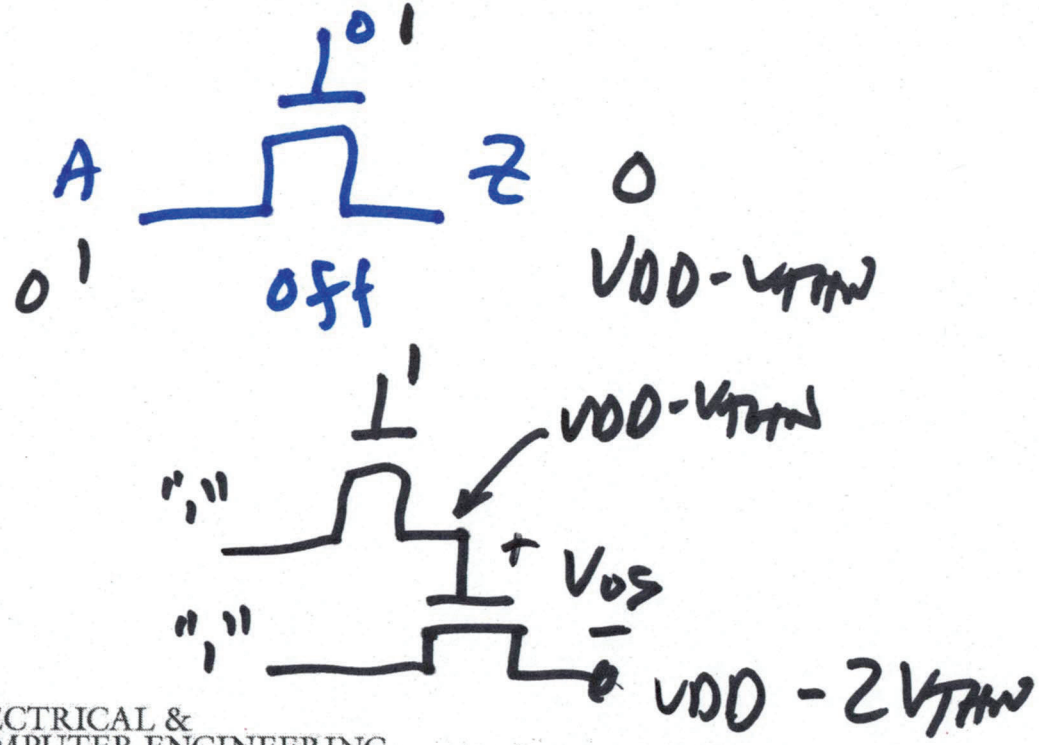
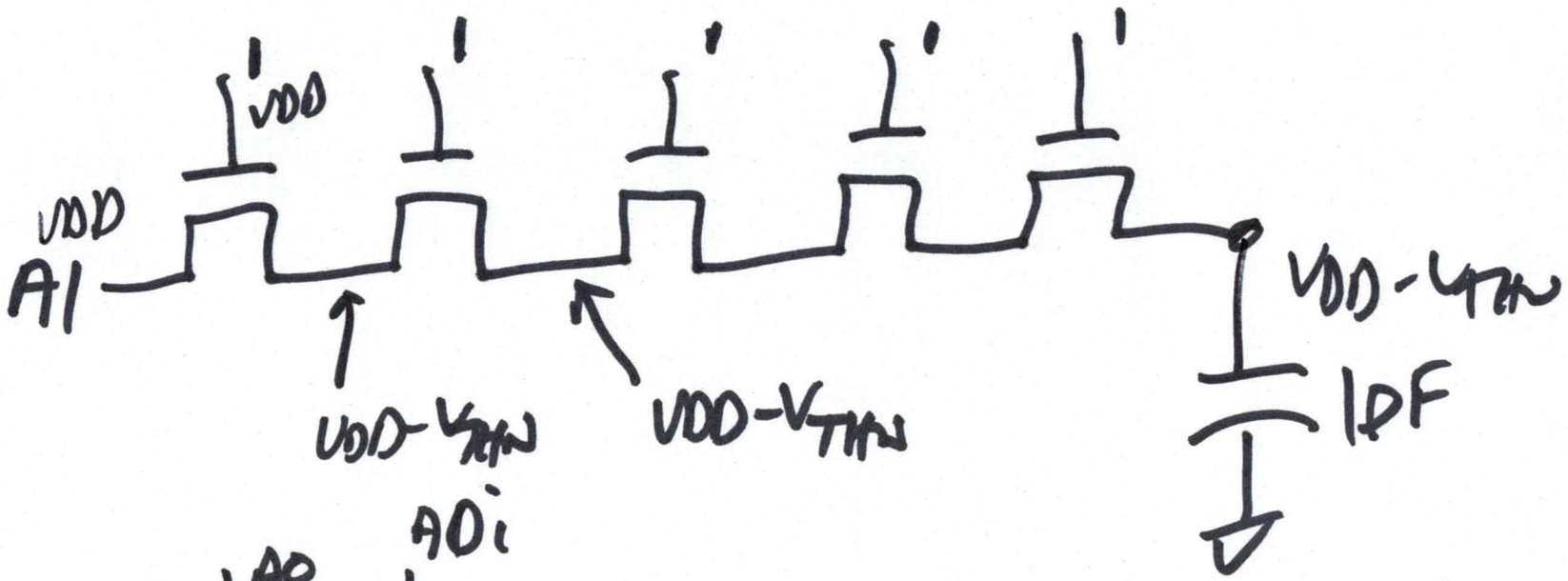
EE 421 / ECG 621

