REŠENJA ZADATAKA

1. a) $R_B = 1.3\text{k}\Omega$; $V_U = -1.1\text{V}$.

b) $a = \dfrac{v_p}{v_u} = \dfrac{R_P g_{mM}\left(1 + g_{mQ}\left(R_A \parallel r_{\pi Q}\right)\right)}{1 + R_P g_{mM}\left(1 + g_{mQ}\left(R_A \parallel r_{\pi Q}\right)\right)} \approx 0.984$.

c) $R_{izl} = \dfrac{1}{g_{mM}\left(1 + g_{mQ}\left(R_A \parallel r_{\pi Q}\right)\right)} = 31.9\Omega$.

4. a) $R_X = R_Y\left(\dfrac{V_P}{V_Z + V_{BE}} - 1\right) = 6\text{k}\Omega$.

b) $v_P = 9\text{V} = const$, za $0 \le i_P \le I_{PMAX}$;

$v_P = \dfrac{R_S R_2}{R_1} i_P - \left(1 + \dfrac{R_2}{R_1}\right) V_{BE}$, za $0 \le v_P \le 9\text{V}$.

c) $R_S \approx 2\Omega$, $I_{PMAX} = \dfrac{R_1 + R_2}{R_S R_2} V_{BE} + \dfrac{R_1}{R_S R_2} V_P = 1.9\text{A}$.

d) $R_{0\,max} = 76.88\Omega$.