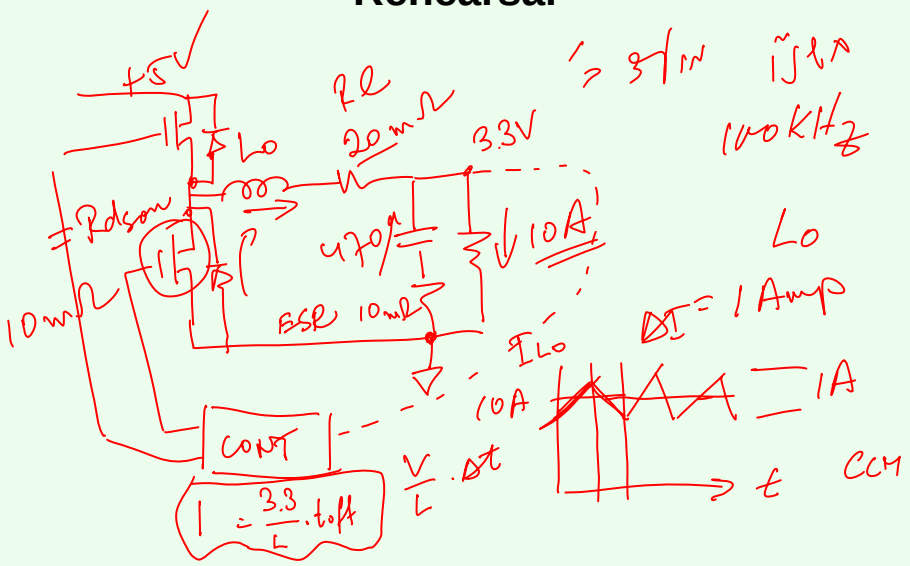
Rehearsal



$\frac{V_o}{V_{in}} = D_{on}$

$\frac{3.3}{5} = D_{on}$

$t_{on} = D_{on} \cdot 10\mu s$

$t_{on} = \frac{3.3}{5} \cdot 10 = 6.6\mu$

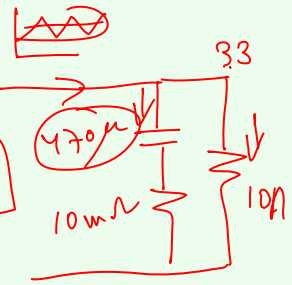
$t_{off} = 3.4\mu s$

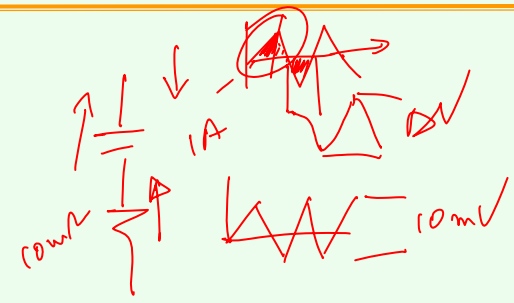
$\frac{1}{\omega C} = \frac{1}{2\pi 10^5 \cdot 470\mu}$

$\frac{3.3}{L} \cdot 3.4\mu = 1$

$L = 3.3 \cdot 3.4\mu \approx 10\mu H$

$R = \frac{V}{I} = \frac{3.3}{10} = 0.33\Omega$





$\Delta V = \frac{\Delta Q}{C}$

$\Delta Q = \frac{1}{2}\Delta I \frac{1}{2} T_S \frac{1}{2}$

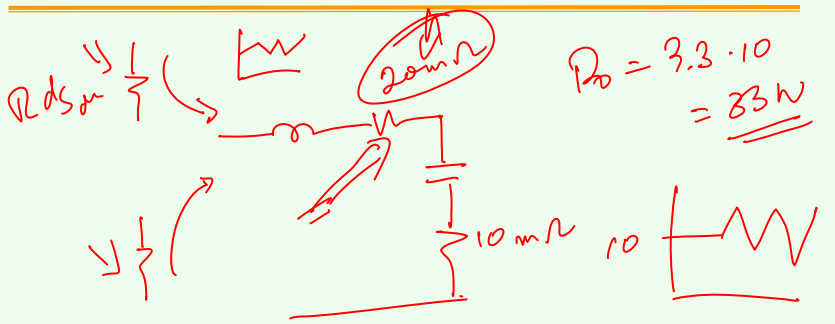
$h \cdot b \frac{1}{2}$

$\Delta Q = \frac{\Delta I}{8} 10\mu$

$V_{ripp} = \Delta V = \frac{1 \cdot 10\mu}{8} \frac{1.25}{470} \frac{2.5}{10^3} \simeq 2.5mV$

