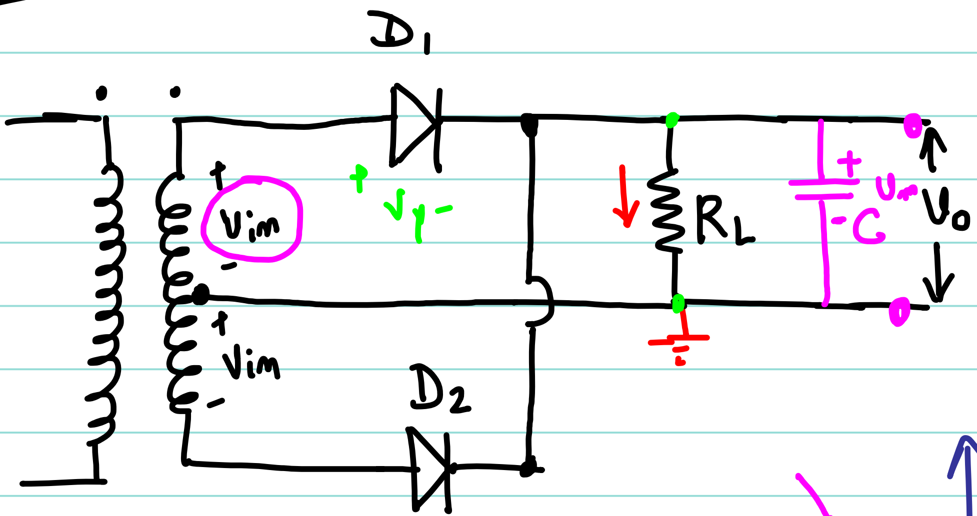
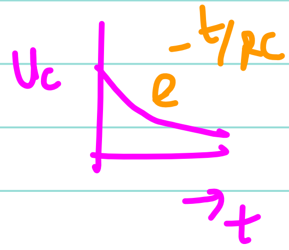
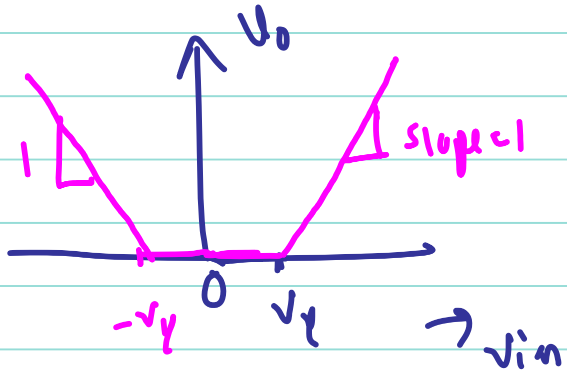
Lec-8



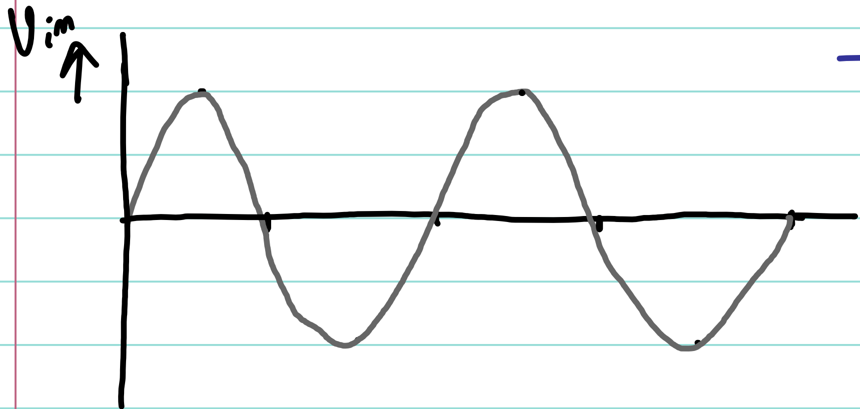
D_1
D_2
v_{in}
v_{in}
$+ \; v_\gamma \; -$
R_L
C
v_c
v_o



