MOSFET Example. Given a MOSFET capacitor with $\varepsilon_r = 25$ on a Si substrate doped $N_a = 4x10^{17}$ cm^{-3} and an insulator dielectric thickness d = 110 Å, calculate the high frequency $C_{accumulation}$, maximum depletion width W_m, semiconductor depletion capacitance C_d, and minimum high frequency capacitance C_{min}. Sketch and label the low and high frequency CV behavior. $\varepsilon(Si)=11.8$, $\varepsilon_0 = 8.85x10^{-14}$ F/cm. $n_i = 1.5x10^{10}$.