1.) The amplifier in the feedback circuit shown has a transfer function of

\[ A(s) = \frac{100}{s + \frac{1}{10^3}} \]

What value of \( \beta \) will increase the upper -3db frequency by a factor of 10 for the closed loop gain? What is the closed loop, low frequency gain?

2.) Find the loop gain of the amplifier shown. Assume that \( g_m = 1 \text{mS} \) and \( r_{ds} = \infty \) for all MOSFETs and that \( R = 10k\Omega \) and \( C = 100\text{nF} \).