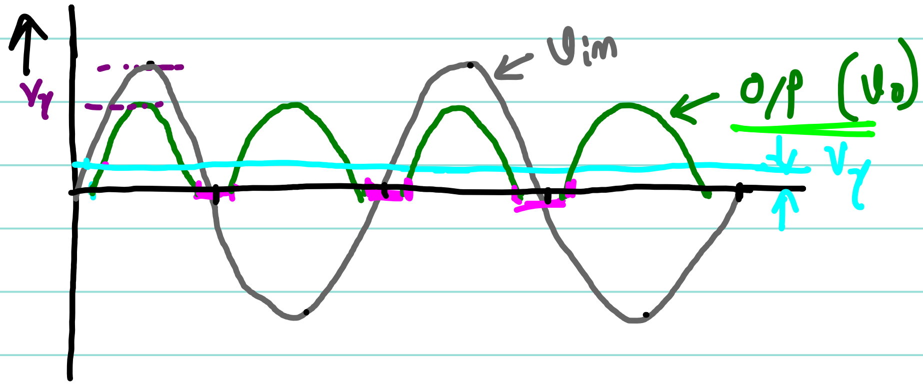
v_c
$e^{-t/RC}$
t



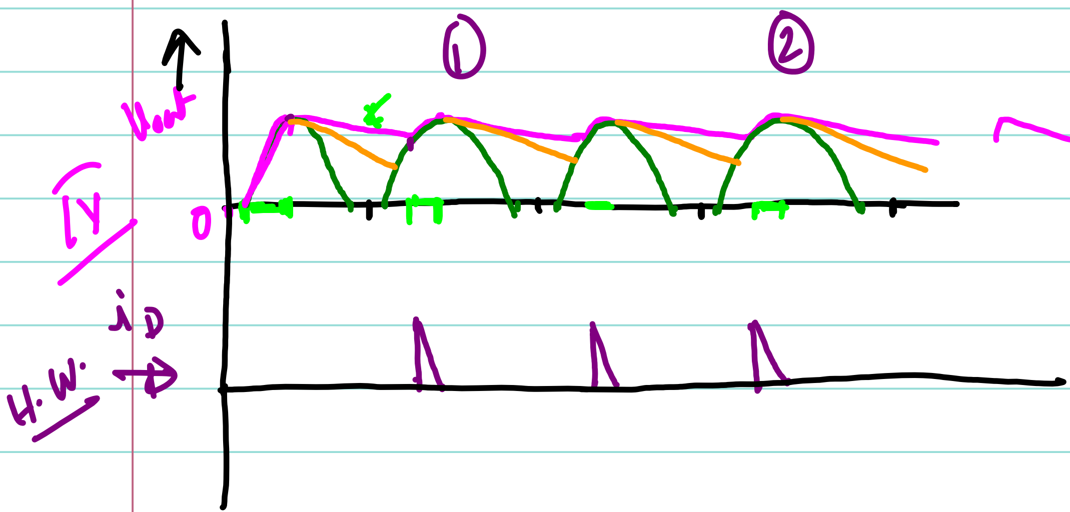
v_o
1
slope=1
$-v_\gamma$
0
v_γ
v_{in}



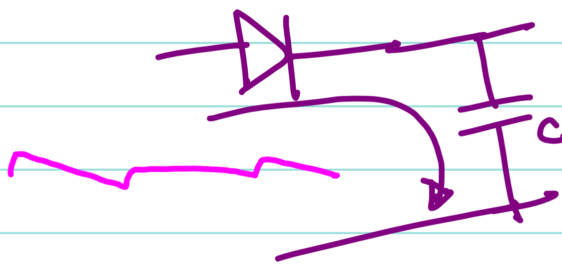
v_{in}



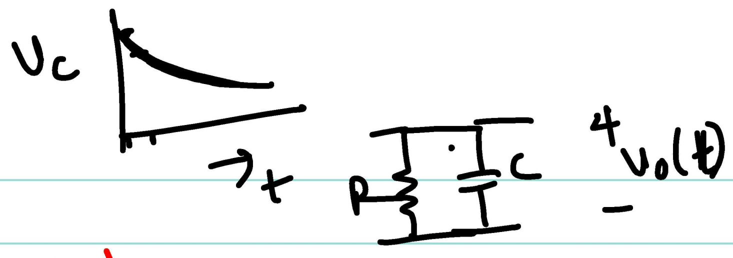
v_γ
v_{in}
o/p (v_o)
v_γ

