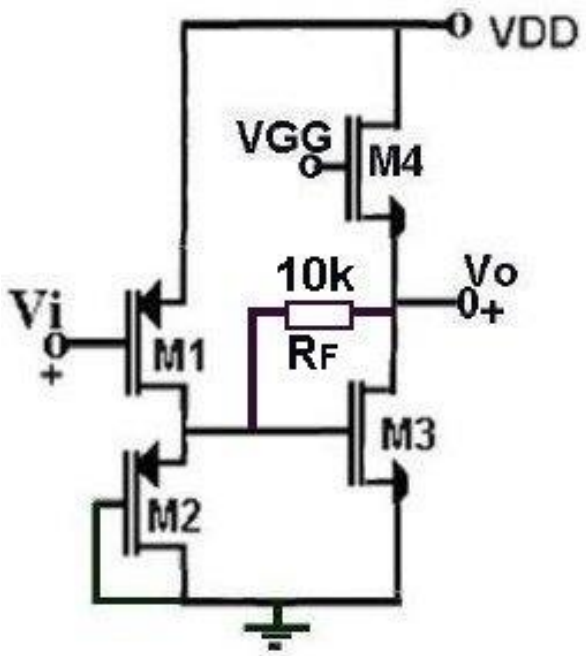
Analog Electronic Circuits **Summer-2020 Midterm-2** **20.08.2020**



P1 For the transistors in the figure V_{DD}=3.3V, C_{ox} =50 fF/(μm)^2, μ_n = 0.06 m^2.V^{-1}.s^{-1}, μ_p= 0.02 m^2.V^{-1}.s^{-1}, V_{THN} = 0.5V, V_{THP} = -0.5V , $(W/L)_1$=2 , $(W/L)_2$=20 , $(W/L)_3$=10, $(W/L)_4$=1 and (for all the transistors) L=2μm are given.

At DC, Vi=Vo=1.65V, ID1≈1.3mA and ID3≈2mA (The effect of RF on the DC behavior can be ignored).

Find ac gain of the circuit (vo/vi).(70P)

P2 What is peak in amplifier circuits? Explain.(30P)