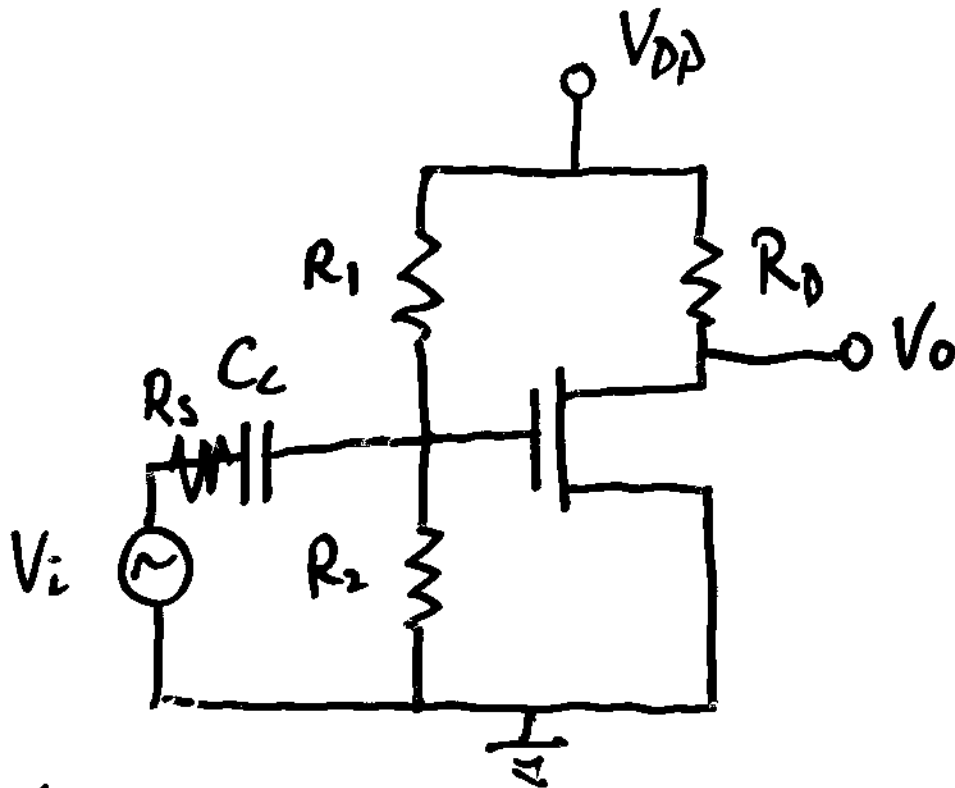


Quiz:

Construct the small-signal model of the following ckt.

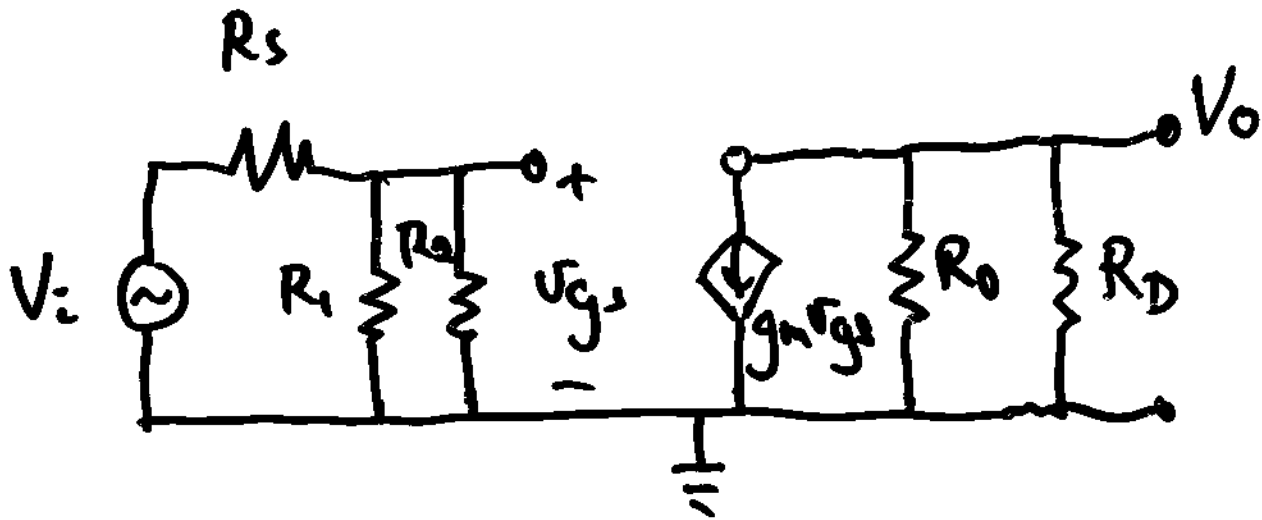


Assume

(1) The MOSFET is in LINEAR region

or High frequency

Answer :-



$$g_m = \left. \frac{dI_D}{dV_{GS}} \right|_{V_{GSQ}} = 2K_N V_{DSQ}$$

$$R_o = \frac{1}{\left. \frac{dI_D}{dV_{DS}} \right|_{V_{DSQ}}} = \frac{1}{2K_N (V_{GSQ} - V_{TH} - V_{DSQ})}$$