

### **Ch 19 HW Quiz #4B**

A parallel-plate capacitor is connected to a 12-Volt battery, and the positive plate is fully charged to  $3.3 \times 10^{-10}$  C. The plate has a surface area of  $2.7 \text{ cm}^2$ .

a) What is the separation between the plates?

Now the battery is disconnected, and a  $K = 5.0$  dielectric is inserted between the plates.

b) What is the voltage difference between the plates in this state?

c) What is the charge on the positive plate in this state?

d) What is the capacitance of the capacitor in this state?