

REŠENJA ZADATAKA

1. a) $a = \frac{v_p}{v_u} = \frac{g_m(R_D \parallel R_P)}{1 + g_m R_1} \approx 9.42.$

b) $R_{ul} = R_1 + \frac{1}{g_m} = 796.3\Omega;$ $R_{izl} = R_D = 10k\Omega.$

c) $V_{pm\max}^{(1)} = I_D \cdot (R_P \parallel R_D) = 2.25V$ (M_1 na granici zakočenja);
 $V_{pm\max}^{(2)} = |V_{TP}| - (V_{DD} + I_0 R_D) = 3V$ (M_1 na granici triodne oblasti);
 $V_{pm\max} = 2.25V.$

4.

$v_I[V] = -12V$, za $-12V \leq v_G \leq -4.5V$ (IOP-neg. zasićenje, D-ON);
 $v_I[V] = 2v_G[V] - 3$, za $-4.5V \leq v_G \leq -1.5V$ (IOP-lin. režim, D-ON);
 $v_I[V] = 4v_G[V]$, za $-1.5V \leq v_G \leq 3V$ (IOP-lin. režim, D-OFF);
 $v_I[V] = 12V$, za $3V \leq v_G \leq 12V$ (IOP-poz. zasićenje, D-OFF).