



ИСПИТ ИЗ ОСНОВА ЕЛЕКТРОТЕХНИКЕ 1

08. 02. 2019. - Рјешења

1.

$$\text{a)} \quad E = \begin{cases} \frac{2cr^3}{5\varepsilon_0}, & 0 < r < a, \\ \frac{2ca^5}{5\varepsilon_0\varepsilon_r r^2}, & a < r < b, \\ \frac{2ca^5}{5\varepsilon_0 r^2}, & b < r < \infty, \end{cases}$$

$$\text{б)} \quad W = 3,23 \text{ nJ.}$$

2.

$$E_2 \approx 798 \frac{\text{V}}{\text{m}}.$$

3.

$$\text{a)} \quad R_p = 200 \, \Omega, \quad P_{p\max} = 0,5 \text{ W},$$

$$\text{б)} \quad R_p = 250 \, \Omega, \quad P_p = 0,494 \text{ W},$$

$$\text{в)} \quad R_p = 150 \, \Omega, \quad P_p = 0,490 \text{ mW}.$$

4.

$$\text{a)} \quad Q_{10} = -5 \, \mu\text{C},$$

$$\text{б)} \quad E_1 \approx -6,7 \frac{\text{V}}{\text{m}}.$$