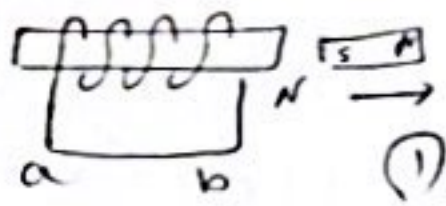
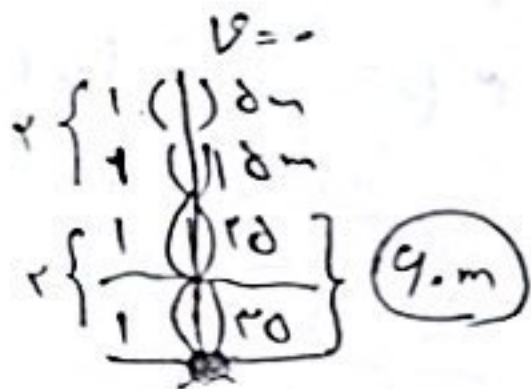


$$x_1 > x_2 \text{ و } x_2 < x_1 + (42) \quad 2 \quad (41)$$

(43)  (43)   
 تزیین (1)

$$38 \text{ kWh} = 38 \times 10^3 \times 3600 = 9.0 \times 10^4 = 9.0 \text{ MJ}$$

$$(44) \text{ تزیین (2)}$$



$$(45) \text{ تزیین (4)}$$

(46) تزیین (1) از لحظه شروع حرکت تا لحظه ای که سرعت آنها برابر شود فاصله آنها از زمین می شود. چون که با هم متفاوت است و از این لحظه به بعد فاصله کم می شود تا به هم برسند.

$$x_1 = x_2$$

$$\frac{1}{2} \times 0.8 t^2 = \frac{1}{2} \times 1 (t-2)^2 \rightarrow \frac{1}{2} t^2 = (t-2)^2 \rightarrow t = 2 \text{ s}$$

$$v_1 = v_2 \rightarrow 0.8 t = 1(t-2) \rightarrow t = 2 \text{ s}$$

$$x_A = v t + x_0 \rightarrow x_A = 2t + 2.0$$

$$x_B = 2t = x_A \quad (47) \text{ تزیین (2)}$$

$$x_B = \frac{1}{2} a t^2 + v_0 t$$

$$2t = \frac{1}{2} a \times 2 + 12 \times 2 \rightarrow a = -2.0$$

$$t_2 = 2, t_1 = 2$$

$$(48) \text{ تزیین (1)} \quad 2 \text{ متر در ثانیه}$$

$$t_1 = 2 \rightarrow v_1 = 2(2)^2 - 12 = 4$$

$$t_2 = 2 \rightarrow v_2 = 2$$

$$a_{av} = \frac{\Delta v}{\Delta t} = \frac{2}{2} = 1 \text{ m/s}^2$$

$$(49) \text{ تزیین (3)}$$



$$F - mg = ma$$

$$42.0 - 80.0 = 80.0 \times (-a)$$

$$a = 1.2$$

$$F = ma \rightarrow F = m_1 \times 12 \quad F = m_2 \times 2 \rightarrow \frac{12m_1}{2m_2} = 1 \rightarrow m_2 = 12m_1 \quad (1) \text{ گزینه (1)}$$

$$F = (m_2 - m_1) a' \rightarrow m_1 \times 12 = (m_2 - m_1) a' \quad a' = 4 \text{ m/s}^2$$

$$m_1 \times 12 = (12m_1 - m_1) a' \quad a' = 4 \text{ m/s}^2$$

$$T = \frac{t}{n} = \frac{2.12}{3} \Rightarrow f_{\text{max}} = m r \omega^2 \quad (2) \text{ گزینه (2)}$$

$$\mu_s \times f g = m r \omega^2 \rightarrow \mu_s \times 1.0 = 0.1 \times \left(\frac{2\pi}{T}\right)^2$$

$$\mu_s = 0.124$$

$$V = \sqrt{\frac{F}{\rho A}} \quad \frac{V_A}{V_B} = \sqrt{\frac{F_A}{F_B}} \times \sqrt{\frac{\rho_B}{\rho_A}} \times \sqrt{\frac{A_B}{A_A}} \quad (3) \text{ گزینه (3)}$$

$$\frac{100 \text{ m/s}}{? \text{ m/s}} = \sqrt{\frac{1}{1} \times \frac{1}{4}} \rightarrow V_B = 200 \text{ m/s}$$

گزینه (4) به ما نزدیک شود روشن تر شود با مازاد طول موج کم

$$mg = kx \rightarrow 0.12 \times 1.0 = k \times \frac{2.5}{100} \quad k = 18.0 \text{ N/m}$$

$$E = k_{\text{max}} = \frac{1}{2} k A^2 = \frac{1}{2} \times 18.0 \times (2 \times 10^{-2})^2 = 16 \times 10^{-2} \text{ J}$$

گزینه (3) B کم عمیق - A عمیق ← سرعت در عمیق بیشتر

گزینه (3)

$$k_{\text{max}} = \frac{hc}{\lambda b} - w \quad \leftarrow k_{\text{max}} = hf - w$$

گزینه (1)

