

QUIZ NO. 1

NAME _____ Score _____ /10

The NMOS transistor shown has the parameters of $K_n = 1\text{mA/V}^2$, $V_{TN} = 1\text{V}$ and $\lambda_N = 0\text{V}^{-1}$. In saturation, the large signal model is $i_D = 0.5K_n(v_{GS} - V_T)^2$.

a.) Assume the NMOS transistor is saturated and find the value of R_S that gives a drain current of 0.2mA .

b.) What value of R_D will cause the MOSFET to go from the saturation to the active region when $I_D = 0.2\text{mA}$?

