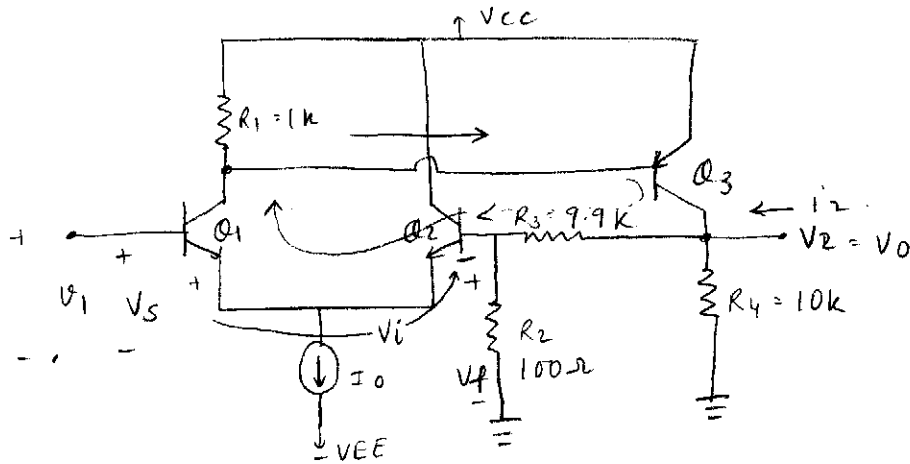


Problem Session - Thursday (4/10/03)

Problem-6 (Feedback Problems)

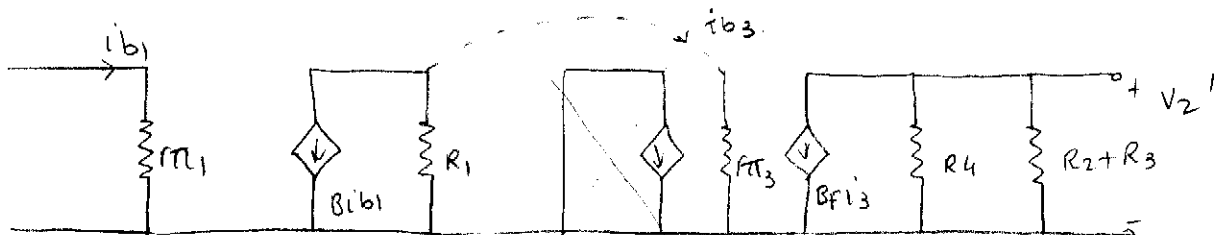
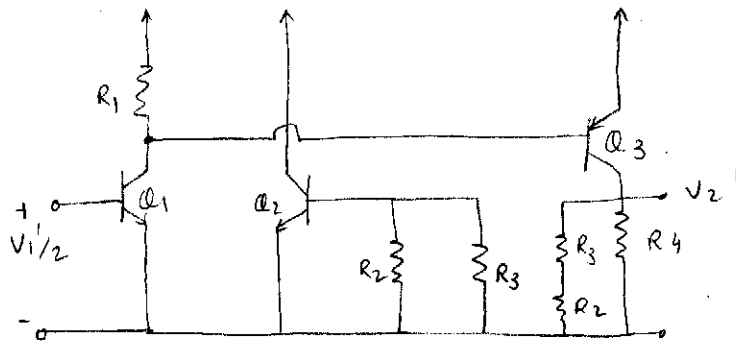


(a) series-shunt

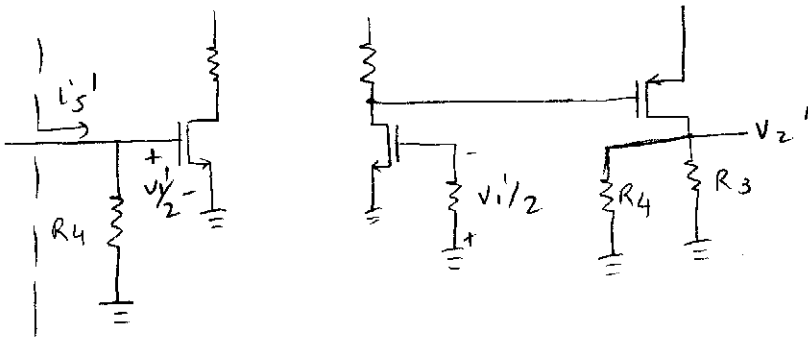
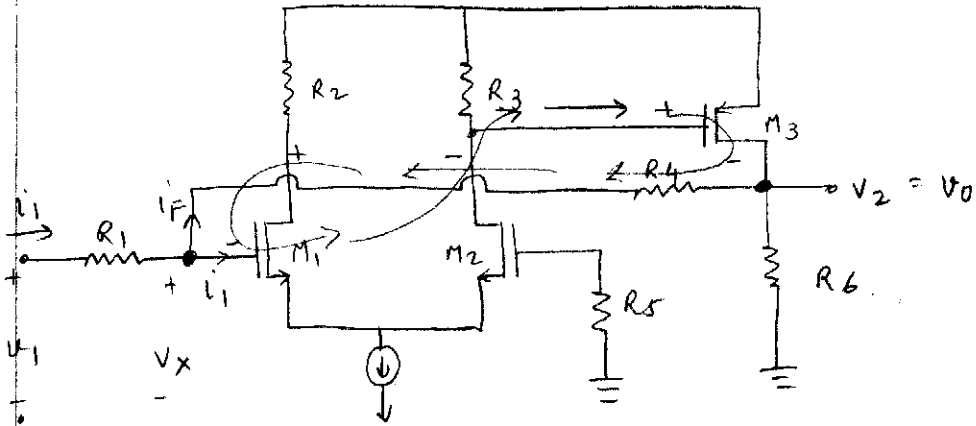
$$(b) \beta = \frac{V_f}{V_0} = \frac{R_2}{R_2 + R_3} = \frac{100}{10,000} = \frac{1}{100}$$

If $AB \rightarrow \infty$ then $\frac{V_0}{V_s} = \frac{V_2}{V_1} \approx 100$.

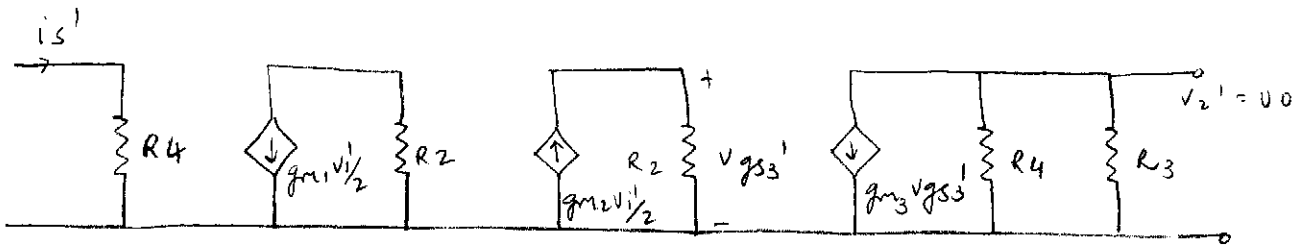
(c)



Example : shunt - shunt



$$\beta = \frac{i_f}{V_0} \Big|_{V_x = 0} = -\frac{1}{R_4}$$



$$\frac{V_2'}{i_s'} = \left(\frac{V_2'}{V_{gs3'}} \right) \left(\frac{V_{gs3'}}{v_{i'}} \right) \left(\frac{v_{i'}}{i_s'} \right)$$