مقدمه

این نمونه سوالات میتواند هم جهت اشنایی داوطلب مورد استفاده قرار گیرد و هم به عنوان آزمون تعیین سطح و یا سوالات شبیه سازی (برای تمرین بیشتر)

در صفحه اخر پاسخ کلیدی آورده شده است. لذا بهتر است داوطلب ابتدا سوالات را حل کند و سپس به کمک پاسخ کلیدی، سطح خود را سنجش کند.

این سوالات بسیار مشابه با آزمون فیزیک TOLC-F یا science TOLC-I طراحی شده است.(سوالات فیزیک در این دو آزمون خیلی از مواقع مشابه هستند)

طراح این سوالات اقای دکتر عماد میرابی است.

چنانچه ایراد و اشکالی در پاسخها میبینید، میتوانید از طریق راههای تماس آموزشگاه با ما مکاتبه کنید.

به جهت آمادگی داوطلبان، دوره آموزشی افلاین فیزیک TOLC آماده شده است که برای تهیه انها میتوانید از لینک زیر اقدام کنید.

https://mirabiedu.com/product-category/entrance-exams/tolc

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1. Two point charges q_1 , q_2 are at distance r with each other, $q_1 = 3q_2$. The electrostatic force $\overrightarrow{F_1}$, $\overrightarrow{F_2}$ act:

A) in opposite direction , with $F_1 = F_2$

B) in the same direction , with $F_1 = 3F_2$

C) in opposite direction , with $F_1 = 3F_2$

D) in the same direction , with $F_2 = 3F_1$

E) in opposite direction , with $F_2 = 3F_1$

2. In an adiabatic process, internal energy of the gas is increased by 2 J, then

A) 2 J of work has been done on the gas

B) the gas has expanded and has done 2 J of work

C) it is impossible to answer without knowing how much heat is exchanged

D) it is not possible to say exactly how much work is done, because we don't know if the process is reversible or irreversible.

E) it is possible that work exchanged exceed 2 J, based on amount of heat exchanged.

3. When compared with UV light, visible light has

A) smaller wavelength but same frequency

B) higher frequency and smaller wavelength

C) the same wavelength but lower frequency

D) lower frequency and larger wavelength

E) the same frequency but larger wavelength

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4. if $\vec{R} = \vec{A} + \vec{B}$, $R\ (magnitude\ of\ vector\ \vec{R}\ )$ is:

A) equal to $A + B$ if vectors $\vec{A}$, $\vec{B}$ are in the same direction

B) independent of direction of vectors $\vec{A}$, $\vec{B}$

C) larger than $A + B$

D) $|A - B|$ if $\vec{A}$, $\vec{B}$ are perpendicular to each other

E) always equal to $A + B$

5. Which choice is <u>incorrect</u> about Pascal? (SI unit of pressure)

A) $pascal = \frac{Newton}{m^2}$

B) $pascal = \frac{joule}{m^3}$

C) $pascal = Kg.m^{-1}s^{-2}$

D) $pascal = \frac{N.m}{Liter}$

E) $pascal = \frac{Watt \times second}{m^3}$

6. A locomotive with mass of 10 tons moving with speed of 5 m/s crashes on another locomotive of double mass that is moving in opposite direction on the same track. As a consequence of the collision, both locomotives stop. If we neglect the friction, what was the speed of the heavier locomotive?

A) 5 m/s

B) 2.5 m/s

C) 1.25 m/s

D) 10 m/s

E) two locomotives cannot stop at the same time, since this is incompatible with conservation of energy.

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7. Which choice is <u>not</u> a unit of energy?

A) Kilowatt hour

B) N.m

C) erg

D) N/m

E) Joule

8. A train goes from station A to station B at an average speed of 100 km/h. the distance between the two stations are 200 km. if the train moved at an average speed of 80 km/h , how much would it take longer for the train to arrive at station B?

A) 25 min

B) 30 min

C) 60 min

D) 15 min

E) 20 min

9. If we start from Mirabi Institute & go west 4 km, we'll reach Vanak square. Then if we move 3 km to the north, what is the distance & displacement in the whole movement?

A) distance = 7 km , displacement = 5 km

B) distance = 5 km , displacement = 7 km

C) distance = 7 km , displacement = 7 km

D) distance = 5 km , displacement = 5 km

E) distance = 7 km , displacement = 1 km

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10. A temperature of 50 °C (degree Celsius) is equivalent to

A) 112 °F

B) 373 K

C) 323 K

D) 10 °F

E) 82 °F

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

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