

## REŠENJA ZADATAKA

1. a)  $R_E = 3.14\text{k}\Omega$ .

b)  $a = \frac{v_p}{v_g} = -\frac{r_{\pi 1}}{r_{\pi 1} + R_B} \cdot g_{m1} [R_C \parallel (r_{\pi 2} + (\beta_0 + 1)(R_E + R_p))] \cdot \frac{g_{m2}(R_E + R_p)}{1 + g_{m2}(R_E + R_p)} \cdot \frac{R_p}{R_E + R_p} \approx -5.66$ .

c)  $R_{ul} = R_B + r_{\pi 1} = 16.25\text{k}\Omega$ ;  $R_{izl} = R_E + \frac{r_{\pi 2} + R_C}{\beta_0 + 1} = 3.32\text{k}\Omega$ .

## 4.

$v_{IOP}[\text{V}] = 12\text{V}$ , za  $-12\text{V} \leq v_G \leq -11.4\text{V}$  (IOP-poz. zasićenje, D-OFF, Q-DAR);

$v_{IOP}[\text{V}] = -v_G[\text{V}] + V_{BE}$ , za  $-11.4\text{V} \leq v_G \leq 0$  (IOP-lin. režim, D-OFF, Q-DAR);

$v_{IOP}[\text{V}] = -v_G[\text{V}] - V_D$ , za  $0 \leq v_G \leq 11.4\text{V}$  (IOP-lin. režim, D-ON, Q-OFF);

$v_{IOP}[\text{V}] = -12\text{V}$ , za  $11.4\text{V} \leq v_G \leq 12\text{V}$  (IOP-neg. zasićenje, D-ON, Q-OFF).

$i_B[\mu\text{A}] \approx -0.5v_G[\text{V}] + 5.7$ , za  $-12\text{V} \leq v_G \leq -11.4\text{V}$ ;

$i_B[\mu\text{A}] = -v_G[\text{V}]$ , za  $-11.4\text{V} \leq v_G \leq 0$ ;

$i_B[\mu\text{A}] = 0$ , za  $0 \leq v_G \leq 12\text{V}$ .