

نوین کنکور

کنکور

امتحان نهایی

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

novinkonkor.com

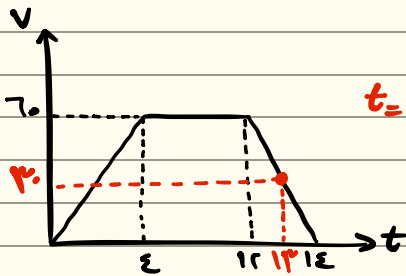
۴۶-۲ این کار را با یک تفنگ شش تریاک است و بدون تفنگ به جسم میتوان رسید آن را اندازه گرفت

۴۷-۲ $E = \frac{hc}{\lambda} \Rightarrow \frac{E_r}{E_i} = \frac{\lambda_i}{\lambda_r} =$

۴۸-۲ جنبه موجی آن $\leftarrow \lambda \leftarrow$ ثابت دور بین نوبت $\leftarrow f \leftarrow$ کسر

۴۹- $K_1 \rightarrow 1 = \text{هو}$ $K_2 > K_1 \rightarrow C = \frac{KE \cdot A}{d} \Rightarrow \frac{C_r}{C_i} = \frac{K_r}{K_i} \rightarrow$ انرژی

$C = \frac{q}{V}$



۱۲-۱۴.۵ $\leftarrow$
 $t = 13 \Rightarrow$ سرعت در $\Rightarrow \frac{25}{15} \mid \begin{matrix} 70 \downarrow \\ \Delta v \end{matrix} \Rightarrow \Delta v = 30$
 ۱۲-۱۳.۵ $\leftarrow$

$L = S = \frac{2}{70} \times \frac{70}{1} + \frac{1}{70} \times 70 + \frac{1}{70} \times 28$
 مسافت طی شده
 $= 2 + 1 + \frac{2}{70} = 10 + 1.78 = 11.78 \text{ km}$

۵۱-۳ $t=0 \rightarrow v_0=0$ $v_{avr} = \frac{v+v_0}{2} \Rightarrow \frac{\Delta x}{\Delta t} = \frac{v}{2} \Rightarrow \frac{217}{15} = \frac{12a}{2} \Rightarrow a = 3$

$v = at + v_0 \Rightarrow v = at$ $t=7 \rightarrow v=21 \Rightarrow \Delta x = 21 \text{ m} \times$
 $t=9 \rightarrow v=27$

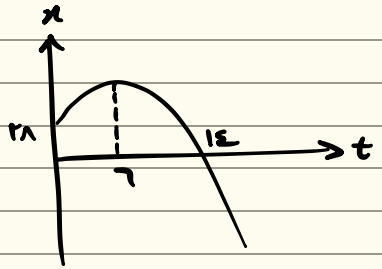
$t=7 \rightarrow v=18 \Rightarrow \Delta x = 25 \text{ m} \times$

$t=1 \rightarrow v=22$

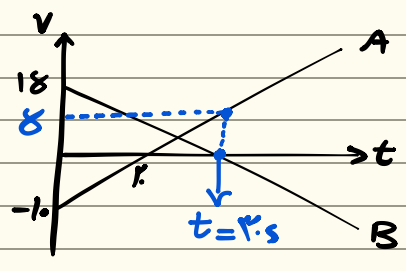
$t=8 \rightarrow v=18 \Rightarrow \Delta x = 37 \text{ m} \checkmark$

$t=7 \rightarrow v=21$

بدان ممکن در بازه ۰ تا ۱۴ ثانیه در حالت متحرک است



$$V_{avg} = \frac{\Delta x}{\Delta t} = \frac{21}{14} = 1.5 \frac{m}{s}$$

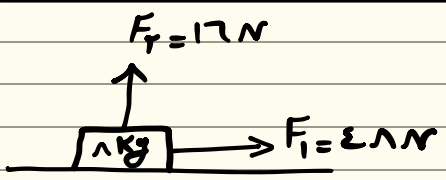


A $\rightarrow v - v_0 = at \Rightarrow v - 100 = 2 \times \frac{1}{2} - 18 \Rightarrow v = 8 \frac{m}{s}$ ۳-۸۳