470μ

$V_{Rippmr} \simeq 12mV$



$P_D = 3.3 \cdot 10 = 33W$

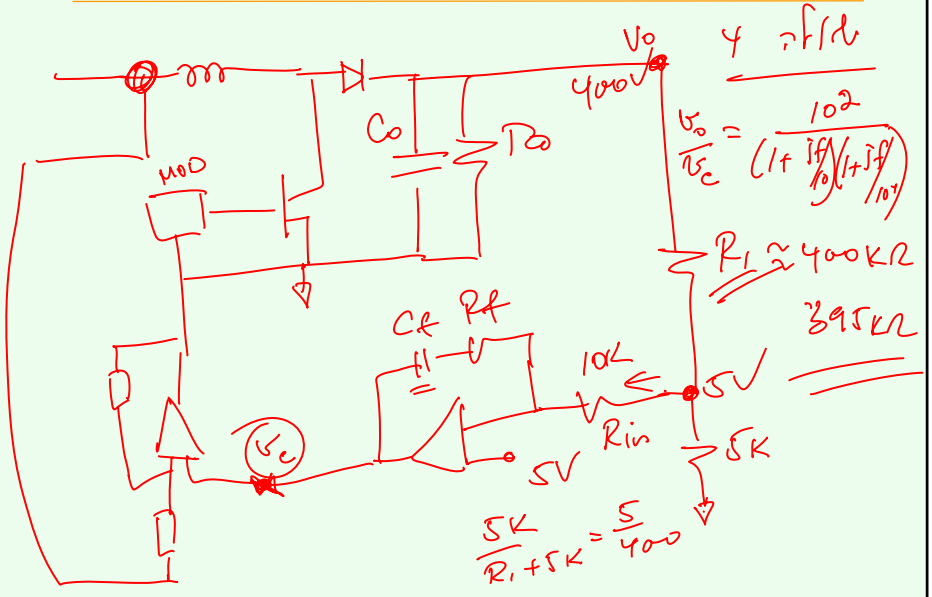
$100 \cdot 20\,10^{-3} = 2W$

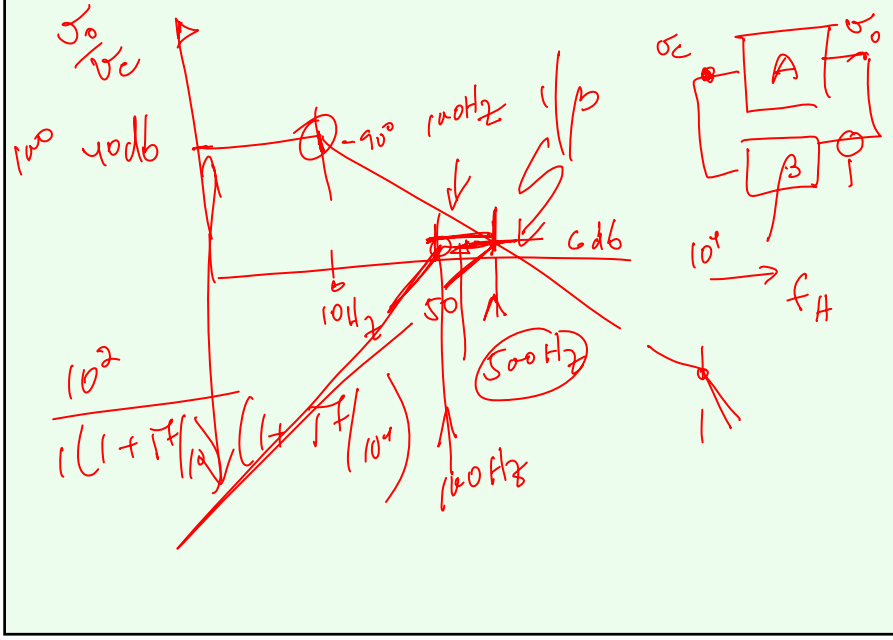
$100 \cdot 10\,10^{-3} = 1W$

$\left(\frac{1}{2}\right)^2 \frac{1}{3}\, 10\,10^{-3} = 1mW$

$\left(\frac{1}{2}\right)^2 \frac{1}{3}$

$\eta = \frac{P_o}{P_{in}} = \frac{33}{36}$


Vo
400V
