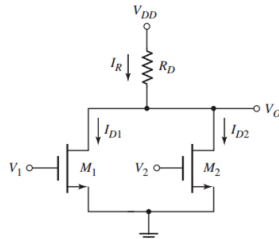


Problem 4

[Bookmark this page](#)

Problem 4

25 points possible (graded, results hidden)



Here $V_{DD} = 5V$, $R_D = 5.0k\Omega$, $K_n = 0.2mA/V^2$, $V_{TN1} = 0.8V$ and $V_{TN2} = 1V$. Here the input voltages V_1 and V_2 can swing between 0 to 5.

Lets assume input voltages are $V_1 = V_2 = 4.250V$.

In this case find the output voltage v_O in V .

In this case find the current I_R in mA .

In this case find the current I_{D1} in mA .

In this case find the current I_{D2} in mA .

In this case find the power dissipation in mW .

Lets assume input voltage $V_2 = 0V$.

In this case find the transition input voltage V_1 in V .

Lets assume input voltages are not zero.

In this case find the transition output voltage v_O in V . **Hint:** The inputs of the two NMOS are different in this case but both inputs satisfy transition mode condition individually and both NMOS have same output voltage.


In this case find the transition input voltage for V_1 in V .

In this case find the transition input voltage for V_2 in V .

In this case find the current I_R in mA .



Submit

 Answer submitted.

[< Previous](#) [Next >](#)

© All Rights Reserved



[About Us](#) [BracU Home](#) [USIS](#) [Course Catalog](#)

Copyright - 2020