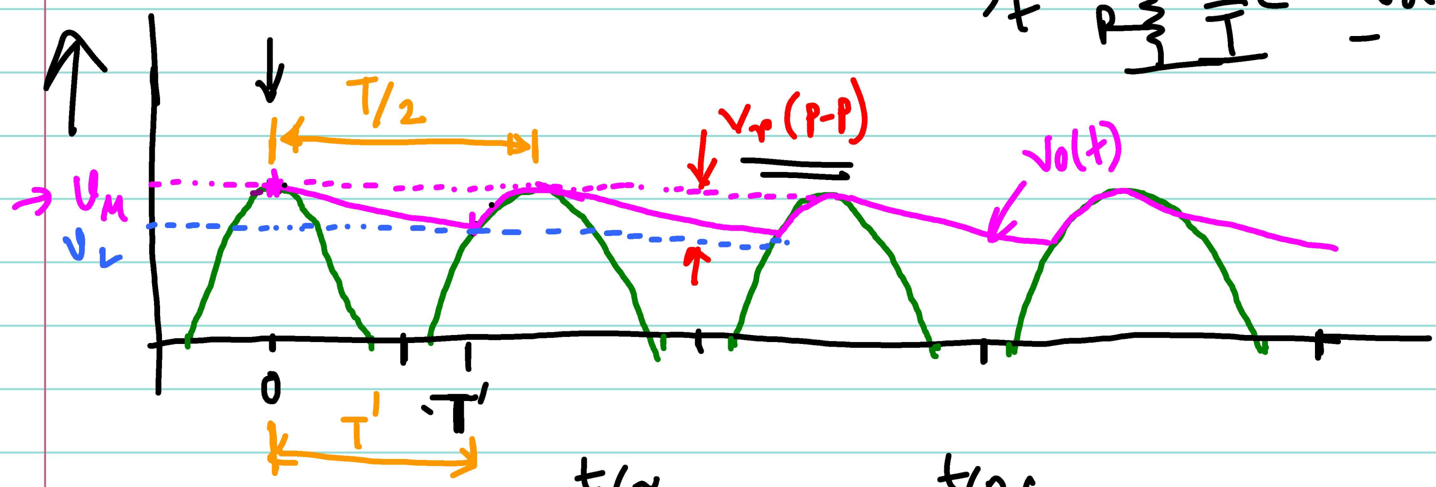


①
②
v_{out}
IV
0
i_D
H.W.



C





$$v_o(t) = V_M e^{-t/\tau} = V_M e^{-t/RC}$$

$$T' \ll RC$$

$$v_L = V_M e^{-T'/RC}$$

$$V_{r(p-p)} = V_M - V_L = V_M - V_M e^{-t'/RC}$$

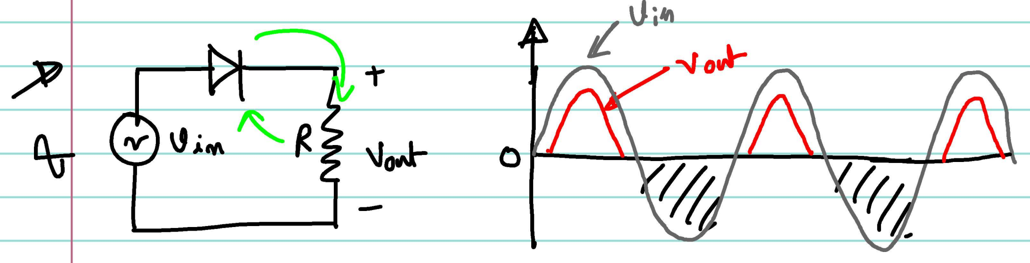
$$= V_M - V_M\left[1 - \frac{T'}{RC}\right]$$

