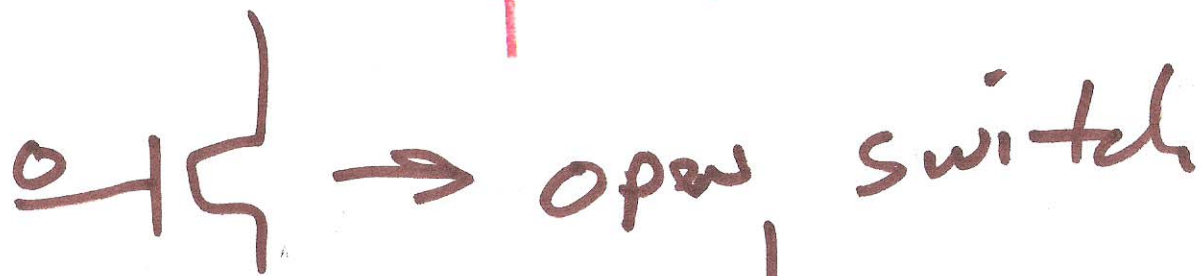
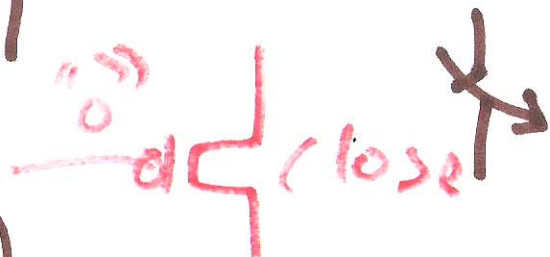
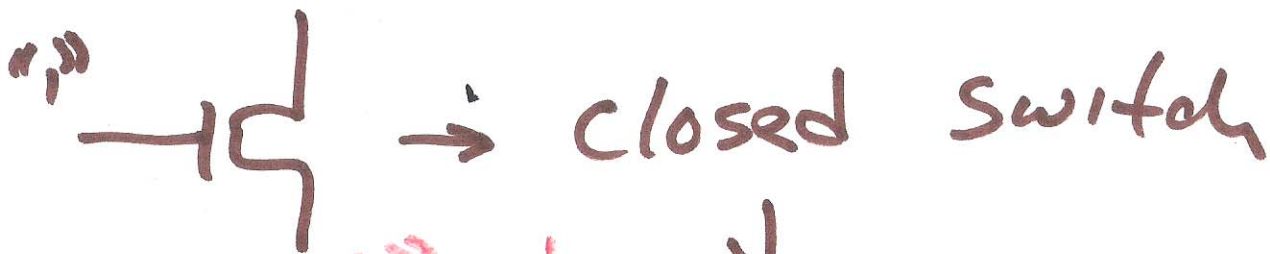
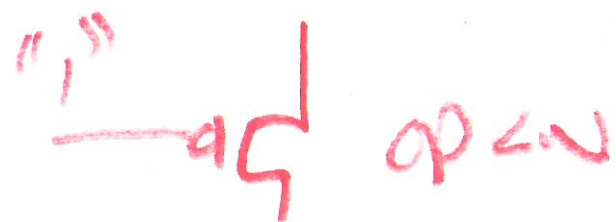