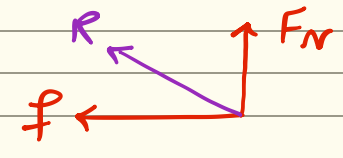
B $\Rightarrow 0 \rightarrow 3.5 \Rightarrow \Delta x = \frac{15 \times 3.5}{2} = 26.25 m$

$\Delta x = x - x_0 \Rightarrow 26.25 = x - 100 \rightarrow x_B = 126.25 m$

$x_B - x_A = 126.25 - (-178) = 304.25 m$



نیروی سطح $R = \sqrt{F_N^2 + f^2}$



۱- ثابت F_N و F_f اثر نداشته و تغییر آن باعث تغییر R می‌شود

۲- ثابت F_f و افزایش F_N باعث کاهش R می‌شود

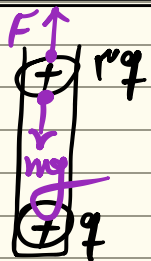
۳- ثابت F_f و نیروی پرتاب R در جهت مخالف نیروی سطح ندارد و نیرو در حال حرکت است.

افزایش تنش ← افزایش طول موج ← افزایش انرژی ← $T \rightarrow 0$

$$P = \frac{E}{t} = \frac{nhc}{\lambda} = \frac{nhc}{\lambda \cdot t} \Rightarrow \frac{10^2}{72 \times 10^{-3}} = n \cdot \frac{6.626 \times 10^{-34} \times 3 \times 10^8}{72 \times 10^{-3} \times 70}$$

$$\Rightarrow 36 \times 10^{-2} = 3 \times 10^{-27} n \Rightarrow n = 12 \times 10^{19} = 1.2 \times 10^{20}$$

$$\frac{\lambda_1}{\lambda_2} = \frac{\frac{1}{\lambda_2}}{\frac{1}{\lambda_1}} = \frac{\frac{1}{\lambda_{\min}}}{\frac{1}{\lambda_{\max}}} = \frac{\frac{1}{58} - \frac{1}{\infty}}{\frac{1}{58} - \frac{1}{42}} = \frac{\frac{1}{58}}{\frac{1}{58} - \frac{1}{42}} = \frac{42}{11}$$

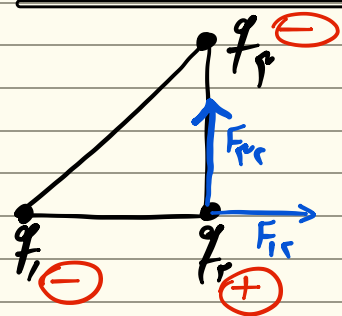


$$F = mg \Rightarrow \frac{k q_1 q_2}{r^2} = mg \Rightarrow \frac{9 \times 10^9 \times q^2}{r^2} = 10 \times 4.8 \times 10^{-3} \times 10^{-2}$$

$$k q^2 = 4.8 \times 10^{-4} \Rightarrow q^2 = 5.33 \times 10^{-5} \rightarrow q = 7.3 \times 10^{-3} \text{ C}$$

$$q = 8 \times 10^{-11} \text{ C} \Rightarrow q = n e \Rightarrow n = \frac{q}{e} = \frac{8 \times 10^{-11}}{1.6 \times 10^{-19}} = 5 \times 10^8$$

$$q = 9.158 \times 10^{-11}$$

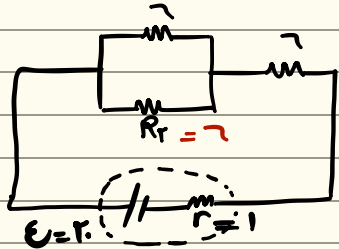


$$F_T = 1 \times 10^{-2} \hat{i} + 7 \times 10^{-2} \hat{j}$$

$$\frac{F_{T2}}{F_{T1}} = \frac{q_2}{q_1} \Rightarrow \frac{7 \times 10^{-2}}{1 \times 10^{-2}} = \frac{r}{\lambda} = \frac{r}{\lambda} \rightarrow -\frac{r}{\lambda}$$

$$R = \rho \frac{L}{A} \Rightarrow \frac{R_A}{R_B} = \frac{\rho_A}{\rho_B} \cdot \frac{L_A}{L_B} \cdot \frac{A_B}{A_A} \quad 1 = 1 \times 1 \cdot \boxed{\frac{A_B}{A_A}} \Rightarrow \frac{1}{r}$$

$$\Rightarrow \frac{m_A}{m_B} = \frac{\rho'_A}{\rho'_B} \cdot \frac{L_A}{L_B} \cdot \frac{A_B}{A_A} \quad \frac{m_A}{m_B} = 1 \times 1 \times \boxed{\frac{A_A}{A_B}} \Rightarrow 1 \times r = 1$$

