

Physics General Science Test Hard Mode

Sr	Questions	Answers Choice
1	How does the Young's modulus vary with the increase of temperature?	<p>A. Decrease</p> <p>B. Increase</p> <p>C. Remains constant</p> <p>D. First increases and then decreases</p>
2	Band spectrum is produced by	<p>A. H</p> <p>B. He</p> <p>C. H_{2}</p> <p>D. Na</p>
3	A cable breaks if stretched by more than 2 mm it is cut into two equal parts how much either part can be stretched without breaking?	<p>A. 0.25 m</p> <p>B. 0.5 m</p> <p>C. 1 mm</p> <p>D. 2 mm</p>
4	A body is dropped from a tower with zero velocity reaches ground in 4s. The height of the tower is about	<p>A. 80 m</p> <p>B. 20 m</p> <p>C. 160 m</p> <p>D. 40 m</p>
5	A body moving in circular motion with constant speed has	<p>A. Constant velocity</p> <p>B. Constant acceleration</p> <p>C. Constant kinetic energy</p> <p>D. Constant displacement</p>
6	The acceleration 'a' in m/s^2 of a particle is given by $a = 3t^2 + 2t + 2$, where 't' is the time if the particle starts out with a velocity $v = 2$ m/s at $t = 0$, then the velocity at the end of 2 second is	<p>A. 12 m/s</p> <p>B. 24 m/s</p> <p>C. 18 m/s</p> <p>D. 36 m/s</p>
7	Absolute temperature can be calculated by	<p>A. Mean square velocity</p> <p>B. Motion of the molecule</p> <p>C. Both (A) and (B)</p> <p>D. None of these</p>
8	In a capacitive circuit	<p>A. Current leads voltage by phase of $\pi/2$</p> <p>B. Voltage leads current by phase of $\pi/2$</p> <p>C. Current and voltage are in same phase</p> <p>D. Sometime current and sometime voltage leads</p>
9	The number of translation degrees of freedom for a diatomic gas is	<p>A. 2</p> <p>B. 3</p> <p>C. 5</p> <p>D. 6</p>
10	A particle is moving in a uniform magnetic field then	<p>A. Its momentum changes but total energy remains the same</p> <p>B. Both momentum and total energy remains the same</p> <p>C. Both changes</p> <p>D. Total energy change but momentum remains</p>
11	Velocity of sound in a diatomic gas is 300 m/sec what is its rms velocity	<p>A. 400 m/sec</p> <p>B. 40 m/sec</p> <p>C. 430 m/sec</p> <p>D. 300 m/sec</p>
12	A point charge Q is placed at the mid-point of a line joining two charges 4q and q. if the net force on charge q is zero. then Q must be equal to	<p>A. -q</p> <p>B. +q</p> <p>C. -2q</p> <p>D. +4q</p>
13	The twinkling of stars is due to	<p>A. The fact that stars do not emit light continuously</p> <p>B. The refractive index of the earth's atmosphere fluctuate</p> <p>C. Intermittent absorption of star light by its own atmosphere</p> <p>D. None of them</p>

14	The essential distinction between X-rays and y-rays is that	<p>A. y-rays have smaller wavelength than X-rays</p> <p>B. y-rays emanate from nucleus while X-rays emanate from outer part of the atom</p> <p>C. y-rays have greater ionizing power than X-rays</p> <p>D. y-rays are more penetrating than X-rays</p>
15	At a certain instant a stationary transverse wave is found to have maximum kinetic energy the appearance of string of that instant is:	<p>A. Sinusoidal shape with amplitude $A/3$</p> <p>B. Sinusoidal shape with amplitude $A/2$</p> <p>C. Sinusoidal shape with amplitude A</p> <p>D. Straight line</p>
16	Two masses of 1 g and 4 g are moving with equal kinetic energies The ratio of the magnitudes of their linear moments is:	<p>A. 4 : 1</p> <p>B. $\sqrt{2}$: 1</p> <p>C. 1 : 2</p> <p>D. 1 : 16</p>
17	Surface tension of water is due to	<p>A. Inter molecular attraction</p> <p>B. Intermolecular spaces</p> <p>C. Inter molecular repulsion</p> <p>D. None of above</p>
18	Two electric bulbs of 200 W and 100 W have same voltage. If R_1 and R_2 be their resistance respectively then	<p>A. $R_1 = 2R_2$</p> <p>B. $R_1 = 4R_2$</p> <p>C. $R_1 = R_2$</p> <p>D. $R_1 = 2R_2$</p>
19	An ideal choke (used along with fluorescent tube) would be	<p>A. A pure resistor</p> <p>B. A pure capacitor</p> <p>C. A pure inductor</p> <p>D. A combination of an inductor and a capacitor</p>
20	The velocity of a particle at an instant is 10 m/s and after 5 s the velocity of the particle is 20 m/s. The velocity 3s before in m/s is:	<p>A. 8</p> <p>B. 4</p> <p>C. 6</p> <p>D. 7</p>