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$$P = \frac{W}{t} = \frac{N}{s} \cdot \frac{kg \cdot m}{s^2} = \frac{kg \cdot m^2}{s^3}$$

$$I_s Y \sin \omega_0 t \rightarrow I_s Y \sin \omega_0 t \quad [X|s| = Y]$$

Ex. 11.15, FV

$\therefore \text{P.V.} = \text{Rs. } 100$

$\rightarrow \bar{I}_2$  و  $\bar{I}_1$  دو دونه است

Y ← F9

$$\frac{g_r}{g_1} = \left( \frac{R_1}{R_1 + h} \right)^r \rightarrow g_r = 10^x \left( \frac{4800}{10000} \right)^r$$

۳۰

$$W = mg = 102 \text{ N}$$

$$v = \frac{1}{s} \cdot \frac{dv}{dt} \cdot \frac{r_0}{\omega} = f$$

12/15/21

$$F = m \cdot a = 8 \times 10.5 = 84 \text{ N}$$

$$I_{30,1} \quad r_{1,546}, r_{1,516}.$$

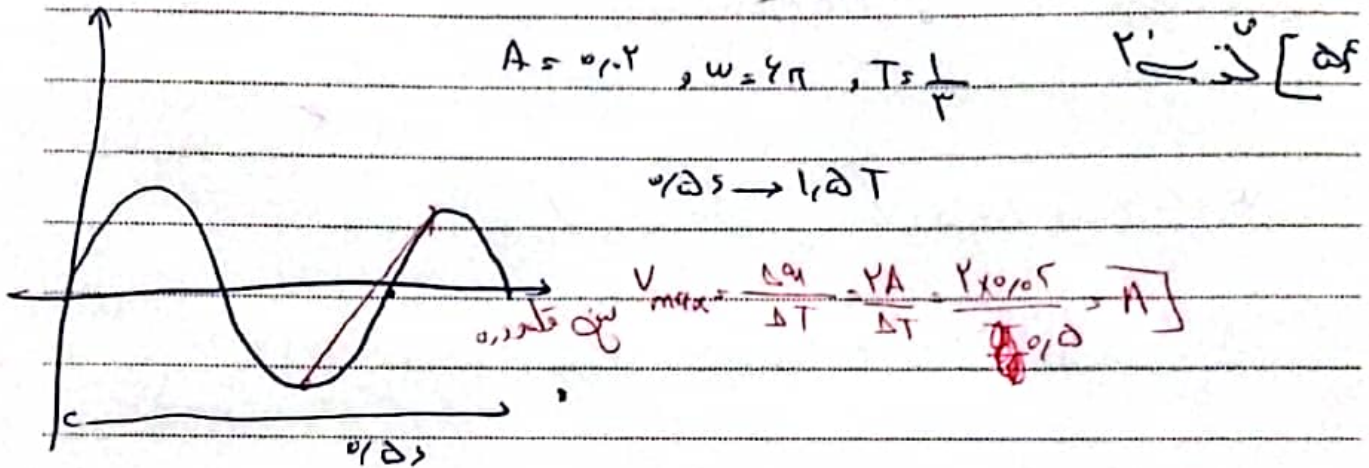
۵۲. گزنی ۲

$$\frac{I_5}{I_1} = \left(\frac{r_1}{r_2}\right)^2 \rightarrow I_5 = 1 \times \left(\frac{40}{12}\right)^2 = 1.1$$

$$V = 10 \frac{m}{s}, A = 2 \text{ cm}, \lambda = 2 \text{ cm}$$

۲ گزینے

$$N = \frac{\lambda}{T} \rightarrow T = 0.02 \rightarrow \frac{t}{T} = \frac{T}{2} \rightarrow \frac{\lambda}{2} \rightarrow 1 \text{ cm}$$



$$s_{av} = 2f \text{ cm}, \frac{T}{f} = \frac{1}{\lambda} \rightarrow T = \frac{1}{2}$$

۵۵ [گزینه ۳]

$$0.5 \frac{2}{f} s, 2f = \frac{2A}{T} \rightarrow fA = 2f \times \frac{1}{2} = 1 \rightarrow A = 2 \text{ cm}$$

$$\frac{2}{f} = 1.2T \rightarrow 2A \rightarrow fA \rightarrow \text{مقدار } 2A = 2 \text{ cm}$$

۵۶ [گزینه ۴]

$$\frac{1}{\lambda} N_0 = N \left( \frac{1}{2} \right)^n \rightarrow n = 3$$

$$n = \frac{T}{T_1} \rightarrow T_1 = \frac{2T}{3} = 1 \text{ s}$$

$$E = hf \rightarrow E = f \times 10^{-10} \times 2.55 \times 10^{10}$$

۵۷ [گزینه ۱]

$$E = 12, \text{ فقط } ۲$$



$$n' = f, \quad n = \infty$$

۵۱ - گذر ۲

$$\frac{1}{\lambda} = \frac{1}{100} \times \left( \frac{1}{12} - \frac{1}{f_2} \right) \rightarrow \lambda = 2374$$