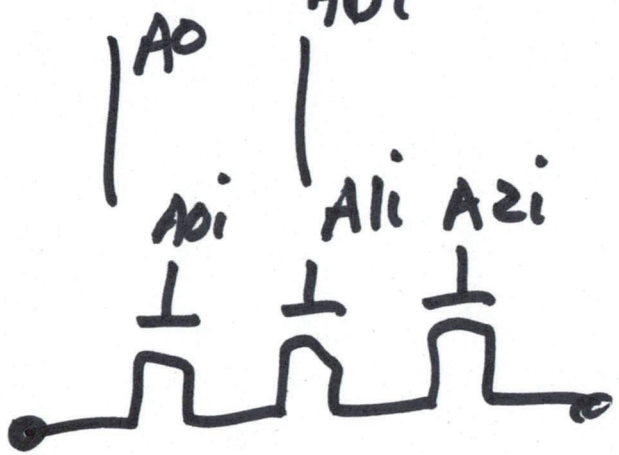
Digital IC Design

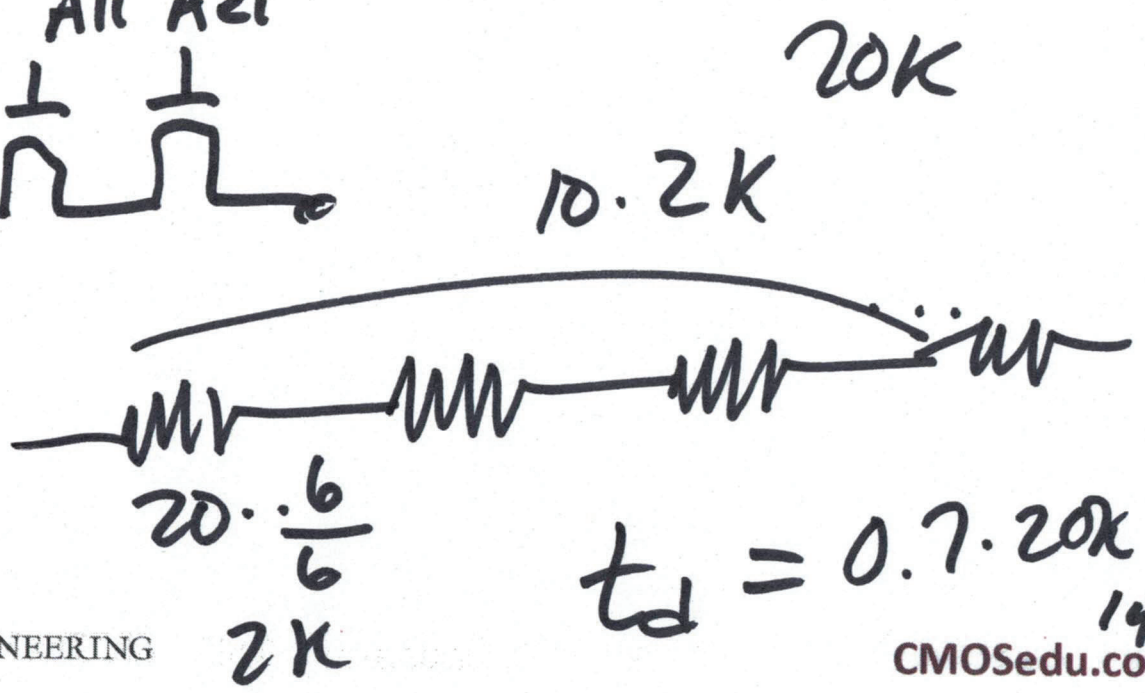
OCT. 21, 2020

Lecture 16





