

REŠENJA ZADATAKA

1. a) $R_{E1} \approx 4.3\text{k}\Omega ; \quad R_{E2} \approx 1.7\text{k}\Omega ; \quad R_C \approx 5.3\text{k}\Omega .$

b) $a_v = \frac{v_i}{v_g} = -\frac{r_{\pi 1} \| R_B}{R_g + r_{\pi 1} \| R_B} g_{m1} [R_C \| (r_{\pi 2} + (\beta_0 + 1)R_{E1})] \frac{g_{m2}R_{E1}}{1 + g_{m2}R_{E1}} \approx -199.9$

c) $R_{ul} = R_g + R_B \| r_{\pi 1} \approx 2.54\text{k}\Omega .$

d) $R_{izl} = R_{E1} \| \frac{r_{\pi 2} + R_C}{\beta_0 + 1} \approx 75.9\Omega .$

4.

$v_I[\text{V}] = -12\text{V} = \text{const}$, za $-12\text{V} \leq v_G \leq -4.5\text{V}$ (IOP-neg. zasićenje, D-ON);

$v_I[\text{V}] = 2v_G[\text{V}] - 3$, za $-4.5\text{V} \leq v_G \leq -1.5\text{V}$ (IOP-lin. režim, D-ON);

$v_I[\text{V}] = 4v_G[\text{V}]$, za $-1.5\text{V} \leq v_G \leq 3\text{V}$ (IOP-lin. režim, D-OFF);

$v_I[\text{V}] = 12\text{V} = \text{const}$, za $3\text{V} \leq v_G \leq 12\text{V}$ (IOP-poz. zasićenje, D-OFF).