Co
Do
100
Cf
Rf
10K
5V
Rin
5K
5V
Vc
R1 ≈ 400KΩ
395KΩ
5K / R1+5K = 5/400


Vo/Vc
100
40dB
-90°
100Hz
1/β
6dB
10Hz
50
500Hz
100Hz
10²
1(1+jf/10)(1+jf/10⁴)
Vc
A
Vo
B
10⁴
fH

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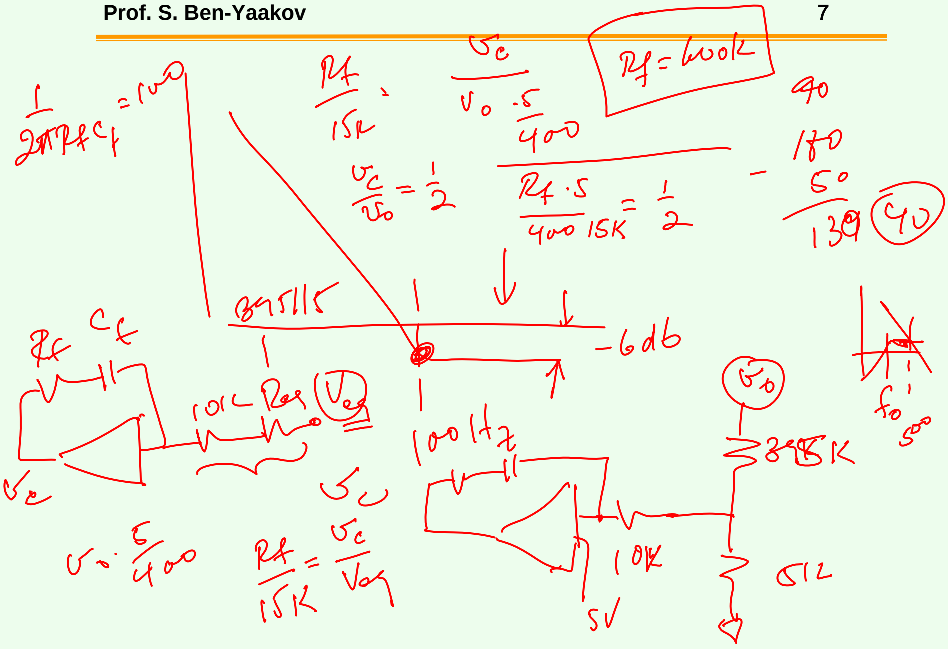

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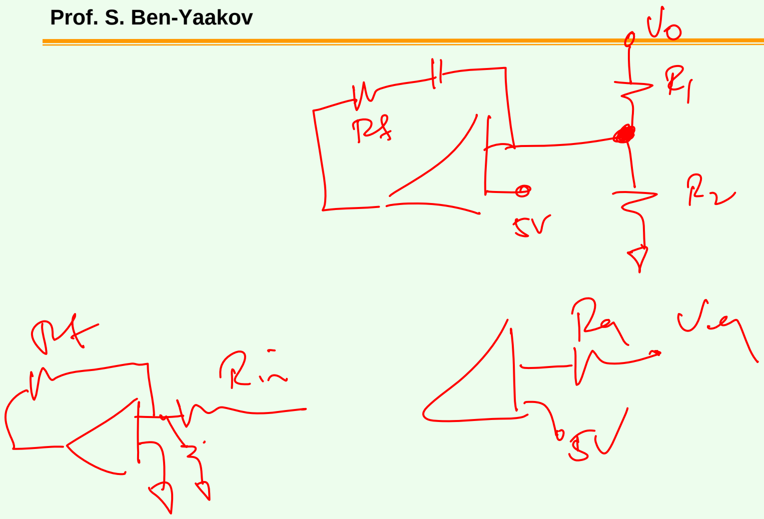

