REŠENJA ZADATAKA

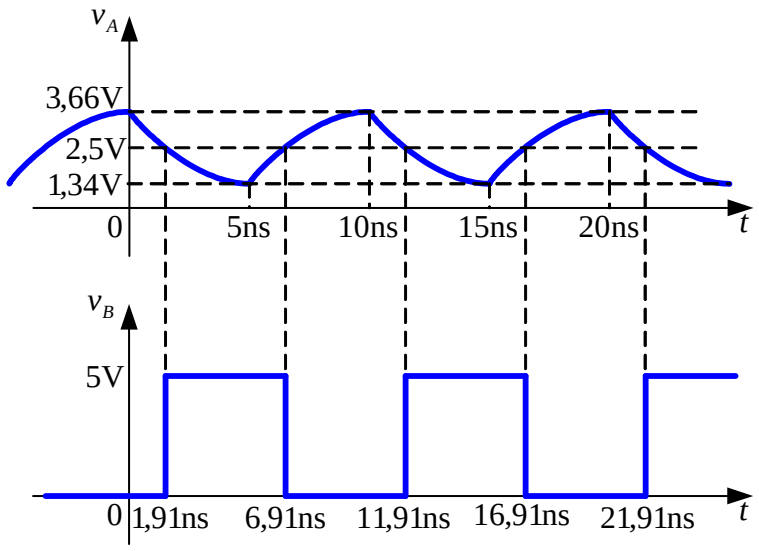
2. a)

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

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

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

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



4.

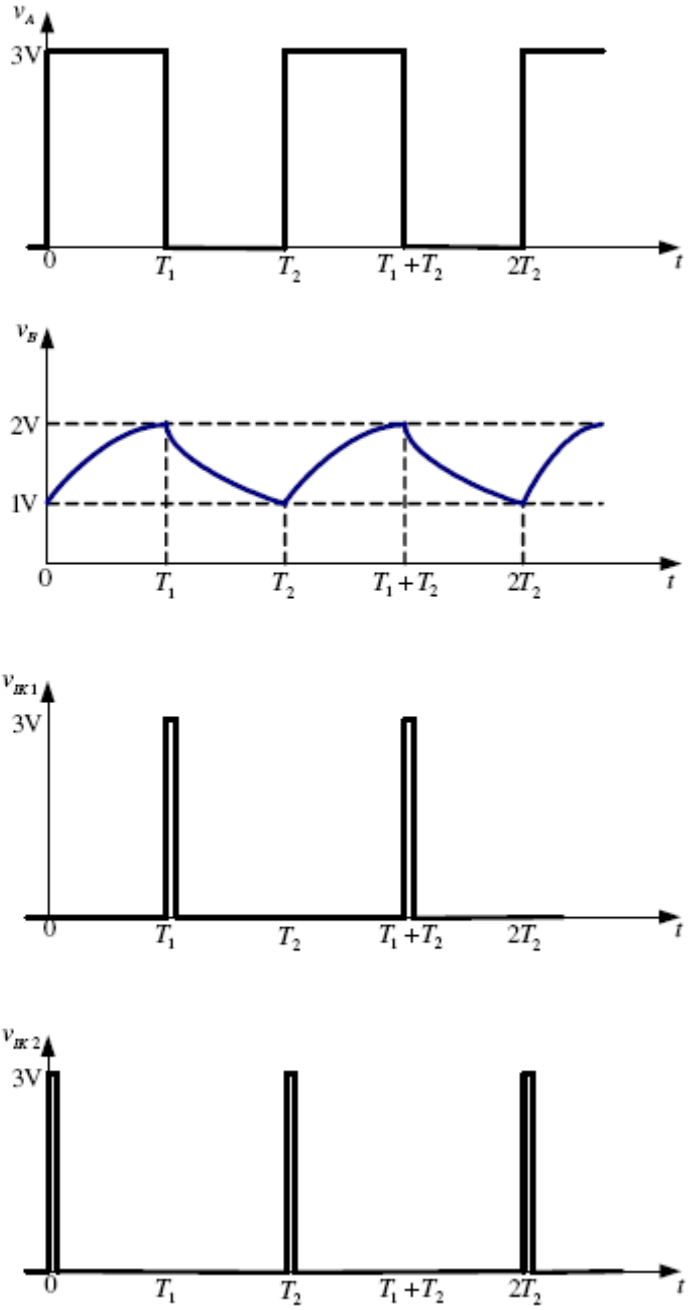
$v_B(t)=3\text{V}-2\text{V}\cdot e^{-\frac{t}{100\mu\text{s}}}$, za $0<t<T_1$

$v_B(t)=2\text{V}\cdot e^{-\frac{t-T_1}{100\mu\text{s}}}$, za $T_1<t<T_2$

$T_1=69{,}3\mu\text{s}$

$T_2=138{,}6\mu\text{s}$

$f=\frac{1}{T_2}=7{,}21\text{kHz}$



6. $R_D = 10\text{k}\Omega$, $R_0 = 76\text{k}\Omega$, $R_1 = 33\text{k}\Omega$, $R_2 = 10{,}5\text{k}\Omega$, $R_3 = 750\Omega$