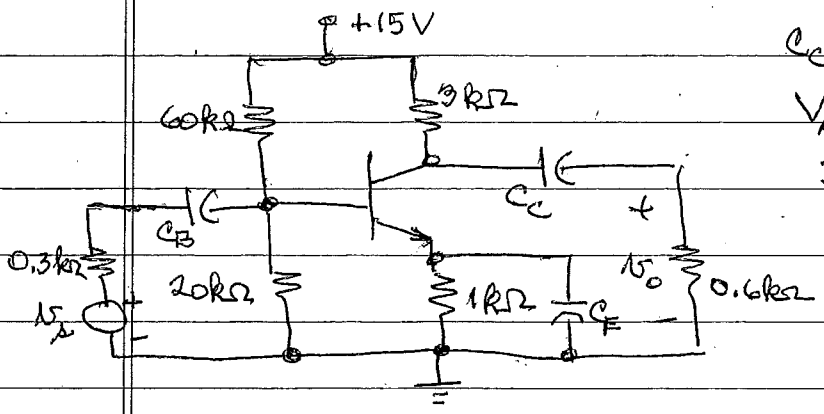
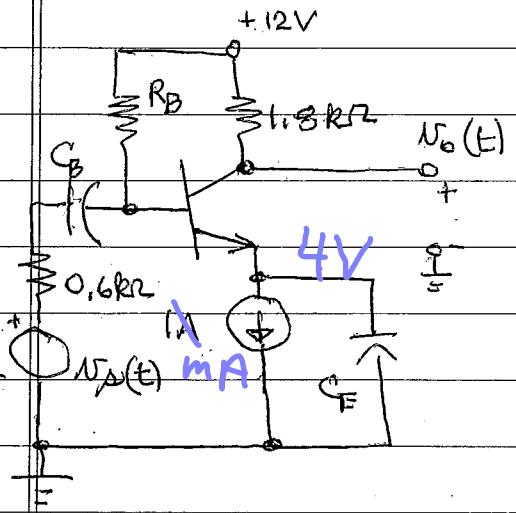
NOTES: 1) Both HW #5 and #6 are due on Thursday March 17.
2) In all problems $V_T = 25mV$ and $v_s(t) = 50\sin\omega t$ mV.

PROBLEM I:



C_C, C_B and C_E are all infinite.
$V_A \to \infty$, $\beta = 200$
Determine $A_v = \frac{v_o}{v_s}$

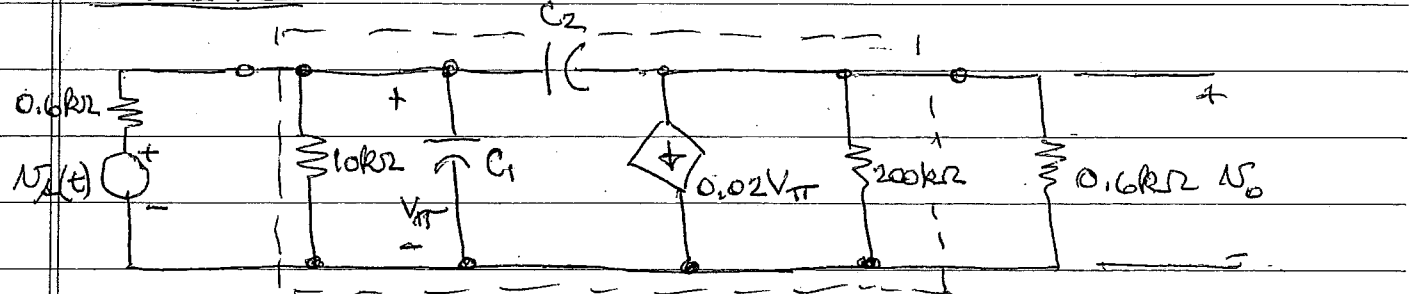
PROBLEM II



$\beta = 100$ $V_A \to \infty$

A) Determine R_B
B) Evaluate $v_o(t)$.

PROBLEM III



Small-signal model of a BJT

A) With $C_2 = 0$, determine C_1 to obtain a high-frequency 3dB frequency of 40MHz.
B) With $C_1 = 0$, determine C_2 to obtain a 40MHz 3dB frequency.