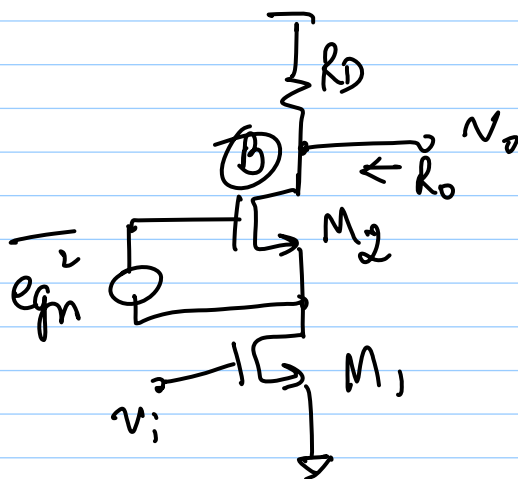
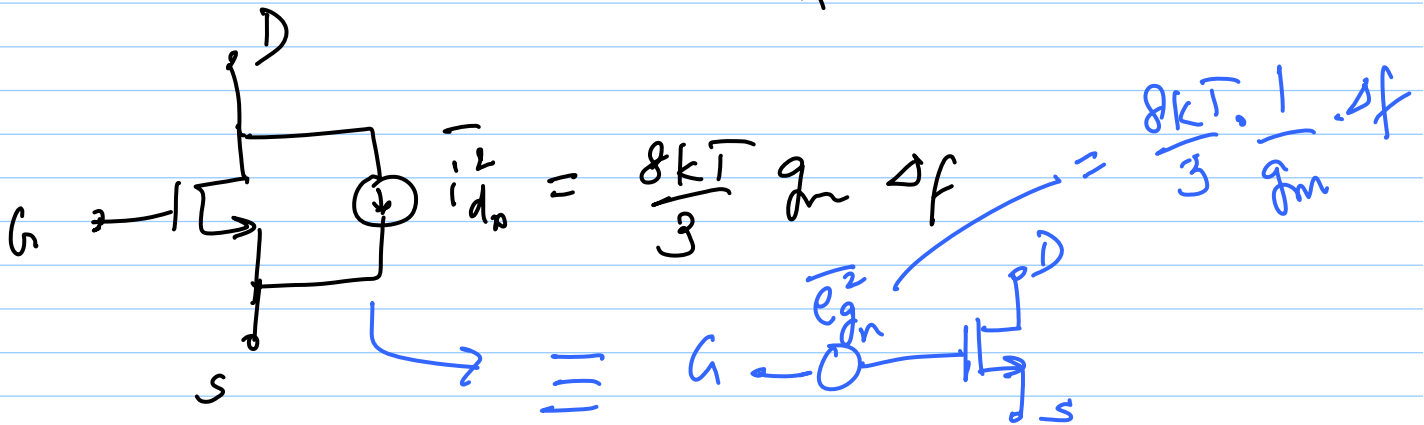
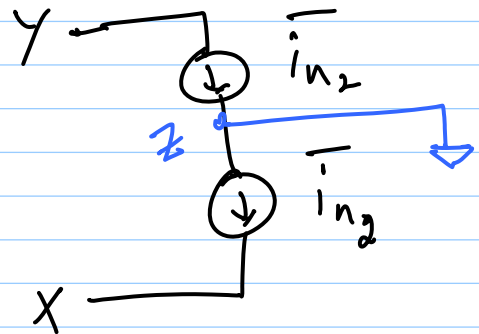
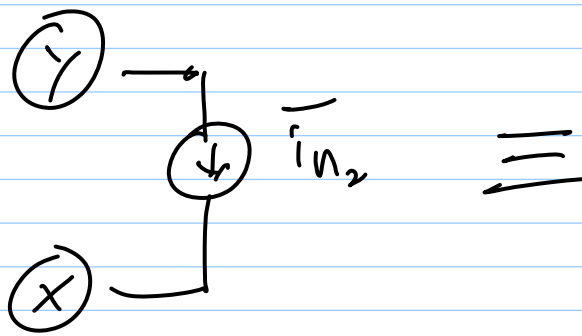


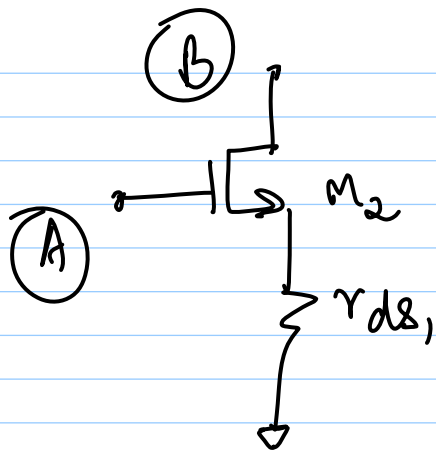
31-1-13

Lec 11



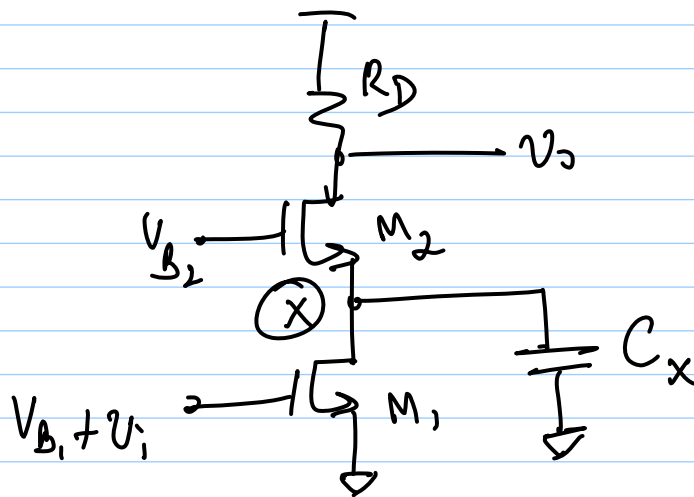
$$\overline{e_{gn}^2} = \frac{8kT}{3g_{m2}} \Delta f$$

