

نوین کنکور

کنکور

امتحان نهایی

**نوین کنکور
شرط لازم و کافی
برای موفقیت**

novinkonkor.com

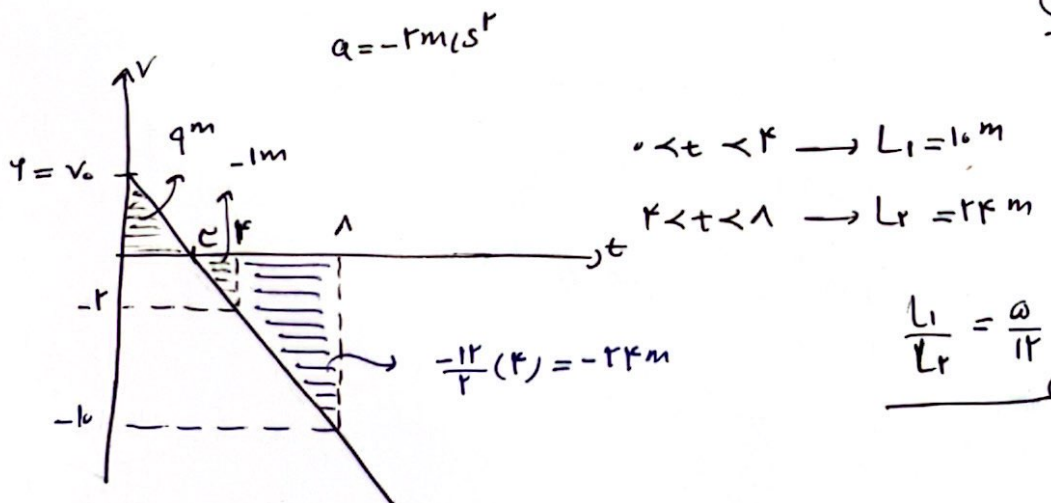
۴۶ - (۲)

$$v = \frac{\Delta x}{\Delta t} = \frac{24-1}{1-4} = \frac{13}{-3} = -\frac{13}{3} \text{ m/s}$$

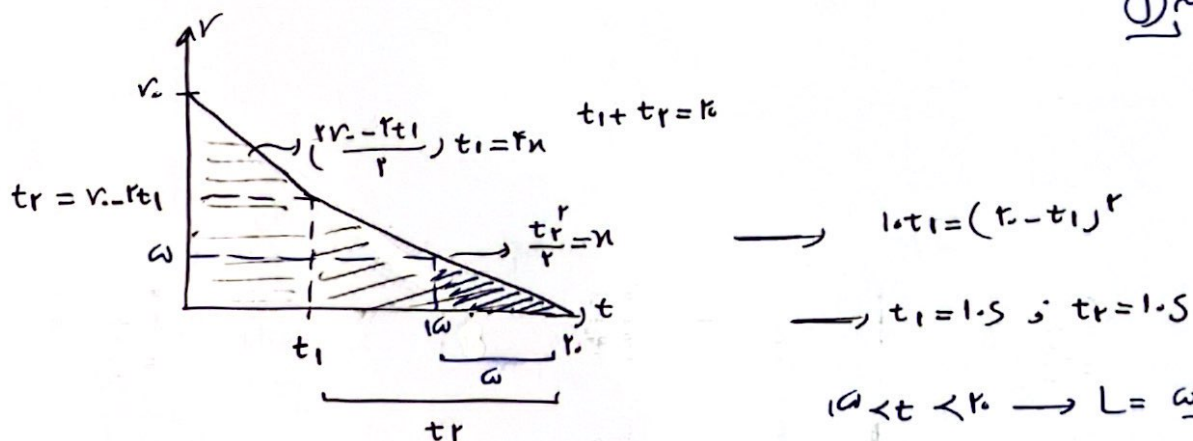
$$x = vt + x_0 \quad \begin{matrix} t_1 = 3.5 \\ x_1 = 1 \end{matrix} \rightarrow 1 = 12 + x_0 \rightarrow x_0 = -11 \text{ m}$$

$$\rightarrow x = -\frac{13}{3}t - 11$$

۴۷ - (۲)

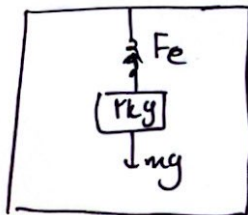


۴۸ - (۲)





