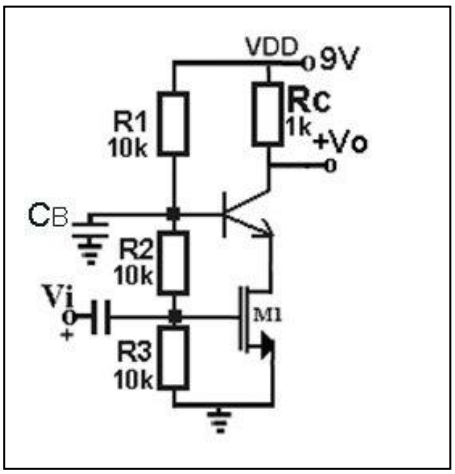
ELECTRONICS II_metinyazgi	Spring-2021	Quiz-3

P1 For the MOS transistor in the figure, β=1mA/V^2 and V_{TH}=1V are given. For the BJT, V_{BE}=0.7V and β_F=200 are given. $I_{CQ}=I_{DQ}$=2mA.(10P)
Find the ac gain (vo/vi) of the circuit.(40P)



P2 All transistors in the figure are the same (β_F=100, $|V_{BE}|$=0,6V,V_T=25mV, V_A=∞).

a) DC value for the input (vi) is 0V. Is the capacitor CE necessary. Explain your answer.(20P)

b) Find ac gain vo/vi.(20P)

c) Design IKE1 by using transistors (the transistors will have the same parameter values).(20P)