

$$S = 34\text{cm}^2 = 34 * 10^{-4} \text{ m}^2$$

$$d = 0.96\text{mm} = 96 * 10^{-5} \text{ m}$$

$$U = 760\text{V}$$

$$a) C = \epsilon\epsilon_0 \frac{S}{d} = 1 * 8.85 * 10^{-12} \frac{34 * 10^{-4}}{96 * 10^{-5}} = 31.3 * 10^{-12} \text{ F} = 31.3 \text{ pF}$$

$$b) Q = CU = 31.3 * 10^{-12} * 760 = 23788 * 10^{-12} = 23.788 \text{ nanocolumbs}$$

$$c) W = \frac{CU^2}{2} = \frac{31.3 * 10^{-12} * 760^2}{2} = 9.04 \text{ microjoules}$$

$$d) E = \frac{Q}{\epsilon\epsilon_0 S} = \frac{23788 * 10^{-12}}{1 * 8.85 * 10^{-12} * 34 * 10^{-4}} = 790.1 * 10^3 \frac{\text{V}}{\text{m}}$$

$$e) w = \frac{W}{Sd} = \frac{9.04 * 10^{-6}}{34 * 10^{-4} * 96 * 10^{-5}} = 2.77 \frac{\text{J}}{\text{m}^3}$$