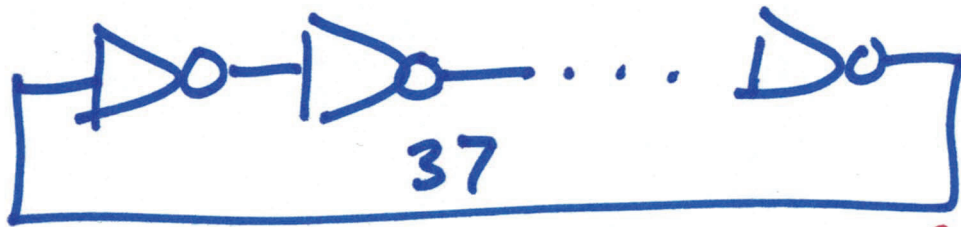


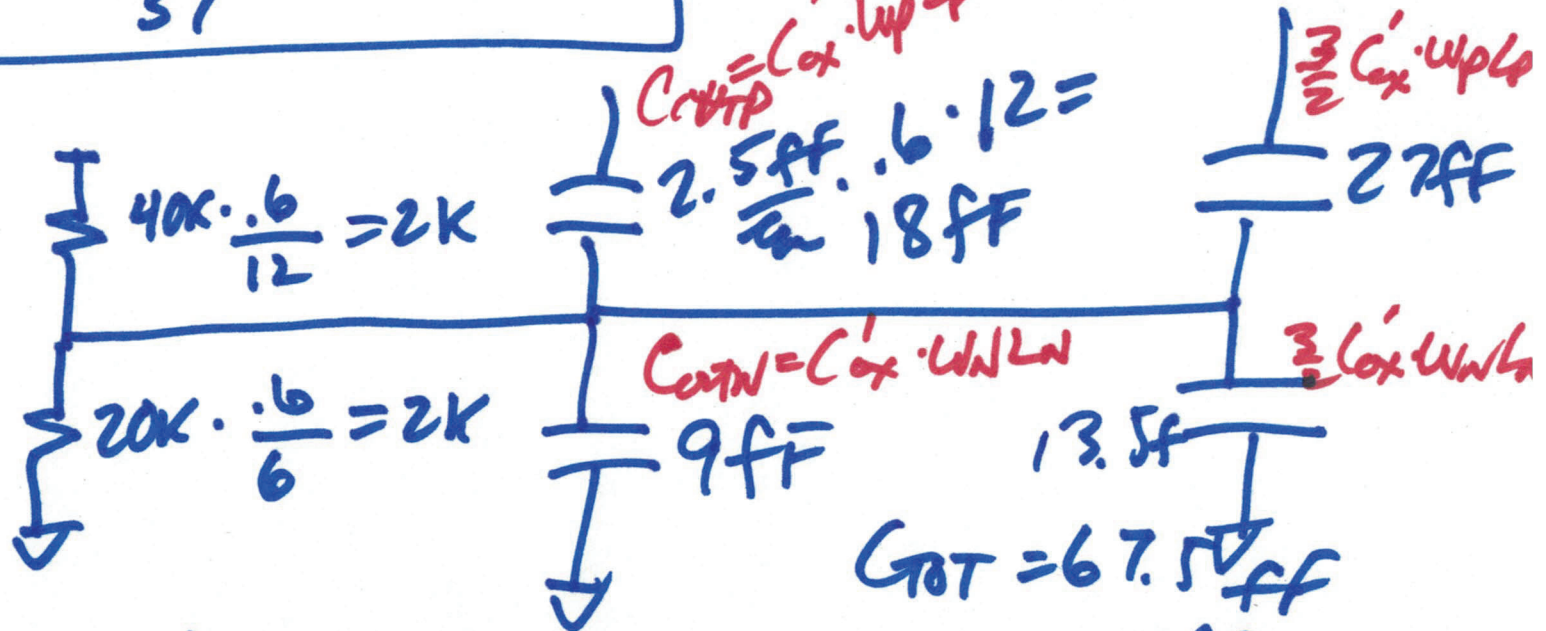
EE 421/ELG 621

# Digital IC Design

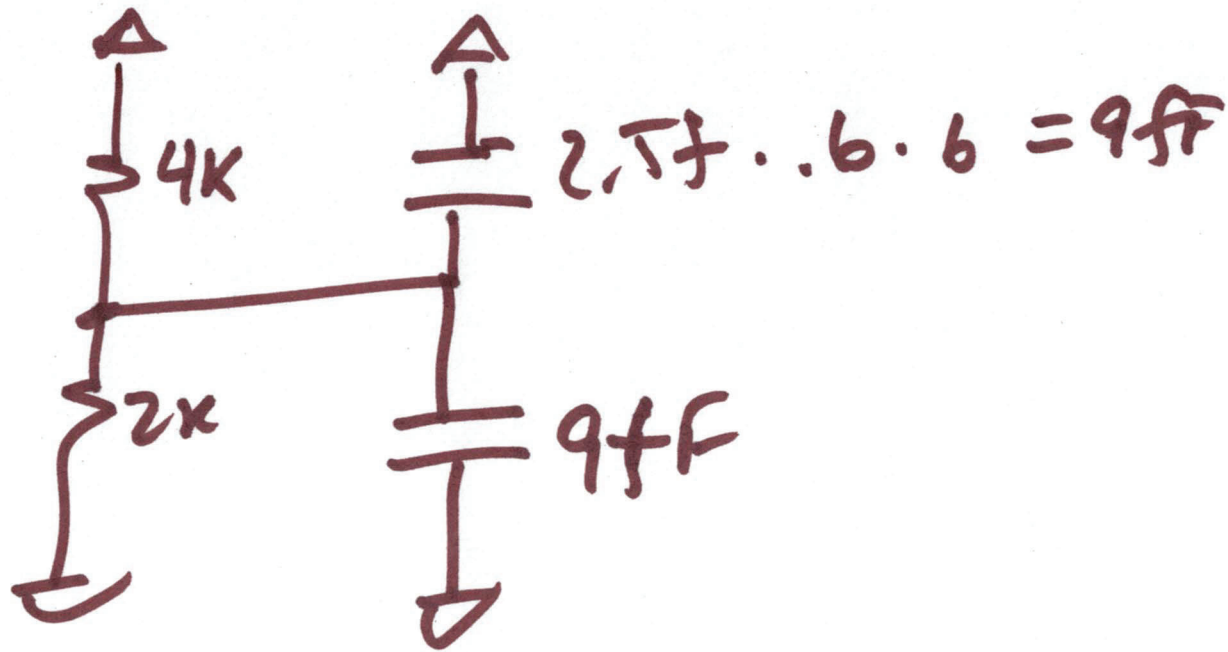
Lecture 20  
NOVEMBER 8, 2023



$$f_{osc} = \frac{1}{37 \cdot 2 \cdot 94ps} = 144 MHz$$

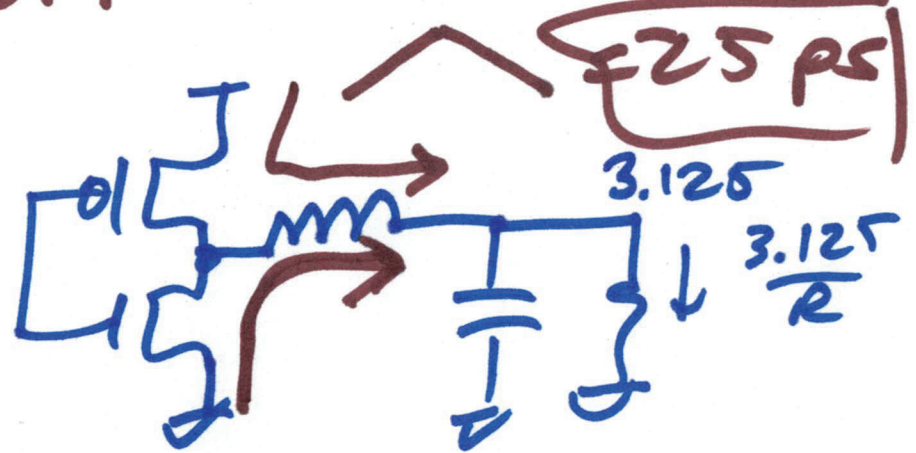