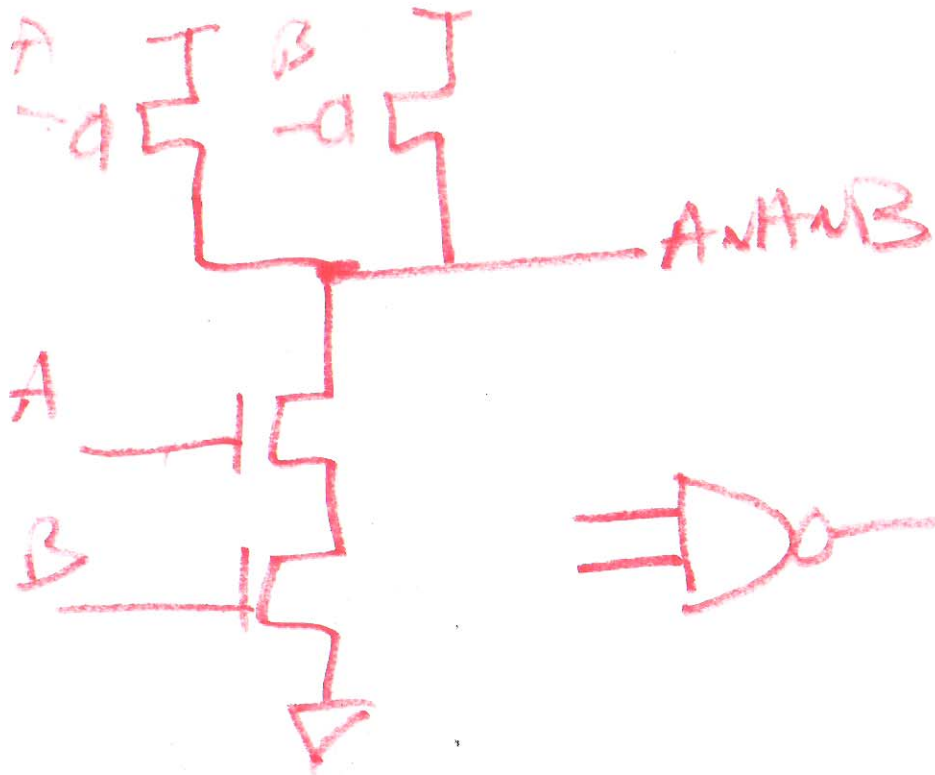
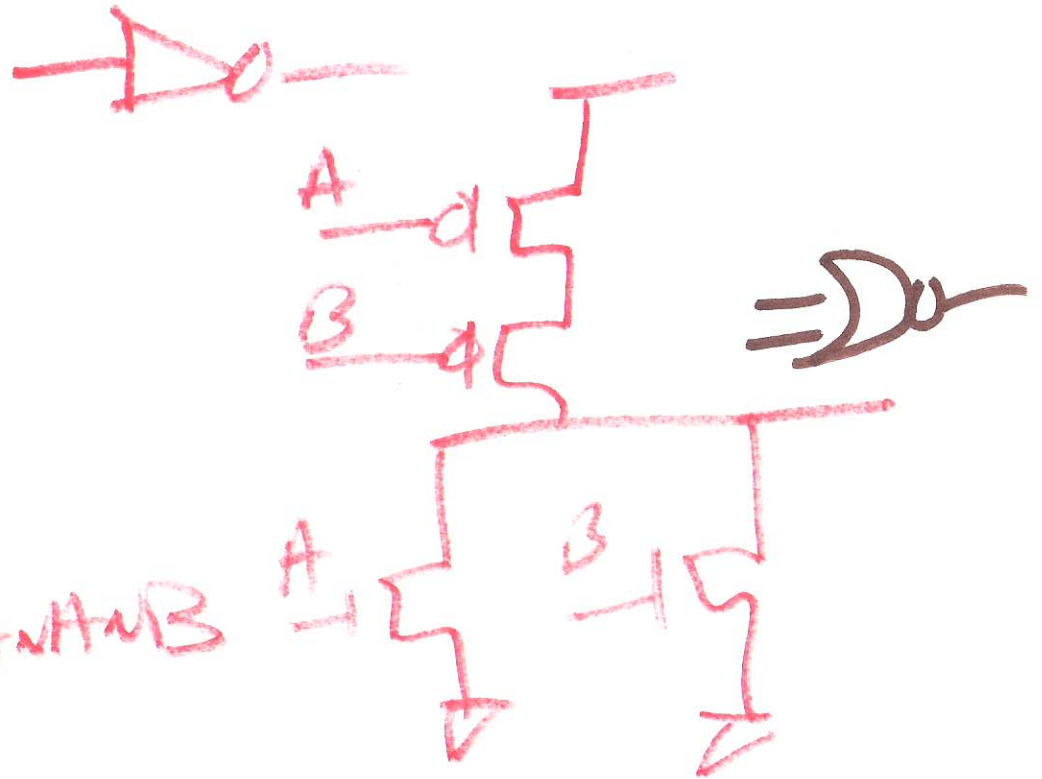
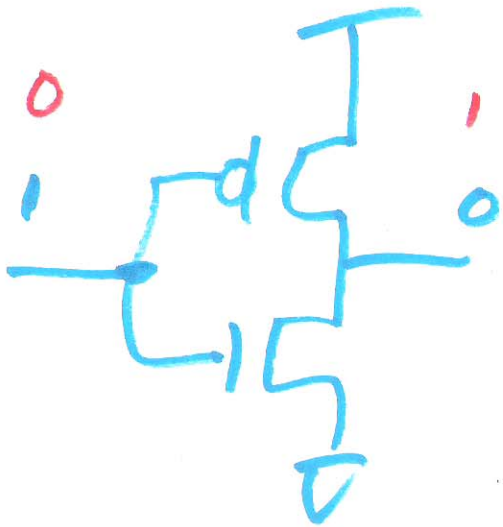