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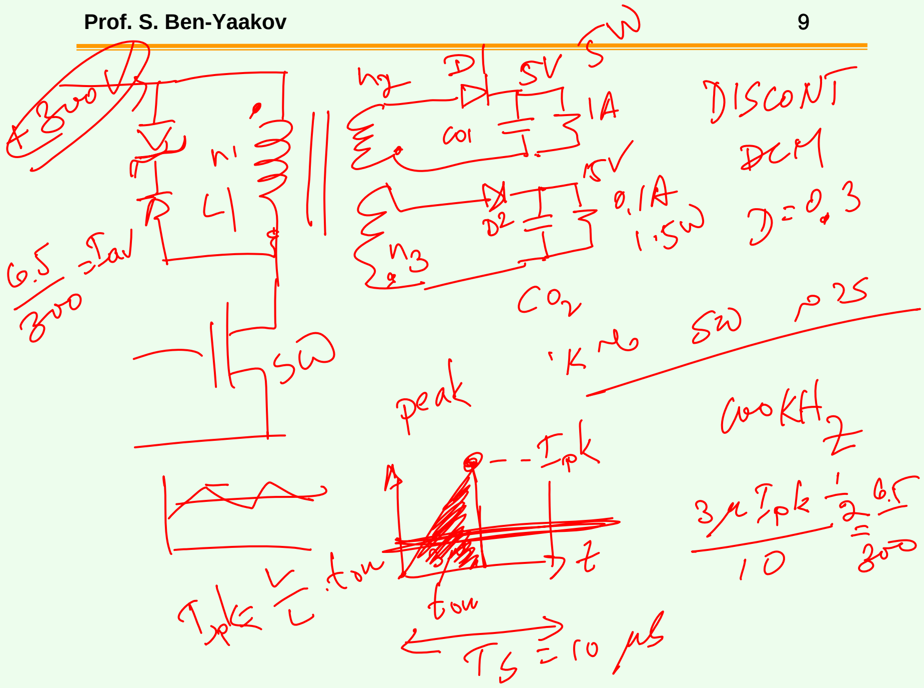

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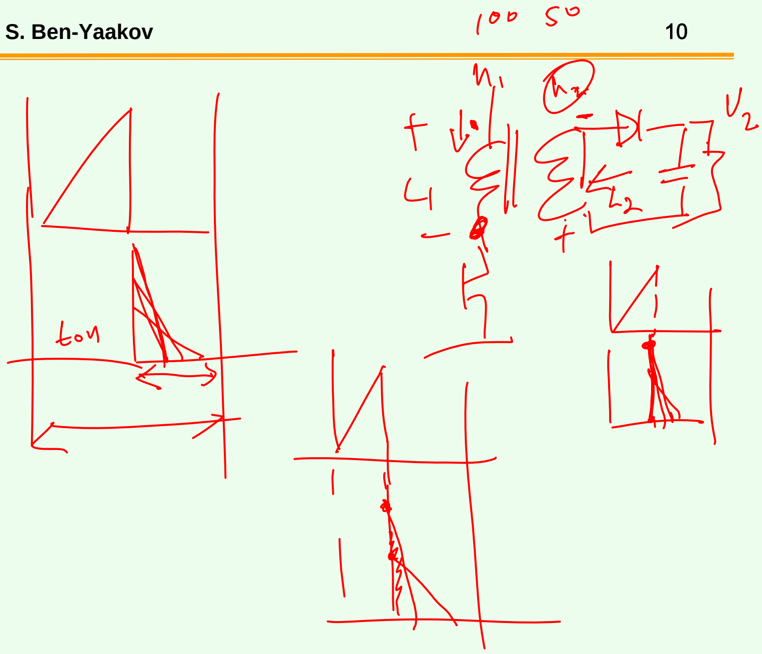