۴۹
۴۰

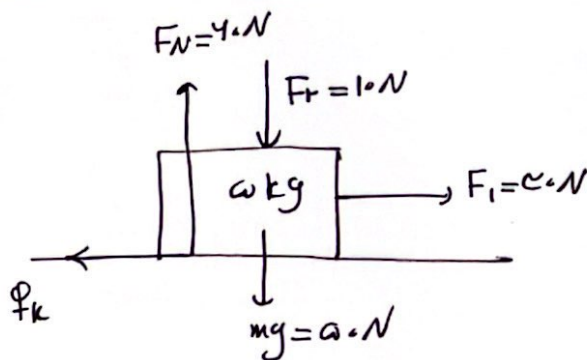


$$F_e = k \Delta x = m(g - |a|)$$

$$F_e \Delta x = r \left(\frac{r}{A} \right) \rightarrow \Delta x = r \text{ cm}$$

$$\rightarrow x_r = r \text{ cm}$$

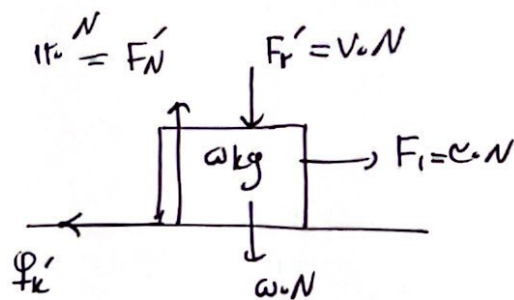
۴۰ - ۴۱



$$F_i - F_k = ma \rightarrow 20 - F_k = 10$$

$$\rightarrow F_k = 10 \text{ N}$$

$$\frac{r}{F_k} = \frac{y}{F_N} \rightarrow \mu_k = \frac{1}{2}$$



$$20 - F_k' = 5(-2) = -10 \rightarrow F_k' = 30 \text{ N}$$

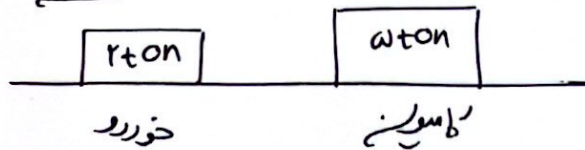
$$\mu_k = \frac{1}{2} F_N' \rightarrow F_N' = 12 \text{ N}$$

$$F_r' = 20 \text{ N} \rightarrow \Delta F_r = 40 \text{ N}$$

۴۱ - ۴۲

۷۲ - ۲

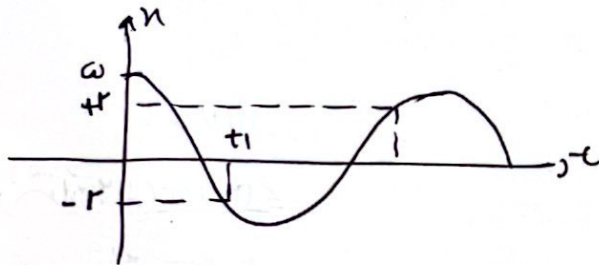
$$v_r = -1 \frac{m}{s} \rightarrow v_i = 4 \frac{m}{s}$$



$$F_{net uv} = \frac{\Delta p}{\Delta t} = \frac{m \Delta v}{\Delta t}$$

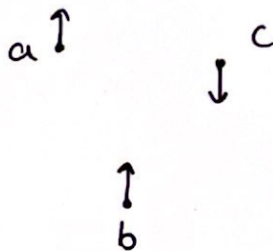
$$F_{net uv} = \frac{(4)(-5)}{\frac{1}{2}} = -40 N$$

۷۳ - ۲



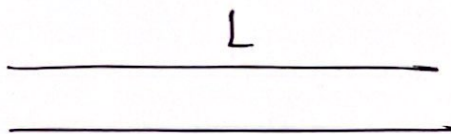
$$\Delta t = \frac{T}{2}$$

۷۴ - ۱



شد زیرا a و b با هم برابرند.

۷۵ - ۲



$$\Delta x = \frac{v_{عوا} \times v_{فضا}}{v_{عوا} - v_{فضا}} \Delta t \rightarrow \Delta t = \frac{v_i - v_f}{v_i v_f} L$$

۷۶ - ۲

$$\lambda = \frac{v}{f} \rightarrow \frac{9}{f} \times 10^{-4} = \frac{v}{\omega \times 1.14}$$

$$\Rightarrow v = \frac{9}{f} \times 10^{-4} \frac{m}{s} \quad \underline{v = \frac{c}{n}} \quad \underline{n = \frac{f}{c}}$$

۵۷ - ۵۸

۵۸ - ۵۹

$$\left[\begin{array}{c} \lambda_{max} \\ \lambda_{min} \end{array} \right] \begin{array}{l} n=5 \\ n=4 \end{array}$$

$$h f_1 = -13.6 eV - (-13.6 eV) = 13.6 eV$$

$$\left[\begin{array}{c} \lambda_{min} \\ \lambda_{max} \end{array} \right] \begin{array}{l} n=2 \\ n=1 \end{array}$$