EE 421 / ECG 621

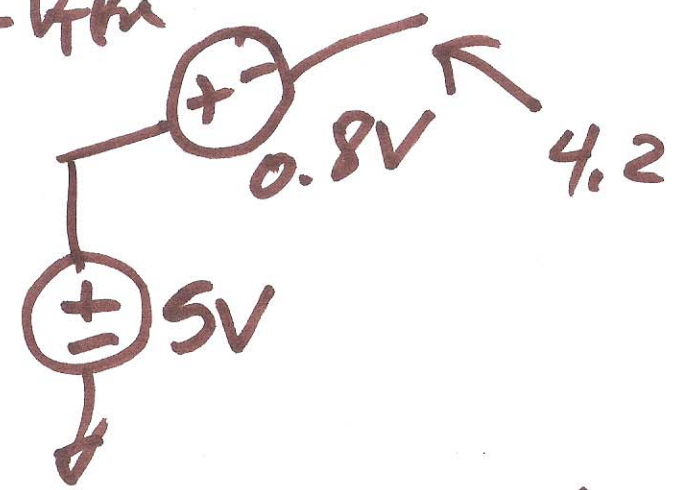
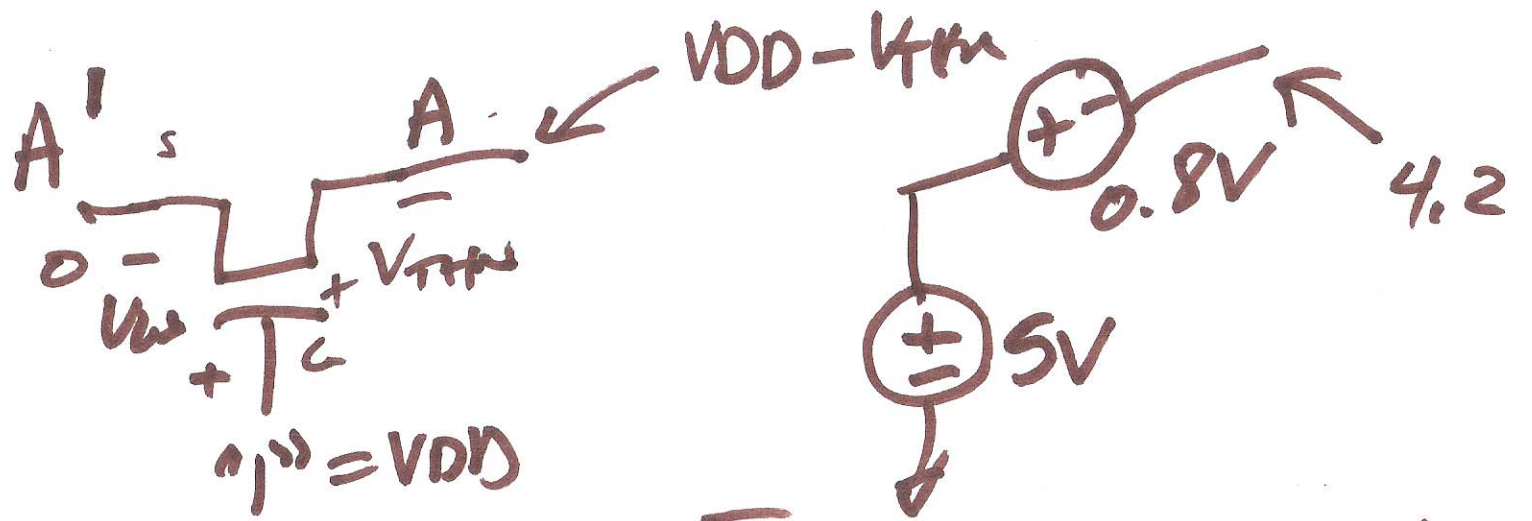
Lecture 18