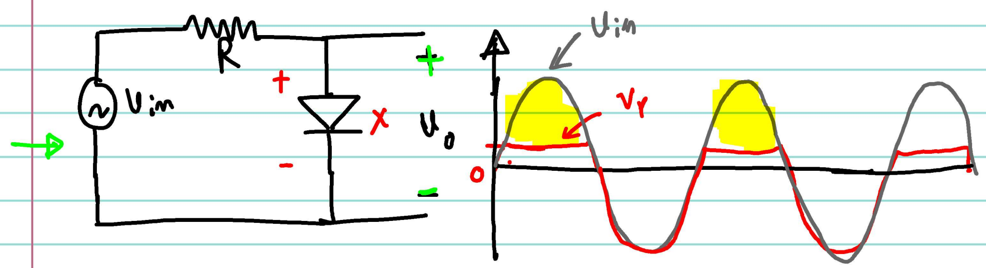
$$= V_M \left(\frac{T'}{RC}\right)$$

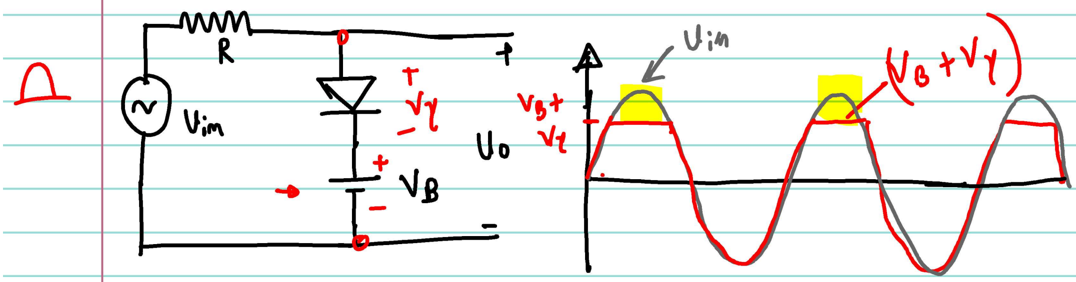
if, $T' = \frac{T}{2}$, $\quad V_{r(p-p)} = V_M \cdot \frac{T}{2RC}$

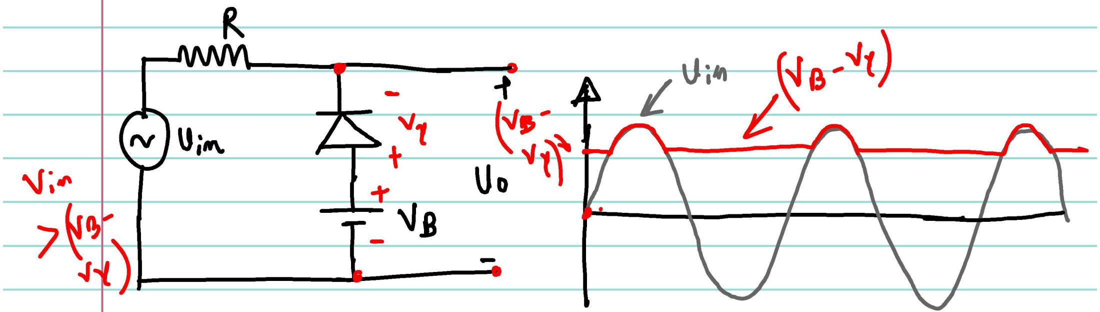
$$\boxed{V_{r(p-p)} = \frac{V_M}{2RCf}}$$

