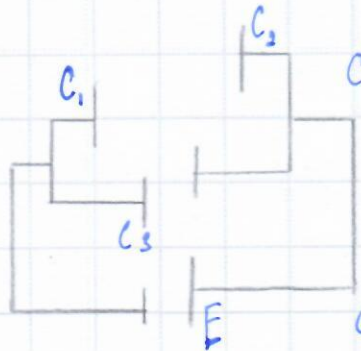


1. $\alpha_1 = 10 \text{ шкк}$
 $\alpha_2 = 17,3 \text{ шкк}$

$S_1 = 200 \text{ м}$ шғыл: $\frac{S_1}{u_1} = \frac{S_2}{u_2} \Rightarrow S_2 = \frac{S_1 u_2}{u_1} = \frac{200 \cdot 17,3}{10} = 346$

2. $C_1 = 3 \text{ шкк Ф}$
 $C_2 = 6 \text{ шкк Ф}$
 $C_3 = 10 \text{ шкк Ф}$
 $E = 10 \text{ В}$
 $C = ?$ $q_1, q_2, q_3 = ?$



$C = EQ \Rightarrow q = \frac{C}{E}$ 1) $q_1 = \frac{C_1}{E} = \frac{3}{10} = 0,3 \text{ шкккк}$

2) $q_2 = \frac{C_2}{E} = \frac{6}{10} = 0,6 \text{ шкккк}$

3) $q_3 = \frac{C_3}{E} = \frac{10}{10} = 1 \text{ шкккк}$

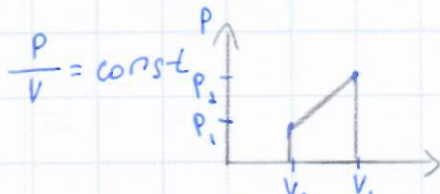
$C_{12} = \frac{C_1 \cdot C_2}{C_1 + C_2} = \frac{3 \cdot 6}{3 + 6} = \frac{18}{9} = 2 \text{ шкк Ф}$

$C_{23} = \frac{C_2 \cdot C_3}{C_2 + C_3} = \frac{6 \cdot 10}{6 + 10} = \frac{60}{16} = 3,75 \text{ шкк Ф} \approx$

$C_{13} = \frac{C_1 \cdot C_3}{C_1 + C_3} = \frac{3 \cdot 10}{3 + 10} = \frac{30}{13} = 2,3 \text{ шкк Ф} \approx$

$C = C_{12} + C_{23} + C_{13} = 2 + 3,75 + 2,3 = 8,05 \text{ шкк Ф} \approx 8 \text{ шкк Ф}$

3. $t = 27^\circ \text{C} = 300 \text{ К}$
 $P_1 = 5 \cdot 10^5 \text{ Па}$
 $m = 2 \text{ кг}$
 $T = \text{const}$
 V зее?



$A = \frac{P_1 + P_2}{2} \cdot (V_1 - V_2)$

$P_1 V_1 = P_2 V_2 \Rightarrow V_2 = \frac{P_1 V_1}{P_2}$

$A = \frac{P_1 + P_2}{2} \cdot (V_1 - \frac{P_1 V_1}{P_2})$

$A = \frac{P_1 P_2}{2} \cdot (V_1 - \frac{P_1 V_1}{P_2})$

$A = \frac{P_1 + P_2}{2} \cdot (V_1 - \frac{P_1 V_1}{P_2}) = \frac{P_1 + P_2}{2} \cdot (V_1 - \frac{P_1 V_1 - P_1 V_1}{P_2})$

$= V_1 \cdot \frac{P_1 + P_2}{2} \cdot \frac{P_2 + P_1}{P_2} = V_1 \cdot \frac{(P_1 + P_2)(P_2 + P_1)}{2 P_2}$

$P_2 = 3 P_1 \quad P_2 = 3 \cdot 5 \cdot 10^5 = 15 \cdot 10^5 \text{ Па}$

$V_1 = \frac{1,4 \cdot 10^6 \cdot 2 \cdot 15 \cdot 10^5}{(15 \cdot 10^5)^2 - (5 \cdot 10^5)^2} = \frac{42 \cdot 10^{11}}{225 \cdot 10^{10} - 25 \cdot 10^{10}} = 2,1 \text{ м}^3$

4. $m = 2 \text{ кг}$

$S = 5 \text{ см}^2 = 0,0005 \text{ м}^2$

$\nu = ?$

$T = 2\pi \sqrt{\frac{m}{k}}$

$P = F \cdot S = mg S = \rho V g S \Rightarrow k = \rho g S$

$\nu = \frac{1}{T} = \frac{1}{2\pi \sqrt{\frac{m}{k}}} = \frac{1}{2\pi \sqrt{\frac{m}{\rho g S}}}$

$= \frac{1}{2 \cdot 3,14 \cdot \sqrt{\frac{2}{1000 \cdot 10 \cdot 0,0005}}} = \frac{1}{6,28 \cdot \frac{1}{\sqrt{5}}} = \frac{25\sqrt{5}}{157} \approx 0,35 \text{ Гц} \approx 0,4 \text{ Гц}$

Барменші: Лоупей