OCT. 27, 2014

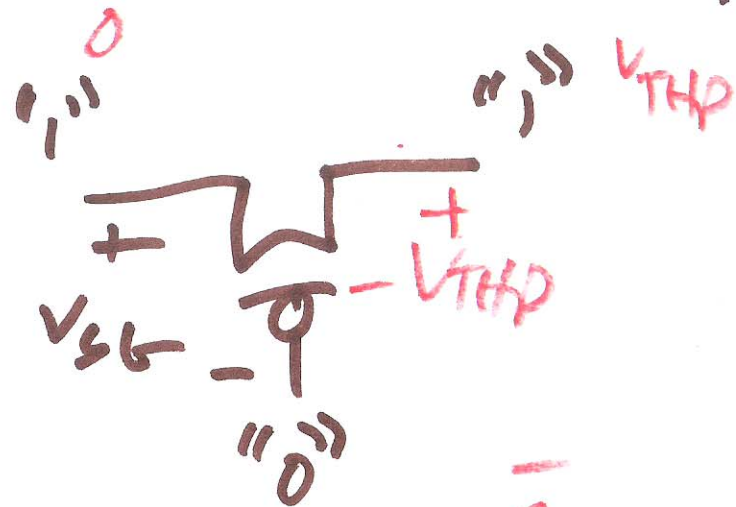




2)