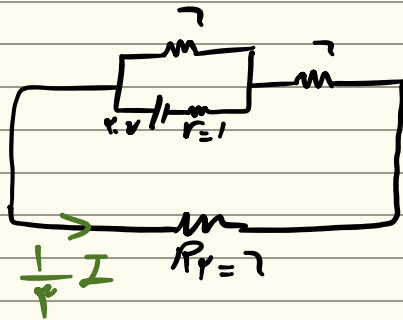


$$R_{eq} = R_{1,r} + R_T \Rightarrow 2 = R_{1,r} + 1 \Rightarrow R_{1,r} = 1\Omega$$

$$\frac{1 \cdot R_T}{1 + R_T} = 1 \Rightarrow 1 + 1 \cdot R_T = 1 \cdot R_T \Rightarrow 1 \cdot R_T = 1 \Rightarrow R_T = 1\Omega$$

$$I = \frac{\varepsilon}{R_{eq} + r} \Rightarrow I = \frac{1}{2 + 1} = \frac{1}{3} A$$

$$I_{R_T} = \frac{1}{3} A \Rightarrow P = R I^2 \Rightarrow P = 1 W$$



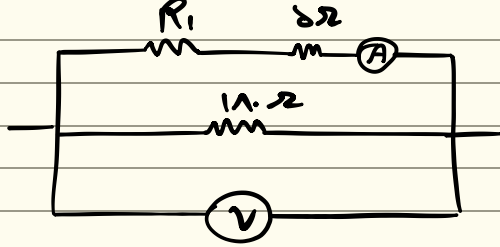
$$R_{eq} = \frac{1 \times 1}{1 + 1} = \frac{1}{2} \Omega$$

$$I = \frac{\varepsilon}{R + r} = \frac{1}{\frac{1}{2} + 1} = \frac{2}{3} A$$

$$I_{R_T} = \frac{1}{2} I = \frac{1}{3} A$$

$$P = R_T I_T^2 = 1 \times \left(\frac{1}{3}\right)^2 = \frac{1}{9} W$$

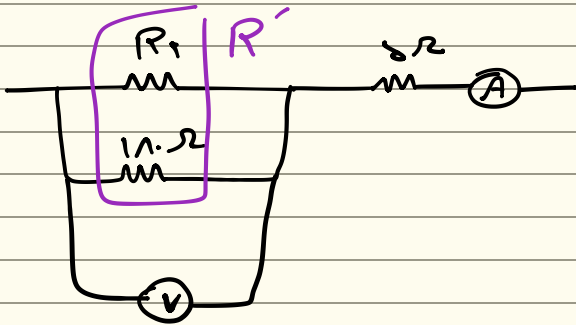
$$P - P_1 = \frac{1}{9} - 1 = -\frac{8}{9} W$$



$$R_1 + \delta = \frac{V}{I} \Rightarrow V = (R_1 + \delta)I$$

۳-۶۷

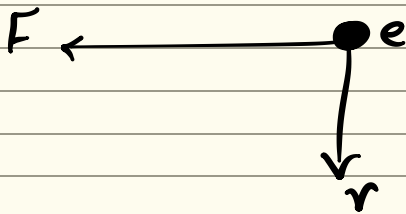
$$V = 1.7 R_1 + 1 \Rightarrow R_1 = 2 \Omega$$



