

8) E-Book, problem D4.26 (18 points)

*D4.26 Design the common-source circuit in Figure P4.26 using an n-channel MOSFET with $\lambda = 0$. The quiescent values are to be $I_{DQ} = 6 \text{ mA}$, $V_{GSQ} = 2.8 \text{ V}$, and $V_{DSQ} = 10 \text{ V}$. The transconductance is $g_m = 2.2 \text{ mA/V}$. Let $R_L = 1 \text{ k}\Omega$, $A_v = -1$, and $R_{in} = 100 \text{ k}\Omega$. Find R_1 , R_2 , R_S , R_D , K_n , and V_{TN} .