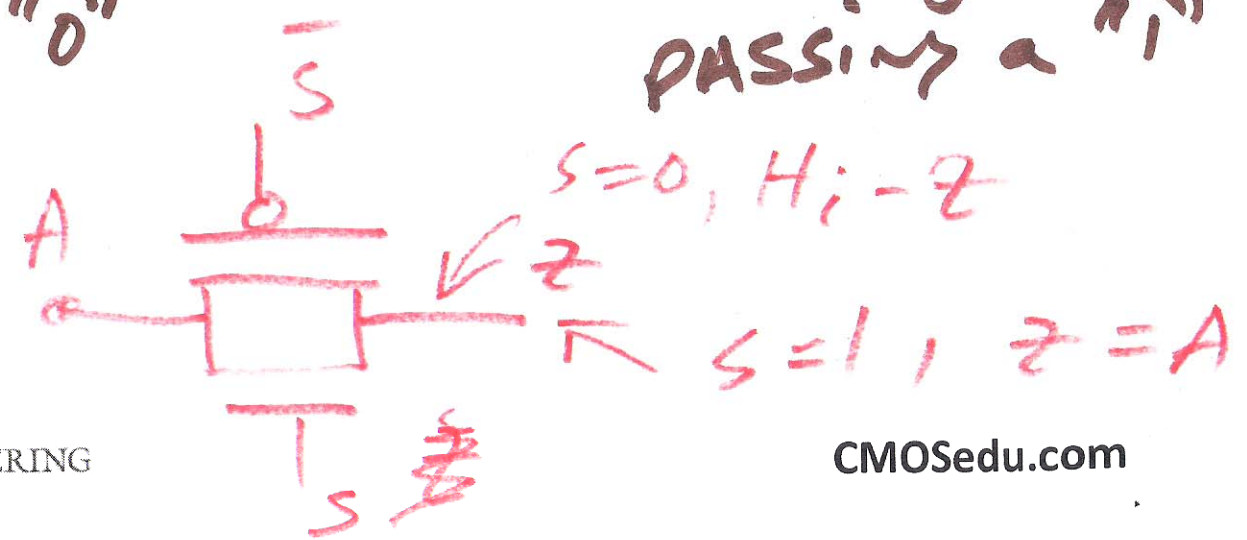


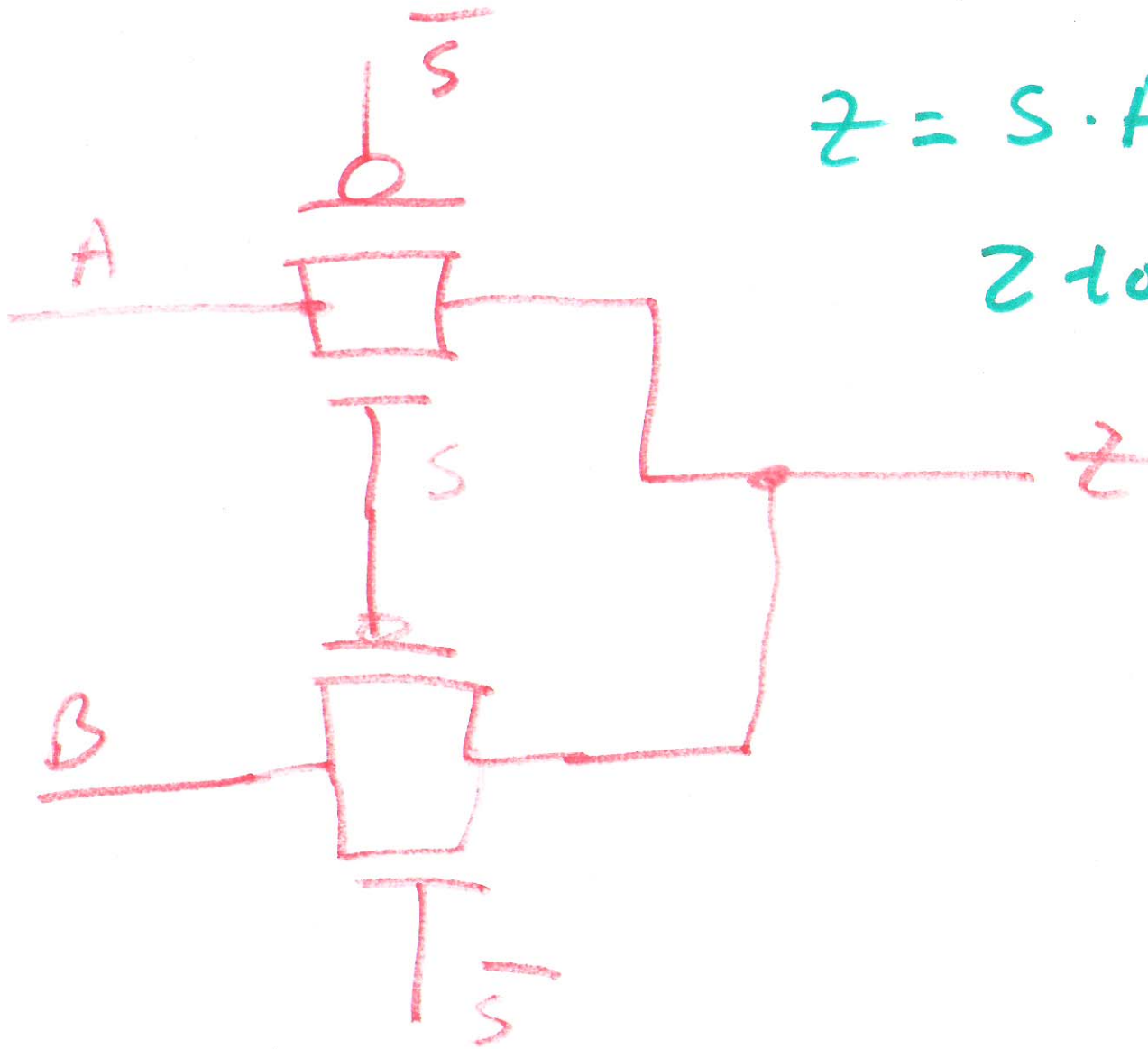
nmos good at passing a "0"



pmos good at passing a "1"

T.G.



