

REŠENJA ZADATAKA

1. KOLOKVIJUM

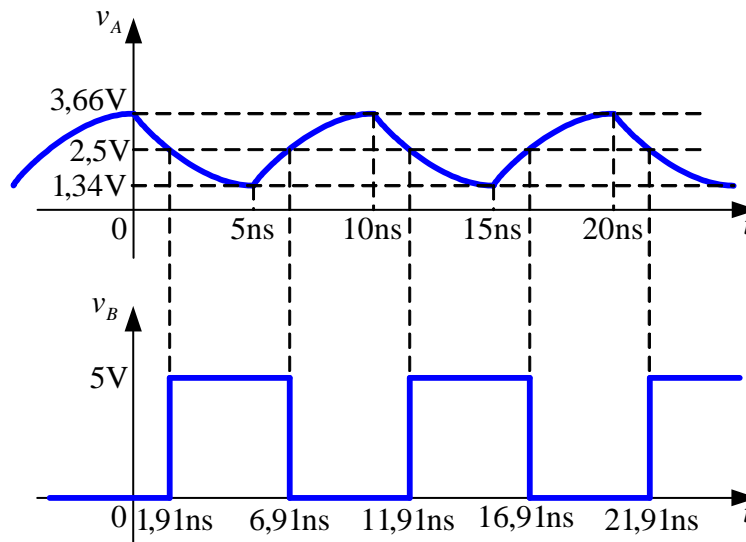
2. a)

$$v_A(t) = \begin{cases} 3,66\text{V} \cdot e^{-2 \cdot 10^8 \cdot t}, & 0 \leq t \leq 5\text{ns} \\ 5\text{V} - 3,66\text{V} \cdot e^{-2 \cdot 10^8 \cdot (t-5\text{ns})}, & 5\text{ns} \leq t \leq 10\text{ns} \end{cases}, \text{ signal se dalje periodično ponaša.}$$

b) $v_A(t_1) = 2,5\text{V}$ (za $0 < t < 5\text{ns}$) $\Rightarrow t_1 = 1,91\text{ns}$

$v_A(t_2) = 2,5\text{V}$ (za $5\text{ns} < t < 10\text{ns}$) $\Rightarrow t_2 = 6,91\text{ns}$

$$v_B(t) = \begin{cases} 5\text{V}, & 1,91\text{ns} \leq t \leq 6,91\text{ns} \\ 0, & 6,91\text{ns} \leq t \leq 11,91\text{ns} \end{cases}, \text{ signal se dalje periodično ponaša.}$$



2. KOLOKVIJUM

2. za $0 < t < T_1$:

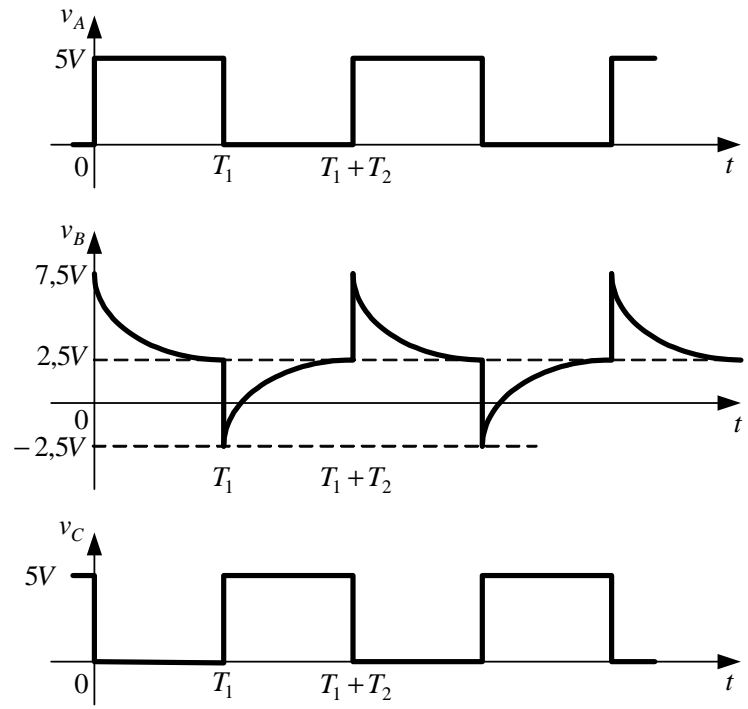
$$v_B(t) = 7,5\text{V} \cdot e^{-2000t}$$

za $T_1 < t < T_1 + T_2$:

$$v_B(t) = 5\text{V} - 7,5\text{V} \cdot e^{-2000(t-T_1)}$$

$$T_1 = 549,3\mu\text{s}$$

$$T_2 = 549,3\mu\text{s}$$



3. KOLOKVIJUM

2. a) Prekidač je zatvoren za $Q_i = 0$, a otvoren za $Q_i = 1$.

b) $R_s = 0,95\text{k}\Omega$ $R_0 = 56\text{k}\Omega$ $R_1 = 26\text{k}\Omega$ $R_2 = 11\text{k}\Omega$ $R_3 = 3,5\text{k}\Omega$

c) $R_{bo} = 1,28\text{k}\Omega$ $V_{MAX} = 5,6\text{V}$ $V_{MIN} = -6,4\text{V}$