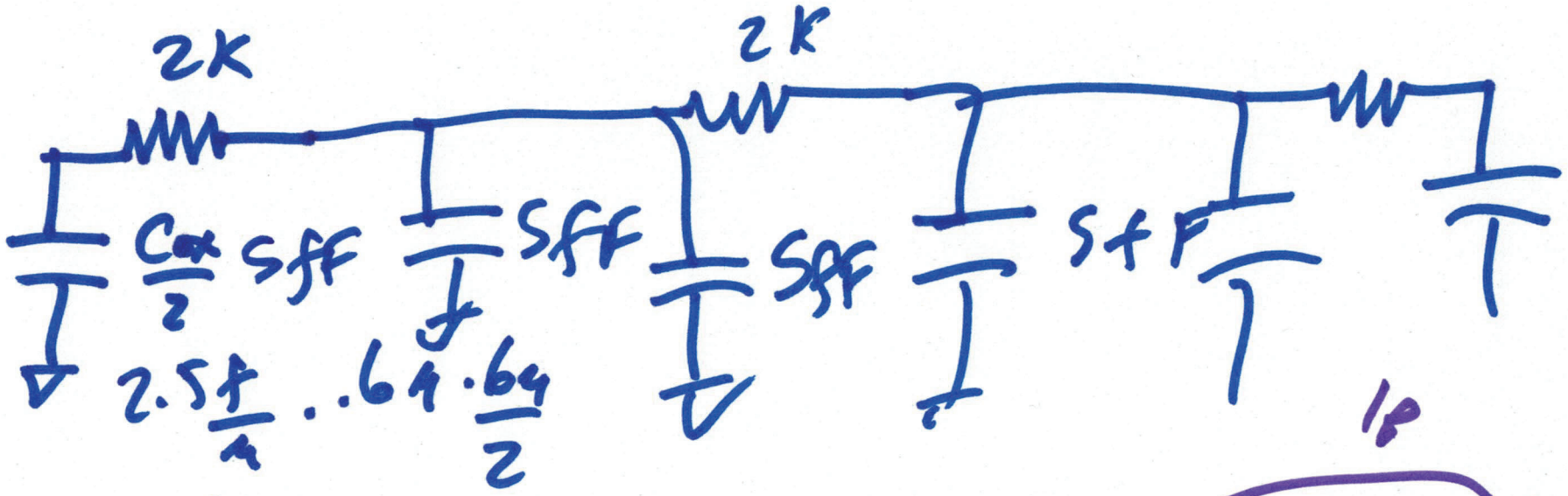




$$t_d = 0.7 \cdot 20k \cdot 1pF$$

$$14ns$$

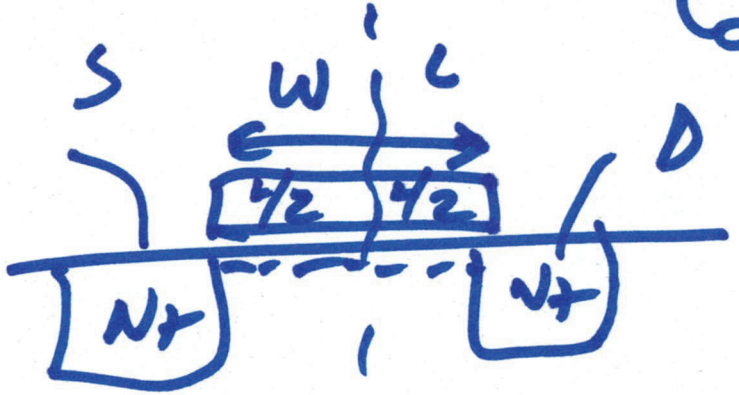
2)



