EHB 335E Midterm – Group A (ITU ID Last digits 0, 1, and 6 only)

10 December 2020

1) For the following circuit, $C_{GS} = 1\,pF$, $C_{SB} = 400\,fF$, $C_{\pi} = 100\,fF$, $g_{m1} = g_{m2} = 10\,mS$, $\beta = 50$, $R_{sig} = 100\,\Omega$, and $R_L = 1k\Omega$. Assume $V_A = \infty$ and $\lambda = 0$. Considering just the given capacitors and using the open-circuit time constants method, find the upper corner frequency (−3 dB). Show all your work.