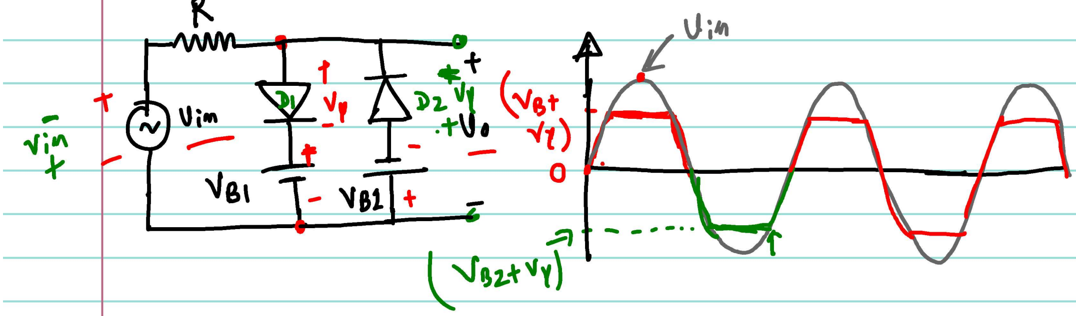
Clipper Circuits:/ Limiter ckt



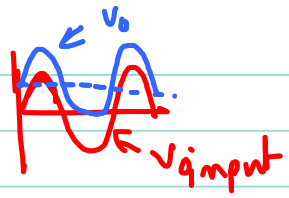


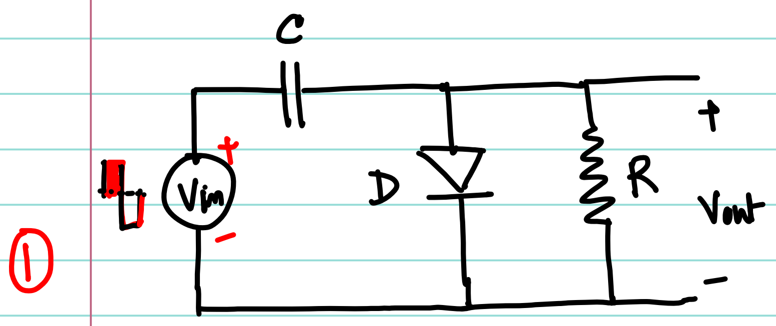






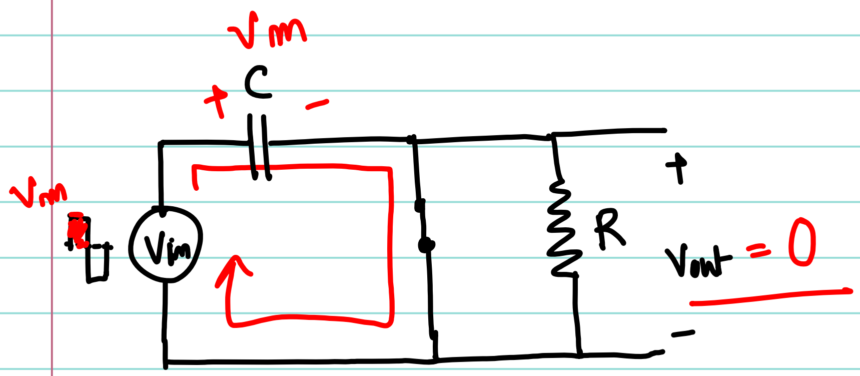
Clamper Circuits:

