



ИСПИТ ИЗ ОСНОВА ЕЛЕКТРОТЕХНИКЕ 1

09. 02. 2018. - Рјешења

1.

$$a) E = \begin{cases} \frac{\rho r}{3\epsilon_0} \left(1 - \frac{a^3}{r^3}\right), & a \leq r \leq b, \\ \frac{\rho(b^3 - a^3)}{3\epsilon_0 r^2}, & b \leq r < \infty. \end{cases}$$

$$b) \rho = 122,92 \text{ nC/m}^3.$$

2.

$$d_2 \approx 16,4 \text{ cm.}$$

3.

$$x = 3 \text{ mm.}$$

4.

$$E_1 = 100 \text{ V,}$$

$$E_2 = 60 \text{ V.}$$

5.

$$\frac{E_2}{E_1} = 1.$$

6.

$$U_{C1} = -17,63 \text{ V,}$$

$$U_{C2} = -14,37 \text{ V,}$$

$$W_{C1} = 3,42 \text{ nJ,}$$

$$W_{C2} = 2,79 \text{ nJ.}$$