



ИСПИТ ИЗ ОСНОВА ЕЛЕКТРОТЕХНИКЕ 1

04. 07. 2017. - Рјешења

1.

$$r_{23} = 1,67 \text{ cm.}$$

$$Q_2 = -4,4 \text{ pC.}$$

2.

$$a \approx 3 \text{ mm.}$$

3.

$$\text{a) } \sigma_1 = \frac{\epsilon_{r1} Q}{\pi [a^2 + b^2 (\epsilon_{r1} - 1)]},$$

$$\sigma_0 = \frac{Q}{\pi [a^2 + b^2 (\epsilon_{r1} - 1)]},$$

$$\sigma_{p1} = -\frac{(\epsilon_{r1} - 1) Q}{\pi [a^2 + b^2 (\epsilon_{r1} - 1)]},$$

$$\sigma_{p0} = 0.$$

$$\text{б) } Q_1 = \frac{\epsilon_{r1} b^2}{a^2 - b^2} Q_0.$$

$$\text{в) } W_e = \frac{\epsilon_0 \pi [a^2 + b^2 (\epsilon_{r1} - 1)]}{2d} U^2.$$

4.

$$E_5 = -1 \text{ V.}$$

5.

$$q_6 = -60 \text{ } \mu\text{C}, \quad q_2 = -52 \text{ } \mu\text{C.}$$

$$\Delta P_1 = 0,6 \text{ W}, \quad \Delta P_2 = 0,5 \text{ W}, \quad \Delta P_g = -0,4 \text{ W.}$$