$\ell(\ell+1)$

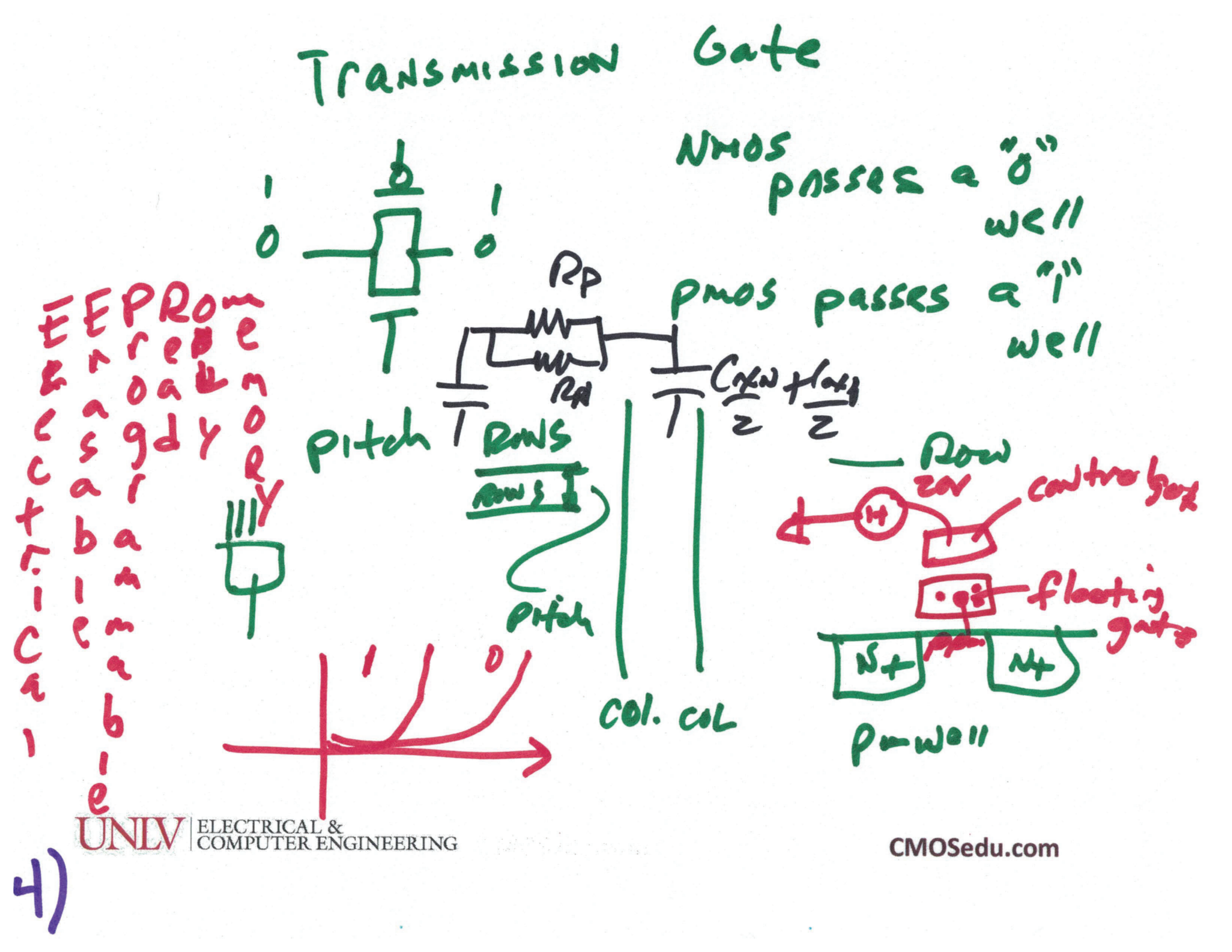
$$t_d = 0.35 \cdot \underbrace{10f \cdot 2K}_{2N} \cdot 10^2 + 10 \cdot 2k \cdot C_L$$

10^2 = 700p



$$\frac{C_{ox}}{2} = \underbrace{\frac{\epsilon_{ox}}{t_{ox}}}_{C_{ox}} \cdot W \cdot \frac{L}{2}$$

3)



UNLV | ELECTRICAL & COMPUTER ENGINEERING

CMOSedu.com

4)

The inverter