

ΑΠΑΝΤΗΣΕΙΣ ΦΥΣΙΚΗΣ Γενικών Παιδείας Β' ΛΥΚΕΙΟΥ.

ΘΕΜΑ Α : $A_1-\gamma, A_2-\gamma, A_3-\delta, A_4-\beta, A_5-\alpha, \alpha, \alpha, \alpha$

ΘΕΜΑ Β : Β1: $F_1 = F_2 \Rightarrow k \frac{2Q \cdot Q}{r_1^2} = k \cdot \frac{Q \cdot Q}{r_2^2} \Rightarrow \frac{2}{r_1^2} = \frac{1}{r_2^2} \Rightarrow$

$\frac{r_1}{r_2} = \sqrt{2}$. σωστό το (γ).

Β2: $V = \mathcal{E} - I r \Rightarrow 8 = 10 - \frac{\mathcal{E}}{R+r} \cdot r \Rightarrow 8 = 10 - \frac{10 \cdot r}{8+r}$

$\frac{10r}{8+r} = 2 \Rightarrow 10r = 16 + 2r \Rightarrow 8r = 16 \Rightarrow r = 2 \Omega$

σωστό το (β).

ΘΕΜΑ Γ : Γ1: $I = \frac{\mathcal{E}}{R_{\text{ολ}}} = \frac{12}{6} = 2 \text{ A}$

Γ2: $V_1 = I \cdot R_1 = 2 \cdot 2 = 4 \text{ V}$ $V_2 = I \cdot R_2 = 2 \cdot 3 = 6 \text{ V}$

Γ3: $P = \mathcal{E} \cdot I = 12 \cdot 2 = 24 \text{ W}$. $P_1 = I^2 R_1 = 4 \cdot 2 = 8 \text{ W}$

$P_2 = I^2 \cdot R_2 = 4 \cdot 3 = 12 \text{ W}$.

ΘΕΜΑ Δ : Δ1: $\mathcal{E}_2 = \frac{\mathcal{E}_1}{4} = -3,4 \text{ eV}$

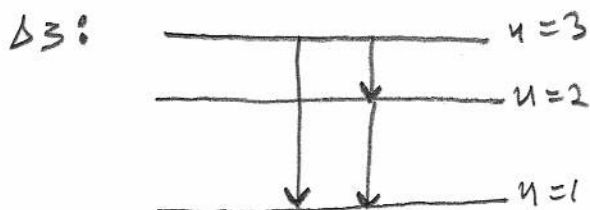
$\mathcal{E}_3 = \frac{\mathcal{E}_1}{9} = -1,51 \text{ eV}$

$\mathcal{E}_4 = \frac{\mathcal{E}_1}{16} = -0,85 \text{ eV}$

Δ2: $K_2 = K_1 - \Delta E \Rightarrow$

$K_2 = 13 - (-1,51 + 13,6) \Rightarrow$

$K_2 = 13 - 12,09 = 0,91 \text{ eV}$.



Δ4: $\mathcal{E}_{\text{φ}} = \mathcal{E}_3 - \mathcal{E}_1 = -1,51 + 13,6 = 12,09$

$h \cdot f = 12,09 \cdot 1,6 \cdot 10^{-19} \Rightarrow f = \frac{12,09 \cdot 1,6 \cdot 10^{-19}}{6,6 \cdot 10^{-34}} \Rightarrow$

$f = 2,93 \cdot 10^{15} \text{ Hz}$.