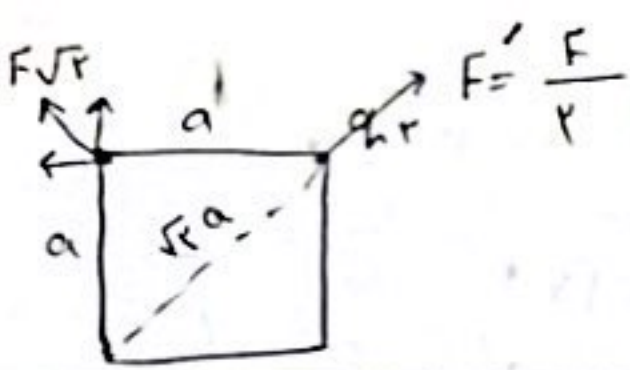
گزینه (2)

گزینه (4)

$$N. \xrightarrow{1} \frac{N.}{2} \xrightarrow{2} \frac{N.}{4} \xrightarrow{3} \frac{N.}{8} \xrightarrow{4} \frac{N.}{16}$$

$$n = 4 \quad T = 2$$

(41) نرینہ (۲)



$$\frac{F\sqrt{2}}{\frac{F}{2}} = 2\sqrt{2}$$

$$F = \frac{kq_1q_2}{a^2}$$

(42) نرینہ (۱)

v ثابت

$$\frac{C_2}{C_1} = \frac{k_2}{k_1} = 3 \rightarrow C = \frac{q}{v}$$

$$v = E \cdot d$$

$$u = \frac{1}{2} C V^2$$

(43) نرینہ (۲)

$$I = \frac{18-4}{4} = 2A \quad P_c = \mathcal{E}I + rI^2 = 20$$

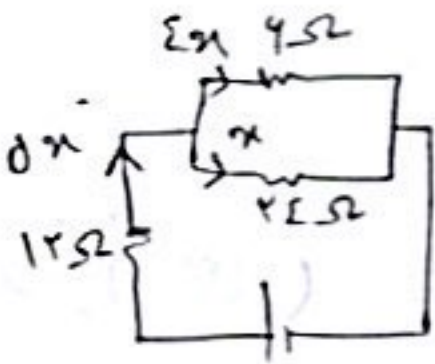
$$P_i = \mathcal{E}I - rI^2 = 22 \rightarrow \frac{\delta}{\Lambda}$$

(44) نرینہ (۳)

$$\frac{R_A}{R_n} = \frac{\rho_A}{\rho_n} \times \frac{L_A}{L_B} \times \frac{A_B}{A_A} = 2 \times 2 = 4$$

$$\frac{m_A}{m_B} = \frac{\rho_A}{\rho_B} \times \frac{V_A}{V_B} \rightarrow \frac{1}{2} = \frac{A_A \times L_A}{A_B \times L_B} \rightarrow \frac{1}{2} = \frac{A_A}{A_B} \times \frac{2}{1} \rightarrow \frac{A_A}{A_B} = \frac{1}{4}$$

(45) نرینہ (۲)



$$V_{(12)} = RI = 12 \times (3A)$$

$$V_{(4)} = RI = 4 \times (2A)$$

$$\frac{2 \times 2}{12 \times 3} = \frac{2}{4} = \frac{1}{2} \rightarrow \frac{\delta}{2}$$

(46) نرینہ (۱)

(47) نرینہ (۳)

$$B = \frac{\mu \cdot NI}{L} \rightarrow 10^{-2} T = \frac{4\pi \times 10^{-7} \cdot N \times 2}{0.1}$$

$$N = 800$$

$$\Phi = BA \cos \theta$$

$$= \mu_0 I r \cdot x l^{-2} \times l = 2 x l^{-2} \cdot b$$

(48) نرینه (2)

$$\Delta p = \rho g h$$

$$V = A v h$$

$$= 120 \times 1. \times 2. \times 10^{-2} \quad 2, 2 \times 1. \times 2. \times 10^{-2} \times h$$

$$= 400 \text{ Pa}$$

$$h = \frac{2800}{800} = 3.5 \text{ cm}$$

$$\frac{400}{1340} = 0.3$$

(49) نرینه (2)

$$p = \rho g h \rightarrow 2 \times 1. \times 17 = 13,4 \times 1. \times (2n)$$

$$n = 1,28 \text{ cm}$$

(50) نرینه (1)

$$W_T = \frac{1}{2} m (v^2 - v_1^2)$$

$$2800 = \frac{1}{2} \times 9. (v_2^2 - 209^2) \rightarrow v_2 = 172 \text{ km/h}$$

$$\rightarrow v_2 = 48 \frac{\text{m}}{\text{s}}$$

$$v_1 = \frac{124}{2,4} = 52$$

(51) نرینه (4)

$$m_1 = 2 m_2$$

$$k_1 = \frac{1}{2} \left( \frac{1}{2} m_1 v_1^2 \right)$$

$$\frac{1}{2} \times \frac{1}{2} m_1 v_1^2 = \frac{1}{2} m_2 v_2^2 \rightarrow v_1 =$$

$$v_1 = \frac{1}{2} v_2$$

$$k_1' = k_2'$$

$$\frac{1}{2} m_1 v_1'^2 = \frac{1}{2} m_2 v_2'^2$$

$$\frac{1}{2} m_1 (v_1 + 2)^2 = \frac{1}{2} m_2 v_2^2 \rightarrow v = 2\sqrt{2} + 2$$

(52) نرینه (2)

(53) نرینه (2)

(54) نرینه (1)

$$pV = nRT$$

$$pV = n_1 R (297)$$

$$pV = n_2 R (298)$$

$$\rightarrow \frac{n_2}{n_1} = \frac{297}{298} \rightarrow \frac{n_2 - n_1}{n_1} = \frac{1}{298}$$

$$\frac{0.9141 - 0.23}{\text{نرجهان}}$$

(55) نرینه (2)