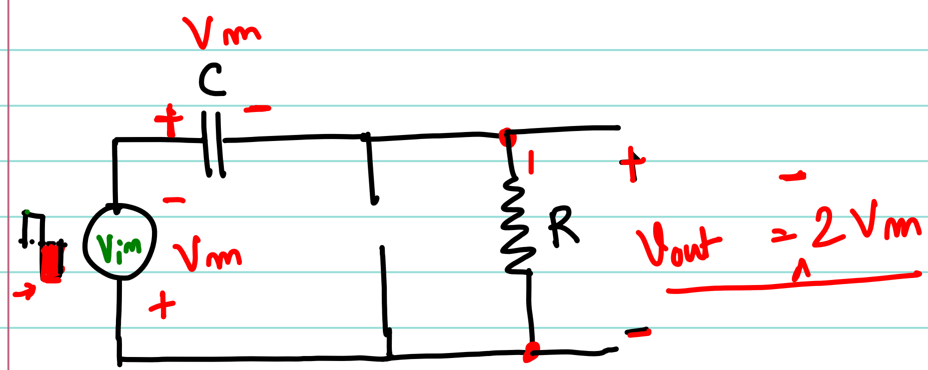


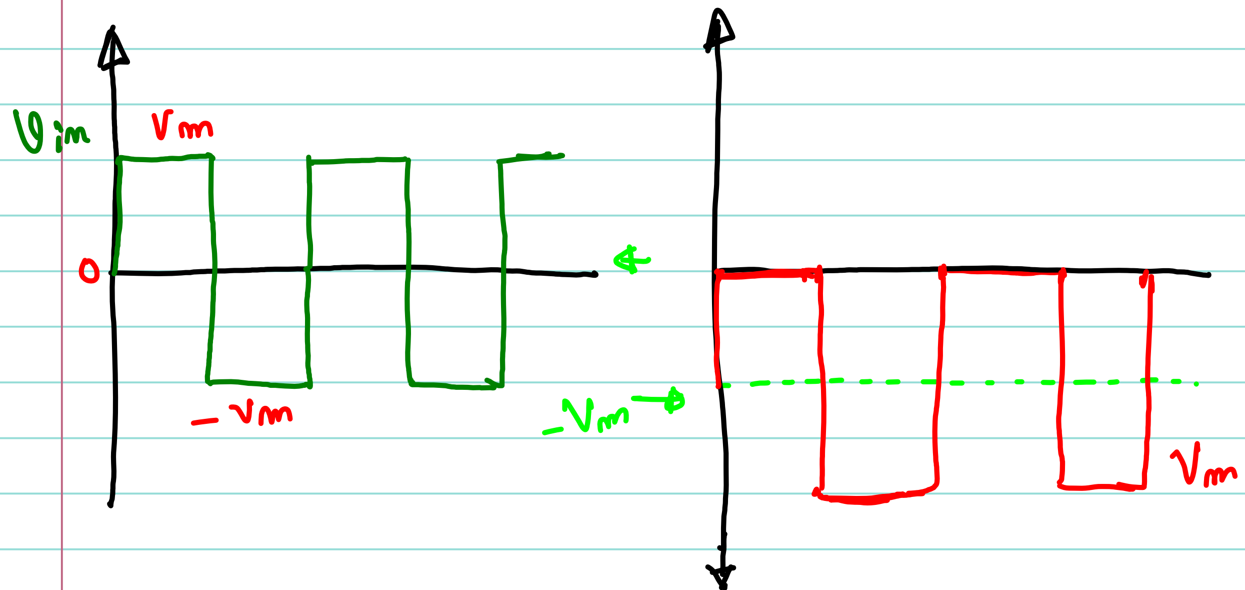


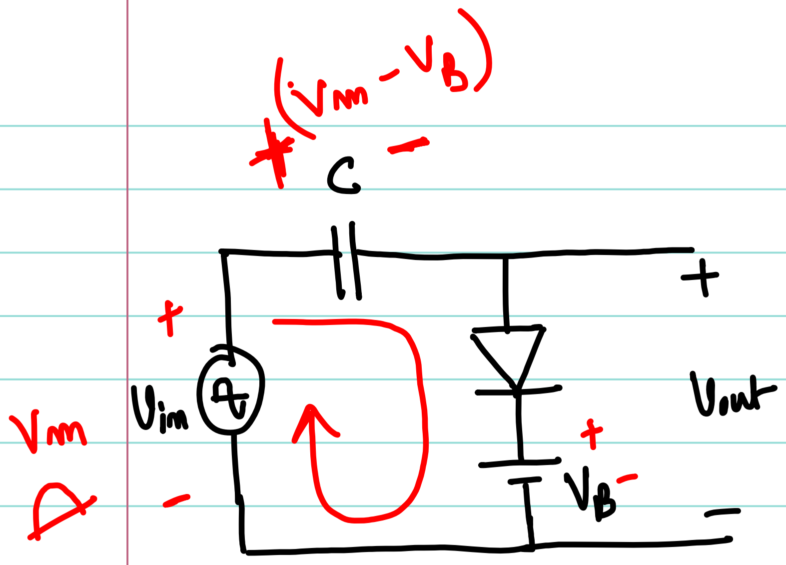
→ $V_\gamma = 0\ V$
$r_f = 0\ \Omega$ } Assuming.

