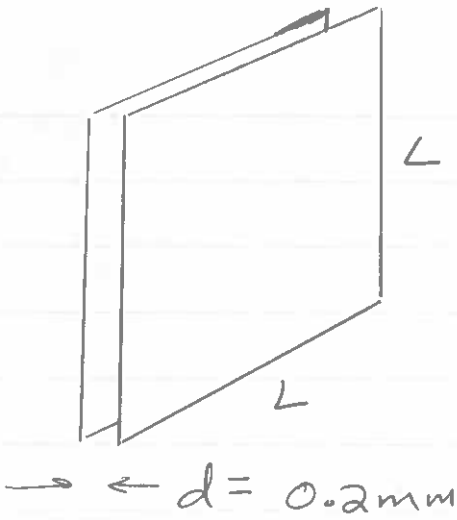

Want $C = 100\,pF = 100 \times 10^{-12}\,F$

For parallel plate capacitor:

$$C = \frac{\varepsilon_0 A}{d} = \frac{\varepsilon_0 L^2}{d}$$

$$\therefore \quad L = \sqrt{\frac{Cd}{\varepsilon_0}} = 0.0475\,m$$

$$= \underline{4.75\,cm}$$