

REŠENJA ZADATAKA

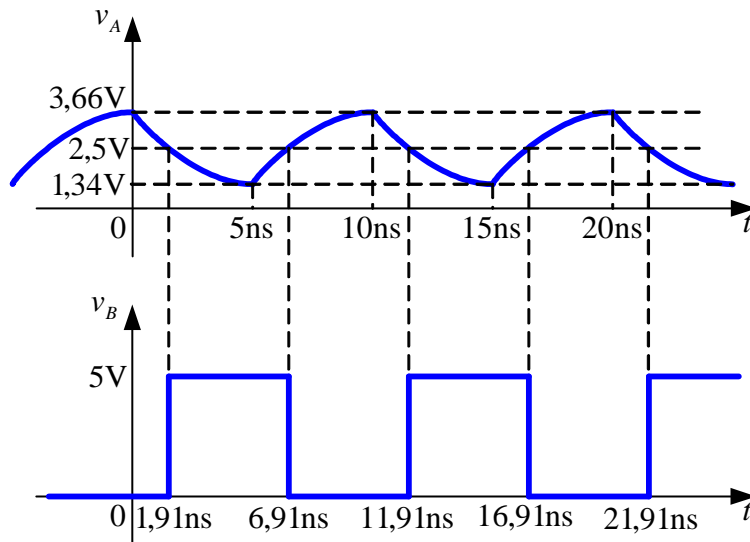
3. a)

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

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

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

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



4. a) $Z = \overline{A + B \cdot C \cdot D + E} = \overline{A \cdot (B + C + D) \cdot E}$

b) $\tau_{pu} = 3 \cdot r_{dsPMOS} \cdot C = 1,5ns$

$\tau_{pr} = 3 \cdot r_{dsNMOS} \cdot C = 600ps$

