

ΕΝΔΕΙΚΤΙΚΕΣ ΑΠΑΝΤΗΣΕΙΣ

ΘΕΜΑ 4^ο

4.1 $t = 10\text{min} = 10 \times 60\text{s} = 600\text{s}$

$$I = \frac{Q}{t} \Rightarrow I = \frac{6000\text{C}}{600\text{s}} \Rightarrow I = 10\text{A}$$

4.2 $R = \frac{U}{I} \Rightarrow R = \frac{230\text{V}}{10\text{A}} \Rightarrow R = 23\Omega$

4.3 $J = \frac{I}{S} \Rightarrow J = \frac{10\text{A}}{2,5\text{mm}^2} \Rightarrow J = 4 \frac{\text{A}}{\text{mm}^2}$

4.4 Αφού διπλασιάζεται η διατομή, τότε $S' = 2S \Rightarrow S' = 2 \cdot 2,5\text{mm}^2 \Rightarrow S' = 5\text{mm}^2$

$$J' = \frac{I}{S'} \Rightarrow J' = \frac{10\text{A}}{5\text{mm}^2} \Rightarrow J' = 2 \frac{\text{A}}{\text{mm}^2}$$