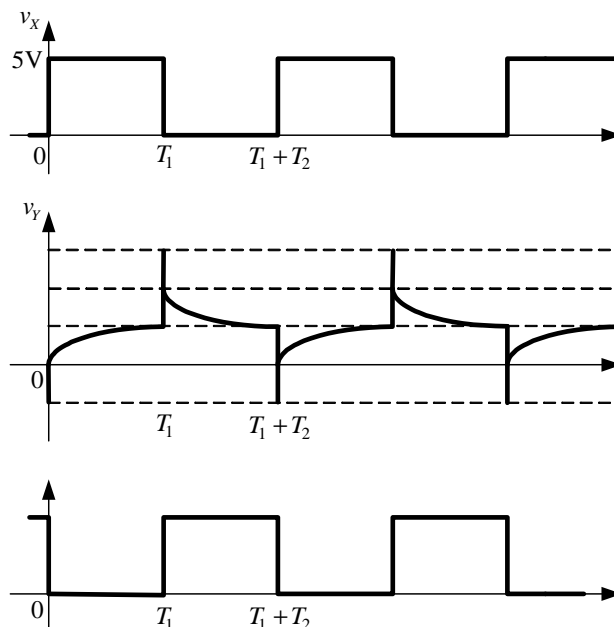


b)

$$v_Y(t) = 5V - 5V \cdot e^{-2000t}, \text{ za } 0 < t < T_1$$

$$v_Y(t) = 5V \cdot e^{-2000(t-T_1)}, \text{ za } T_1 < t < T_1 + T_2$$

$$f = \frac{1}{T_1 + T_2} = 1443\text{Hz}$$



## 3. KOLOKVIJUM

2. a) 
$$v_I = -\frac{3}{8} \cdot (8\overline{Q_3} + 4\overline{Q_2} + 2\overline{Q_1} + \overline{Q_0}) + \frac{45}{8}.$$

b) Analogni izlazni napon D/A konvertora je minimalan za  $Q_3Q_2Q_1Q_0 = 0000$  i iznosi  $v_{I\min} = 0$ .

c) Analogni izlazni napon D/A konvertora je maksimalan za  $Q_3Q_2Q_1Q_0 = 1111$  i iznosi  $v_{I\max} = 5.625V$ .