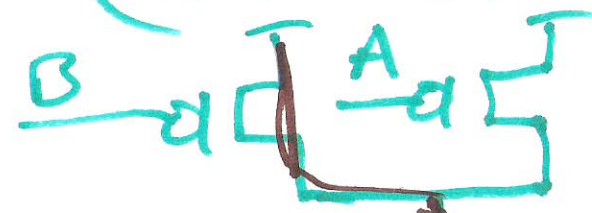


$$Z = S \cdot A + \bar{S} B$$

2 to 1 MUX

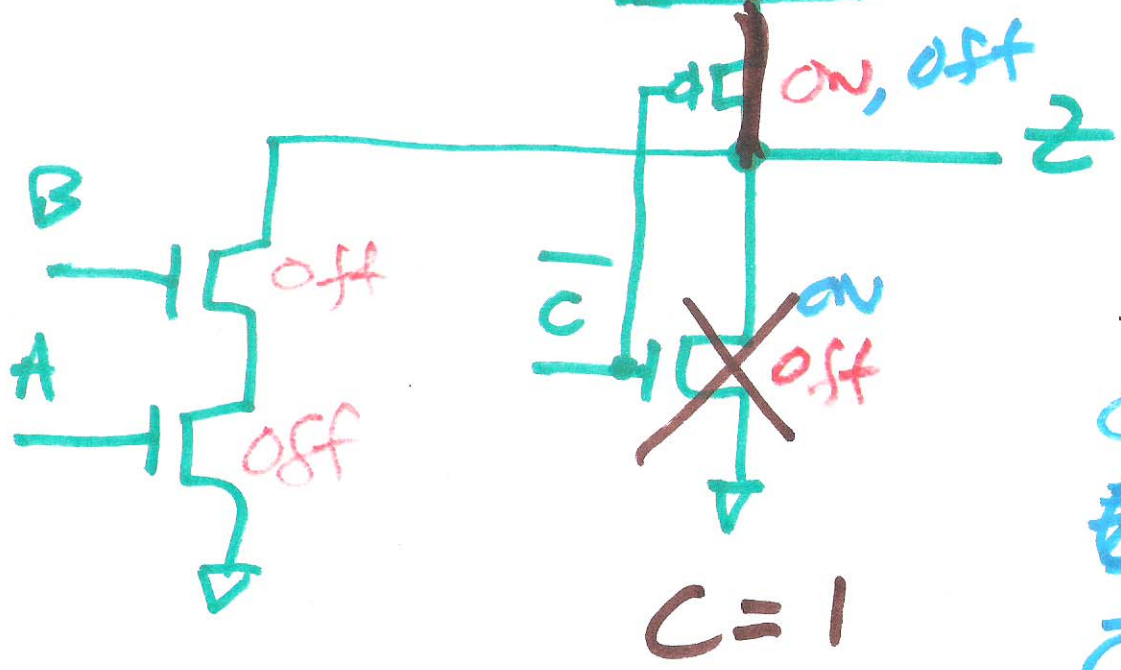
4)

$$z = (\bar{A} + \bar{B}) \cdot C$$



\bar{A} or \bar{B}
are high
 $z = 1$

$$z = \bar{A} \cdot C + \bar{B} \cdot C$$



$C = 0, z = 0$
 $\bar{C} = 1$

$$z = \bar{A} + \bar{B}$$

$z = 1$ ($\bar{A} = 1$ or $\bar{B} = 1$)
 $A = 0$ or $B = 0$

5)

$$R_W = \frac{V_{DD}}{\frac{\mu_N \cdot C_{ox}}{2} \cdot (V_{DD} - V_{TH})^2} \cdot \frac{L}{W}$$

$$R_W = \frac{5}{2.6 \text{ nA}} = R_W' \cdot \frac{L}{W} = 1.93 \text{ k}$$

$$R_W' = 20 \text{ k}$$

$$t_d = 0.7 \cdot 2 \text{ k} \cdot 10 \text{ pF}$$

$$14 \text{ ns}$$