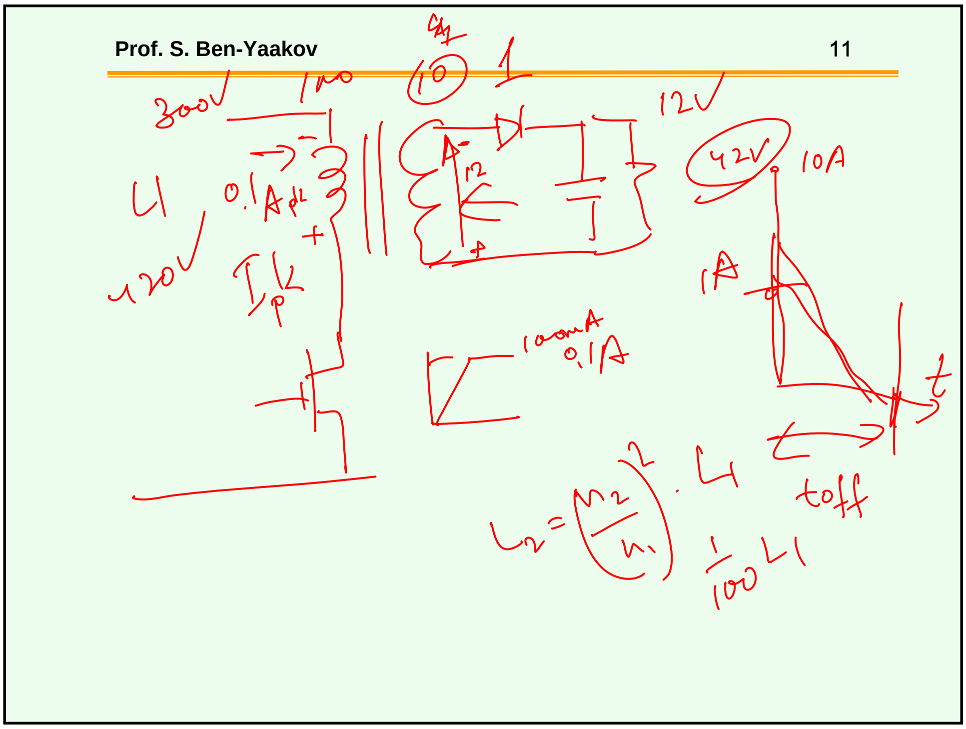
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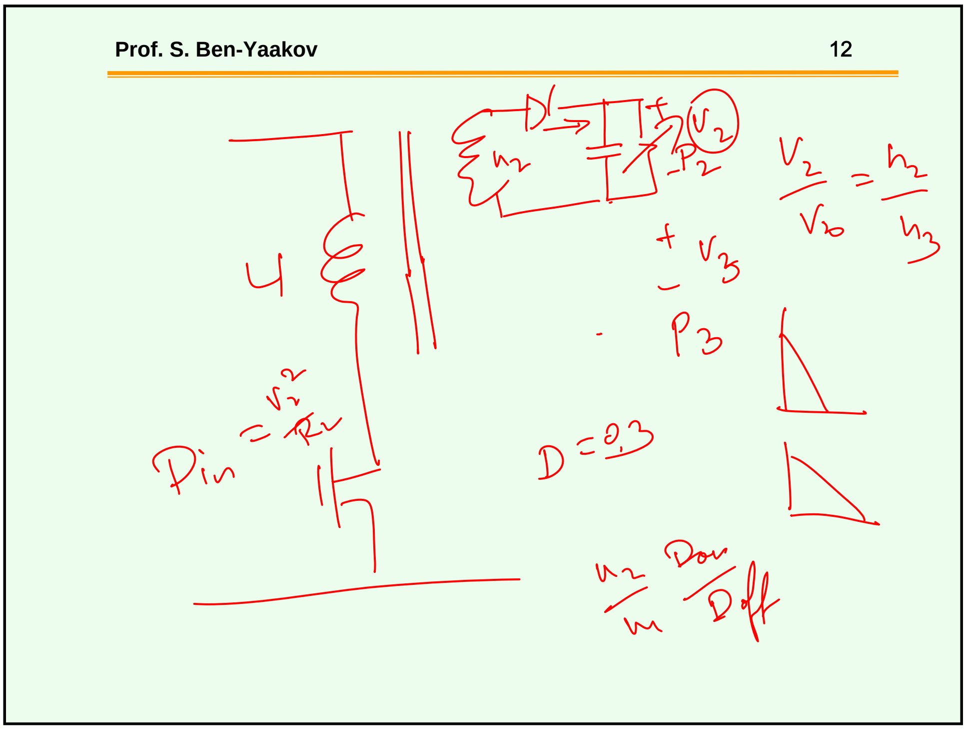
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$\mu_r = 60$ n_1? μ_0 $L_1 = \frac{n_1^2 \mu_0 \mu_r A_c}{l_e}$

$l_e = 5\,cm$

$A_c = 0.5\,cm^2$