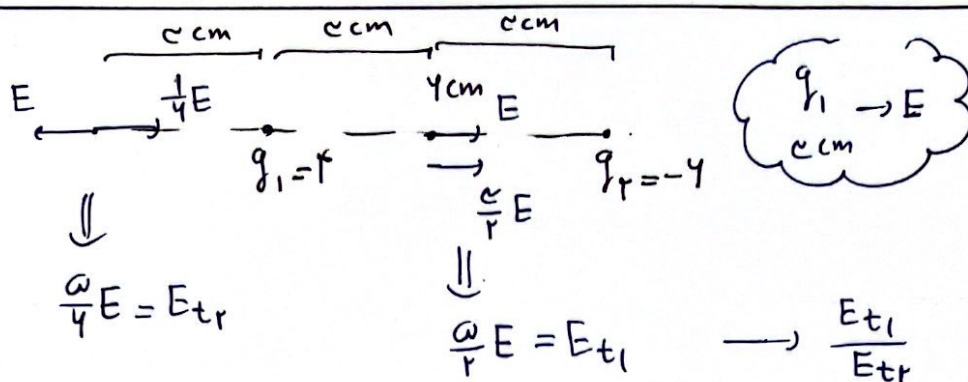
$$h f_2 - h f_1 = 13.6 eV - 3.4 eV = 10.2 eV$$

$$h f_2 = 10.2 eV$$

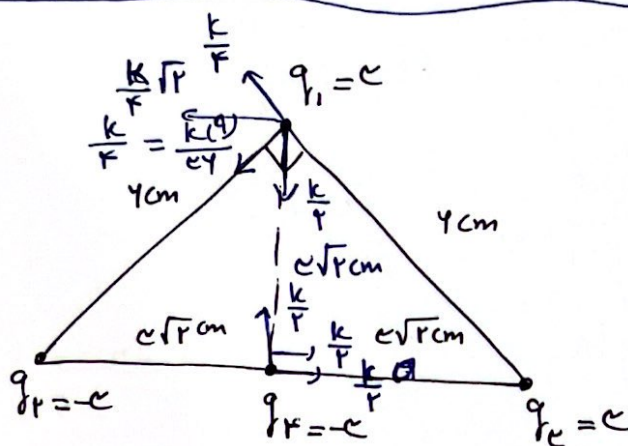
۴۰ - ۴۱

$$\frac{1}{\lambda} = R \left(\frac{1}{n_1^2} - \frac{1}{n_2^2} \right) \Rightarrow \frac{f_0}{c \lambda} = \frac{1}{n_1^2} - \frac{1}{(n_1 + 1)^2}$$

$$\Rightarrow \underline{n_1 = 2} \quad ; \quad \underline{n_2 = 3}$$



۴۱



$$F_{lt} = \frac{\sqrt{4}}{r} k$$

$$F_{rt} = \sqrt{\omega} \frac{k}{r}$$

$$\frac{F_{lt}}{F_{rt}} = \frac{\sqrt{c}}{1}$$

۴۲

کنش

۴۳

۴۴

$$\frac{C_r}{C_l} = \frac{r}{c} \rightarrow C_r = \frac{1}{c} \omega F$$

$$\frac{u_{rs}}{u_l} = \frac{c}{r} \rightarrow \Delta u = \frac{1}{r} u_l = \frac{1}{r} \left(\frac{1}{r} \right) \frac{(100)(100)}{\omega} = 2000 \text{ J} = 2 \text{ mJ}$$

$$P = VI = 1200 \cdot \omega = 1200 \text{ kW}$$

$$u = P \cdot t = (1200) (\omega) (c)$$

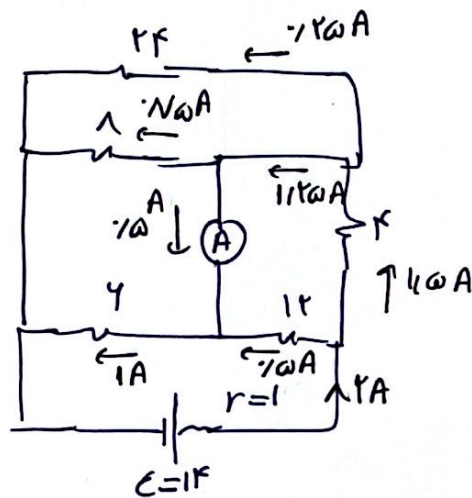
$$x = 11(c) (\omega) = 1200 \text{ m}$$

۴۵

$$P = \frac{V^2}{R} \rightarrow P_1 = \frac{\left(\frac{\epsilon}{r}\right)^2}{R} = \frac{\epsilon^2}{rR} = P_r \rightarrow P_1 + P_r = \frac{\epsilon^2}{rR}$$

