

2025 届义乌适应性考试物理答案

1	2	3	4	5	6	7	8	9	10
C	B	A	C	B	D	C	D	C	D

11	12	13
BC	BD	BD

14-I

- (1) 电源错用直流电；小车未靠近打点计时器；细线未和长木板平行 (2分)  
 (2)  $2.3 \sim 2.4 \text{m/s}^2$  (1分)

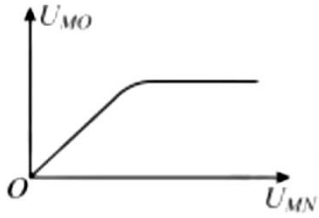
14-II

- (1) 甲 (1分)      1.06 (1分)  
 (2) 2.02 (1分)      9.87 (1分)

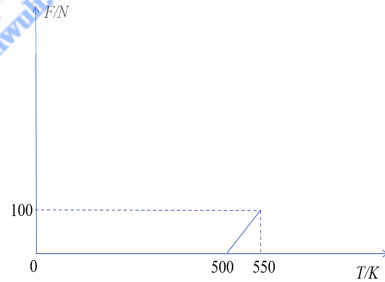
(3)  $x = \frac{gT^2 \sin 5^\circ}{4\pi^2} \cos\left(\frac{2\pi}{T}t\right)$  (2分)

(4) 14-III

- (1) a (1分)  
 (2) 串联  $20\text{k}\Omega$  电阻 (1分)  
 (3) P (1分)  
 (4)



(2分)



15. (1)

① 变大 变小 (2分)      ②  $\frac{l_0}{T_0} = \frac{l_1}{T_1}$ ,  $T_1 = 500\text{K}$  (2分)

(2) ①  $\frac{P_1}{T_1} = \frac{P_2}{T_2}$ ,  $P_2 = 1.1 \times 10^5 \text{Pa}$ ,  $P_0 S + F = P_2 S$ ,  $F = 100\text{N}$  (1分)

$$F = \begin{cases} 0, (0 < T \leq 500\text{K}) \\ 2T - 1000(\text{N}), (500\text{K} < T < 550\text{K}) \end{cases}$$

(1分)

②  $\Delta U = W + Q$ ,  $W = -P_0 S(l_1 - l_0) = -200\text{J}$  (1分)

$\Delta U = 170\text{J}$  (1分)

16. (1) ①  $v_D^2 - v_C^2 = -2\mu g x_{CD}, t = \frac{v_D - v_C}{-\mu g} = 1s$  (2分)

②  $v_C = \frac{2m_1 v_1}{m_1 + m_2} \rightarrow v_1 = 8m/s$  (1分)

$v_1^2 - v_{B1}^2 = -2\mu g x_{BC}, v_{B1} = \sqrt{70}m/s$  (1分)

$\Delta F_N = \frac{m_1 v_{B1}^2}{R} = 70N$  (1分)

(2)  $m_1 g h - \mu m_1 g x_{BC} = \frac{1}{2} m_1 v_2^2 - 0$  (1分)

$v_3 = \frac{(m_1 - m_2)v_2}{m_1 + m_2}$  (1分)

$-\mu m_1 g 2x_{BC} = 0 - \frac{1}{2} m_1 v_3^2$  (1分)

$h = 2.7m$  (1分)

(3)  $E_k = \frac{1}{2} m \sqrt{v_4^2 + \left(g \frac{L}{v_4}\right)^2}$  (1分)

当  $v_4 = g \frac{L}{v_4}, E_{kmin} = 30J$  (1分)

17. (1) 从 M 到 N (1分)

(2) ①  $R = r_0 \times 2\sqrt{3}x$  (1分)

$k \frac{I_0}{x} \cdot 2\sqrt{3}x \cdot v = I \cdot r_0 \cdot 2\sqrt{3}x$  (2分)

$v = \frac{I r_0 x}{k I_0}$  (1分)

②  $a = \frac{\Delta v}{\Delta t} = \frac{I r_0}{k I_0} \frac{\Delta x}{\Delta t} = \frac{I r_0}{k I_0} v = \left(\frac{I r_0}{k I_0}\right)^2 x$  (2分)

(3) ①  $v' = \frac{I r_0}{k I_0} \cdot \frac{\sqrt{3}}{6} L$

$F_A = BIL = k \frac{I_0}{x} \cdot I \cdot 2\sqrt{3}x = 2\sqrt{3}k I_0 I$  (1分)

$$Q_R = F_A \cdot \frac{\sqrt{3}}{6} L = kI_0 IL \quad (1 \text{ 分})$$

$$\textcircled{2} W_f = -\beta Q_R = -\beta kI_0 IL \quad (1 \text{ 分})$$

$$W_F - Q_R + W_f + mg \sin 30^\circ \cdot \frac{\sqrt{3}}{6} L = \frac{1}{2} mv^2 - 0 \quad (1 \text{ 分})$$

$$W_F = (1 + \beta) I_0 IL - \frac{\sqrt{3}}{12} mgL + \frac{1}{24} m \left( \frac{Ir_0 L}{kI_0} \right)^2 \quad (1 \text{ 分})$$

$$18. (1) E_k = h\nu - W \quad (1 \text{ 分}) \quad p_m = \sqrt{2m(h\nu - W)} \quad (1 \text{ 分})$$

$$(2) r_1 = a \quad (1 \text{ 分}) \quad r_1 = \frac{p_m}{eB_1} \quad (1 \text{ 分}) \quad B_1 = \frac{\sqrt{2m(h\nu - W)}}{ae} \quad (1 \text{ 分})$$

$$\left( \frac{1}{3} a \right)^2 + \left( \frac{5\sqrt{2}}{3} a - r_2 \right)^2 = r_2^2 \quad (1 \text{ 分, 几何关系图画对也给分})$$

$$r_2 = \frac{p_m}{eB_2} \quad B_2 = \frac{20\sqrt{m(h\nu - W)}}{17ae} \quad (1 \text{ 分})$$

$$\frac{20\sqrt{m(h\nu - W)}}{17ae} < B < \frac{\sqrt{2m(h\nu - W)}}{ae} \quad (1 \text{ 分})$$

(3)

$$\text{相切: } a^2 = x^2 + \left( \frac{2}{3} a \right)^2, x = \frac{\sqrt{5}}{3} a \quad (1 \text{ 分})$$

$$t = \begin{cases} \frac{am(2\pi - \arcsin \frac{\sqrt{5}}{3})}{\sqrt{2m(h\nu - W)}}, \left( \frac{\sqrt{2}}{3} a \leq x < \frac{\sqrt{5}}{3} a \right) \\ \frac{am(2\pi - 2 \arcsin \sqrt{\frac{a^2}{9} + x^2})}{2a \sqrt{2m(h\nu - W)}}, \left( \frac{\sqrt{5}}{3} a \leq x \leq \frac{2\sqrt{2}}{3} a \right) \end{cases} \quad (4 \text{ 分, 每段各两分})$$