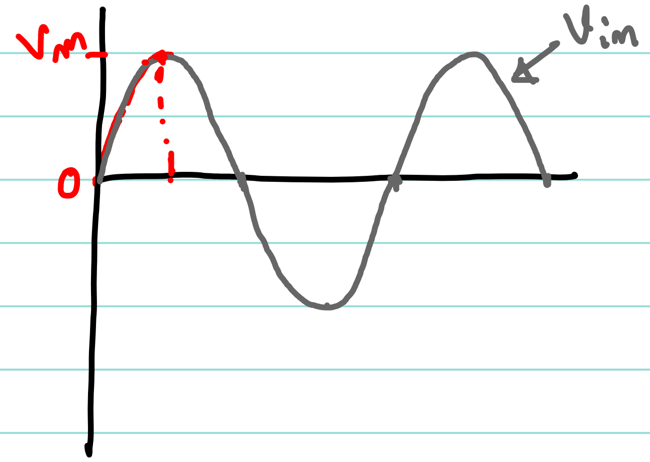
RC is very high

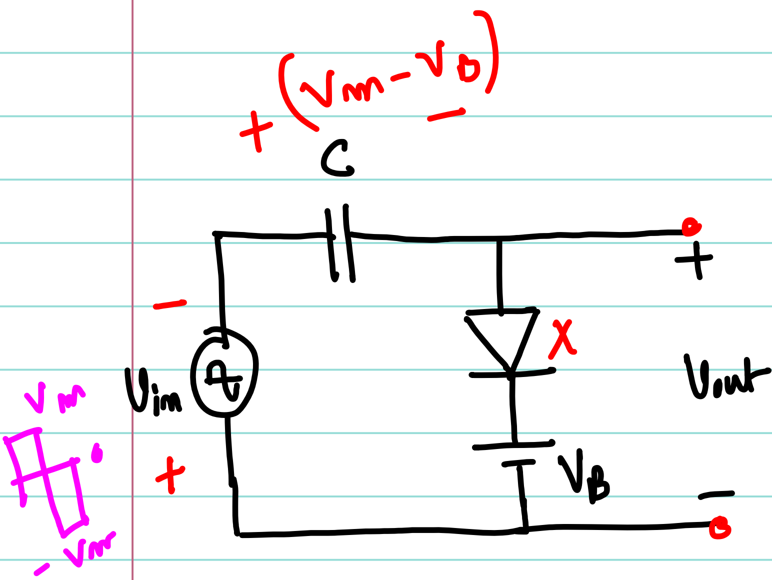


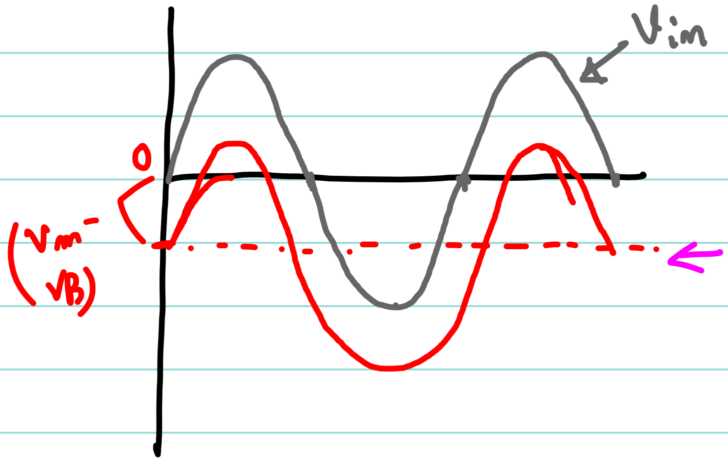












$V_{out} = \underline{\underline{V_{in}}} + (V_m - V_B)$ in (−) cycle

$\rightarrow V_{out} = V_{in} - (V_m - V_B)$ → (+) "