(۴۵)
(۴۶)

$$P_c = P_r = \frac{\epsilon^2}{R} \rightarrow P_c + P_r = \frac{r\epsilon^2}{R}$$

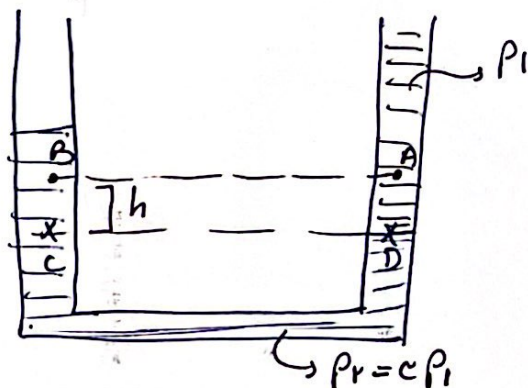


$$R_{eq} = 4\Omega$$

$$I = \frac{\epsilon}{R_{eq} + r} = 2A$$

(۴۷)
(۴۸)

$$\Phi = BA \cos \theta \rightarrow \Phi = (4 \times 10^{-2}) (9 \times 10^{-2}) (1) \\ = 4 \times 10^{-4} \text{ wb} = 4 \times 10^{-4} \text{ wb}$$



$$P_c = P_D \rightarrow \rho_2 gh + P_B = \rho_1 gh + P_A$$

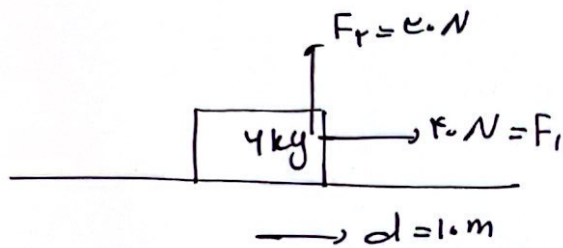
$$P_A - P_B = (\rho_2 - \rho_1) gh \\ = \rho_1 gh$$

۴۴

$$\frac{v_r}{v_1} = \frac{\omega}{k} \rightarrow \frac{k r}{k_1} = \frac{m r}{m_1} \times \left(\frac{v_r}{v_1}\right)^2$$

$$\rightarrow r = \frac{m r}{m_1} \times \frac{r \omega}{14} \rightarrow \frac{m r}{m_1} = \frac{14}{r \omega} = \frac{44}{1.0}$$

۴۵



$$W_{F_r} = 0$$

$$W_{F_1} = W_F = 400 \text{ J}$$

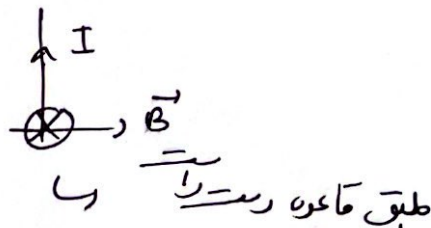
۴۶

$$\Phi = B A \cos \theta \rightarrow [\Phi] = [B] [A] \quad \text{I}$$

$$F = B I L \sin \theta \rightarrow [B] = \frac{[F]}{[I][L]} = \frac{\text{kg} \cdot \frac{\text{m}}{\text{s}^2}}{\text{A} \cdot \text{m}} = \frac{\text{kg}}{\text{A} \cdot \text{s}^2} \quad \text{II}$$

$$\text{I, II} \quad [\Phi] = \frac{\text{kg} \cdot \text{m}^2}{\text{A} \cdot \text{s}^2} = \text{wb}$$

۴۷



۴۸

دانش آموز عزیز - تسلیت

$$B = \frac{\mu_0 NI}{L} = \frac{(2 \times 10^{-7}) (\omega \times 10^2) (4 \times 10^{-1})}{10^{-1}} = 24 \times 10^{-4} T$$

$$= 24 G$$

(۷۴)

✓

$$Q = mc\Delta\theta + mL_f + mc\Delta\theta$$

(۷۵)

✓

$$c_{\text{ice}} = c$$

$$m_{\text{ice}} = m$$

$$= m \left(\frac{1}{F} C \right) (10) + m (10 C) + m C (10) = 100 m C$$

$$m_{\text{ice}} = m'$$

$$Q = m' c (\phi_0) = 100 m C \rightarrow m' = 2m$$

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