$$V = R I \Rightarrow V \times 1 = R \times 1.7 \Rightarrow R = 9 \Omega$$

$$\frac{R_p \times 1}{R_p + 1} = 9 \Rightarrow 2R_p = R_c + 1$$

$$R_c = 1 \Omega$$

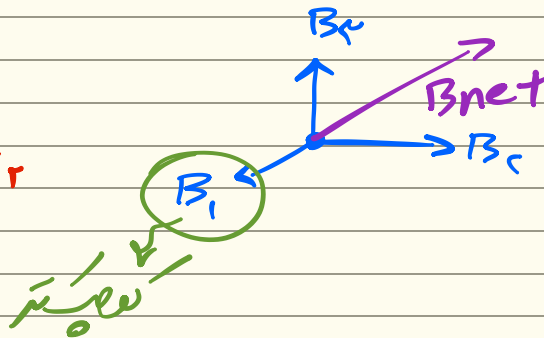
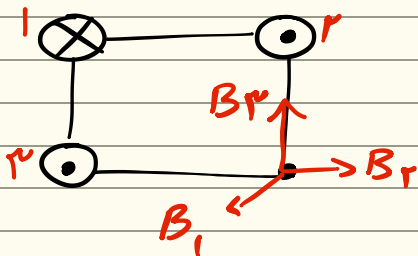


فاصله است، جهت است
و با افتادن
نسبت نیرو

۳-۶۸

رابطه - به این

B: $\otimes$ و $\odot$



۳-۶۹

$$I = \frac{\mathcal{E}}{R} = -\frac{N}{R} \frac{\Delta \Phi}{\Delta t} = -\frac{N}{R} \frac{\Delta B A \cos \theta}{\Delta t}$$

۳-۷۰

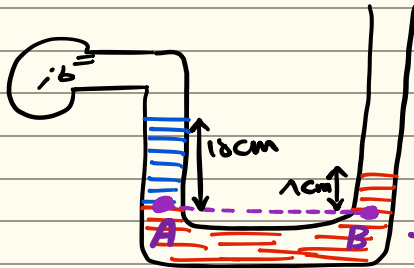
$$= \frac{1}{R} = \frac{0.5 \times 10^{-2} \times 0.5 \times 10^{-2}}{0.5 \times 10^{-2}} = 1.5 A$$

$$V = \frac{\epsilon}{\rho} \pi r^2 = \frac{\epsilon}{\rho} \pi (r_2^2 - r_1^2) = \frac{\epsilon}{\rho} \pi (b^2 - a^2)$$

$$= \frac{\epsilon}{\rho} \pi (1a^2 - a^2) = \frac{\epsilon}{\rho} \pi V a^2$$

$$\rho = \frac{m}{V} \Rightarrow m = \rho \cdot V \Rightarrow \epsilon \times 1. = \frac{\rho}{V} \times \frac{\epsilon}{\rho} V a^2$$

$$1. = 1. a^2 \Rightarrow a^2 = 1. \Rightarrow a = 1.$$



$$P_A = P_B$$

$$P_{ib} + P_1 = P_0 + P_2$$

$$P_{ib} = P_2 - P_1$$

$$= 18 \text{ cm} \times 1. \times \frac{1}{1.} - 1 \text{ cm} \times 1. \times \frac{1}{1.}$$

$$P_{ib} = 18 - 1 = 17 \text{ cm} = 17 \text{ cm H}_2\text{O}$$

$$h = \frac{-0.017}{1.} = -17 \text{ mm H}_2\text{O}$$

$$W_T = \Delta K = \frac{1}{2} m (v^2 - v_0^2) = \frac{1}{2} \times \epsilon \cdot (18^2 - 0^2)$$

$$= 1. (18^2) = 18^2 \text{ J} = 18^2 \text{ J}$$

$$E_1 = E_2 \Rightarrow K_1 + U_1 = K_2 + U_2$$

$$\frac{1}{2} m v_1^2 = \frac{1}{2} m v_2^2 + m g h_c$$

$$\frac{1}{2} \times \epsilon \cdot = \frac{1}{2} \times 18^2 + 1 \cdot h_c$$

$$18^2 = 18^2 + 1 \cdot h_c \Rightarrow h_c = 18 \text{ cm}$$

$$Q = P \cdot t \xrightarrow[\text{تفجير}]{\text{تفجير حاد}} mL_v = P \cdot t$$

١-٧٥

$$2 \times 2500 = 2 \dots \times t$$

$$t = 2500s = 41,67 \text{ min}$$

نوین کنکور

کنکور

امتحان نهایی

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

novinkonkor.com