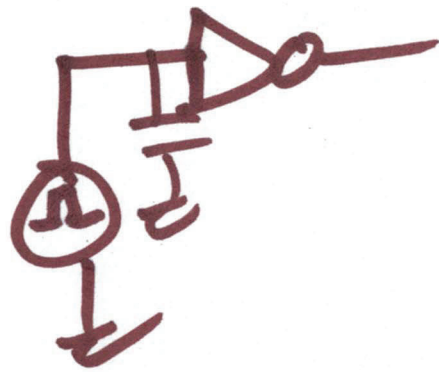


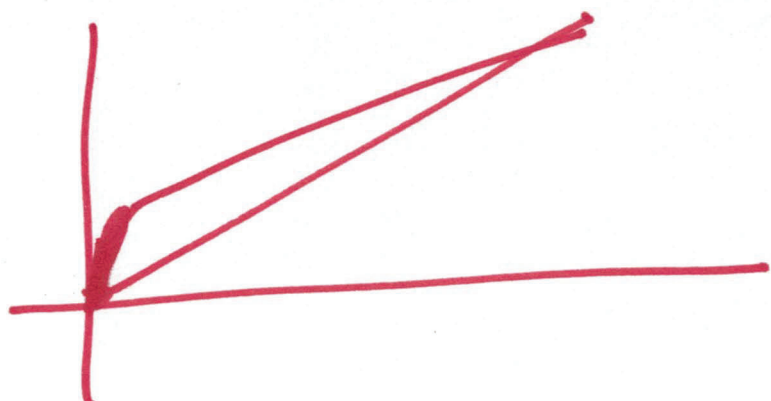
$$t_{pHL} = t_{pLH} = 0.7 \cdot 2k \cdot 67.5ff = 94ps$$



$$t_{pLH} = 0.7 \cdot 4k \cdot 18fF = \boxed{50ps}$$

$$t_{pHL} = 0.7 \cdot 2k \cdot 18fF = \underline{\underline{25}}$$





$$\frac{2000}{1} = \frac{1200}{.6}$$