۵۹ - گذر ۲

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گذر ۱  $\rightarrow q_1, q_3$  هنام

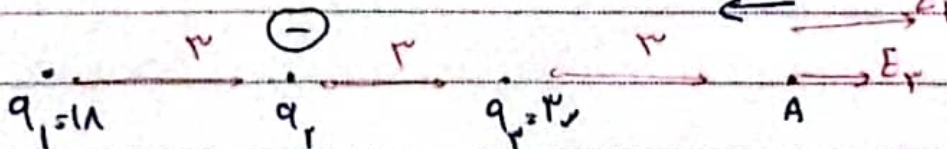
گذر ۲  $\rightarrow q_2, q_3$  غیهنام

غیهنام  $q_1, q_2$

$$\rightarrow \frac{k q_1 q_3}{r_{13}^2} = \frac{k q_2 q_3}{r_{23}^2}$$

$$\boxed{\frac{q_2}{q_1} = -\frac{f}{1}}$$

۶۰ - گذر ۲



$$E_2 = \frac{kq}{r^2} = \frac{q \times 10^{-9} \times 2 \times 10^{-6}}{q \times 10^{-2}} = 2 \times 10^5$$

$$E_1 = \frac{2kq}{r^2} = \frac{kq}{r^2} = 10^5$$

$$\rightarrow E_1 + E_2 = 3 \times 10^5 \rightarrow \begin{pmatrix} E_1 \\ E_2 \\ E_{1+2} \end{pmatrix} = \begin{pmatrix} 10^5 \\ 2 \times 10^5 \\ 3 \times 10^5 \end{pmatrix}$$

$$2 \times 10^5 = \frac{q \times 10^{-9} \times q}{(2 \times 10^{-2})^2} \rightarrow q = 2 \times 10^{-5} \text{ C}$$

$$2 \times 10^5 = \frac{q \times 10^{-9}}{f^2}$$

۲۳۴

SOBHAN



$\Delta u < 0 \rightarrow \Delta u + \Delta u = 0$   
 $\Delta u < 0$   
 $\Delta u < 0$

41 ← گزینہ ۲

$\Delta V = E d \rightarrow V_0 = V_0 \cdot E \rightarrow E = 1$   
 $\Delta V = E d \rightarrow \Delta V = 1 \times 12 = 12$

$\Delta V = \frac{\Delta u}{a}$

$\Delta u = 12 \times 2 = 24$   
 وقاص

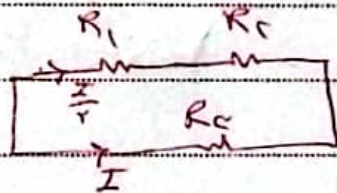
$A = 21 \text{ cm}^2, L = 17 \text{ km}, R = 2$

42 ← گزینہ ۳

$\frac{R \rho L}{A} = \frac{2 \times 10^{-8} \times 1.7 \times 10^4}{21 \times 10^{-4}} = 1.6 \times 10^4 = 16000$

43 ← گزینہ ۲

44 ← ۳



$P_1 = R_1 \frac{I^2}{f}, P_2 = R_2 \frac{I^2}{f}$

$P = R I^2$

45 ← گزینہ ۱

$\frac{\Delta A}{\Delta t} = \frac{20 \text{ cm}^2}{5}, B = 0.5 \text{ T}$

46 ← گزینہ ۴

بعد، حل اضافی است  
 سے بار سیدہ القاسم سے  
 سے بار سیدہ القاسم سے

$\mathcal{E} = n \frac{\Delta A}{\Delta t} \cdot B$

$\mathcal{E} = 1 \times 20 \times 10^{-4} \times 0.5 = 10 \times 10^{-4} = 1 \text{ mV}$



$$120 \text{ kPa} = 12 \times 10^3 \text{ Pa}$$

۴۷ ← ۲

$$\hookrightarrow 12 \times 10^3 = 12P + 10^3 \rightarrow 14P = 12 \times 10^3$$

$$\hookrightarrow P = \frac{12 \times 10^3}{14} = \frac{10000}{1} \times 10^3$$

۴۸ ← ۳

$$w = \Delta K \rightarrow 12 \times 10^3 \times V = \frac{1}{2} \times 10^3 \times (V_B^2 - V_A^2)$$

$$\hookrightarrow 12 \times 10^3 = V_B^2 - V_A^2 \rightarrow V_B^2 = 10^3 \rightarrow V_B = \sqrt{10^3} = \sqrt{10} \times 10^1 \frac{\text{m}}{\text{s}}$$