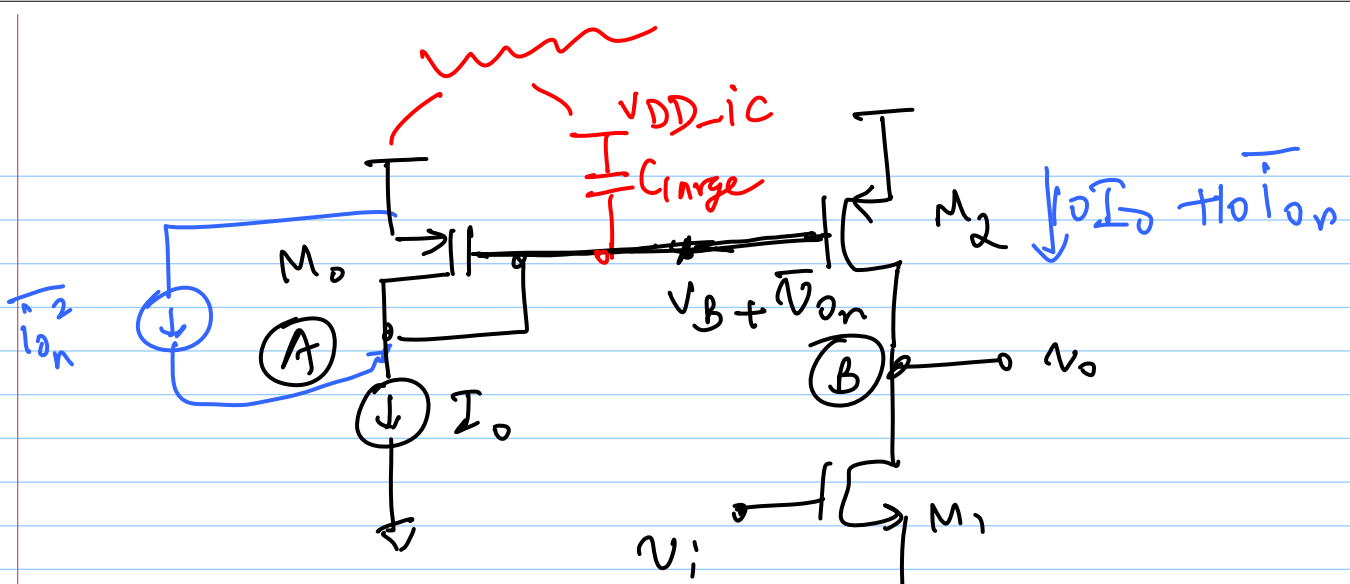
$$\begin{aligned} \overline{v_{on}^2} &= (\text{gain from A to B})^2 \cdot \overline{e_{gn}^2} \\ &= \frac{g_{m2} \cdot R_o}{1 + g_{m2} \cdot r_{ds1}} \end{aligned}$$



$$G_m = \frac{g_{m2}}{1 + g_{m2} r_{ds1}}$$

$$\approx \frac{1}{r_{ds1}}$$

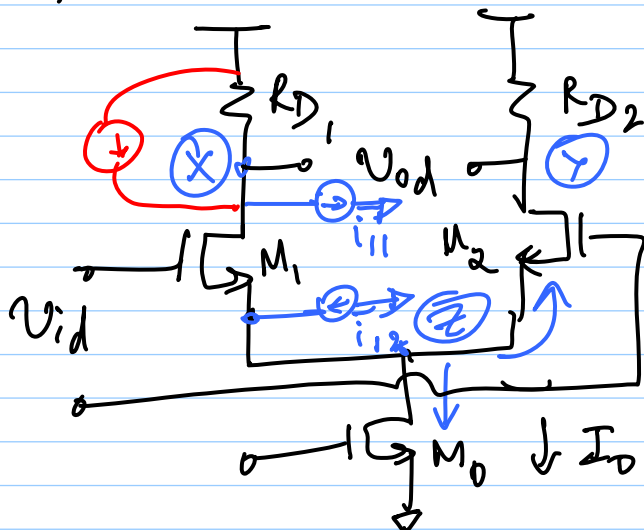




total current through $M_0 = I_o + \bar{I}_{on}$

$$V_{DD_ic} = V_{DD} - i \omega L \cos \omega t$$

Diff. Amp



$$R_{ox} \Rightarrow (i) R_D$$

$$(ii) \approx 2r_{ds1}$$

$$(g_{m1}, r_{ds1}) \cdot \frac{1}{g_{m2}} + r_{ds1}$$

$$+ \frac{1}{g_{m2}}$$