$$L = 20 \text{ m}, \theta_1 = 2, \theta_2 = 0$$

۴۹ [۲]

$$\Delta L = L \Delta \theta = 20 \times 10^3 \times 2 = 40,000 \text{ mm}$$

$$\boxed{2 \text{ kg}}$$

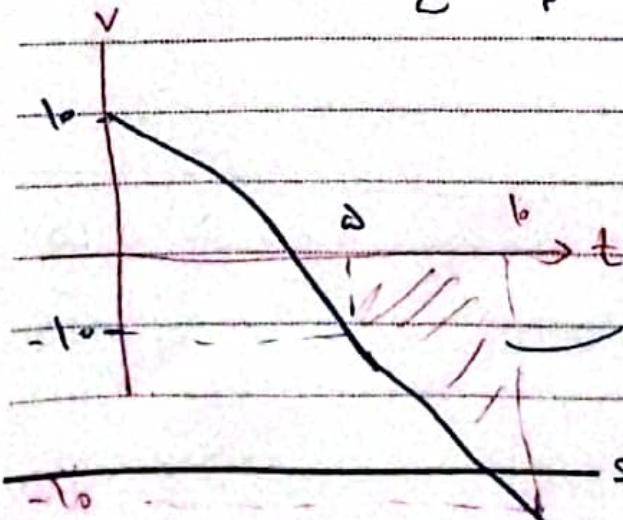
$$\boxed{2 \text{ T}}$$

$$Q = Q_1 + Q_2 + Q_3$$

۵۰ ← ۲

$$Q = m c \Delta \theta + m L + m c \Delta \theta = 2 \times 10^3 \times 1 + 2 \times 10^3 \times 2 + 2 \times 10^3 \times 1 = 10,000 \text{ J}$$

۵۱ ← ۲

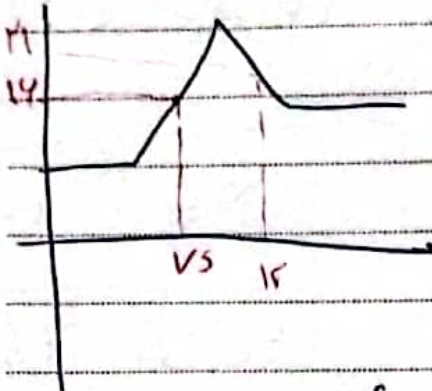


SOBHAN



$$a_{av} = \frac{\Delta v}{\Delta t} = \frac{v_{10} - v_0}{10 - 0} = \frac{21 - 14}{10} = \frac{7}{10} = 0.7$$

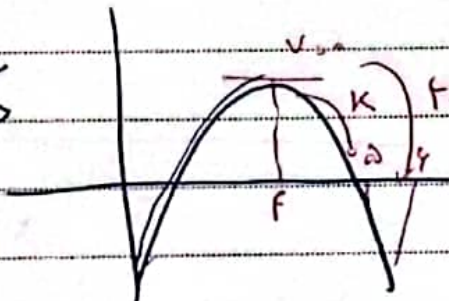
۷۲ ← گزینہ ۱



$$\Delta u = kv^2$$

۷۳ ← گزینہ ۲

۷.۵؟  
حرکت بدلتی



$$\Delta u = \frac{1}{2} k v^2 - \frac{1}{2} k v_0^2 = 9$$

$$k = 2$$

$$\Delta u = 14k = 14 \times 2 = 28 \text{ m}, u_0 = -24$$

$$\Delta u = \frac{1}{2} k v^2 + v_0 t + \frac{1}{2} a t^2 \rightarrow 32 = \frac{1}{2} \times 2 \times 14^2 + v_0 \times 4 + \frac{1}{2} \times 2 \times 4^2$$

$$F v_0 = 24 \rightarrow v_0 = 4$$

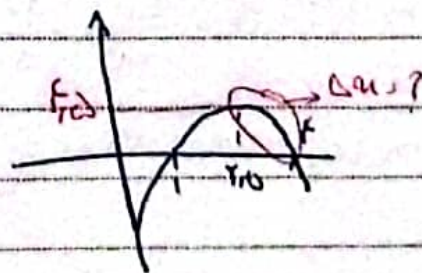
۷۴ ، گزینہ ۲

$$a = -2t + 10 \text{ m/s}^2$$

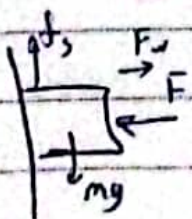
$$t = \frac{-b}{2a} = \frac{10}{4} = 2.5 \text{ s}$$

$$t = 1, t = 5$$

$$v_{av} = \frac{f_{10}}{1.0} = 2.0$$



۷۵ ← گزینہ ۳



$$f_s = mg$$

$$F = F_N$$