

Physics General Science Test Hard Mode

Sr	Questions	Answers Choice
1	The number of translation degrees of freedom for a diatomic gas is	A. 2 B. 3 C. 5 D. 6
2	Bernoulli's equation is based upon law of conservation	A. Mass B. Momentum C. Energy D. None of these
3	In a simple harmonic motion the kinetic energy (KE) and the potential energy (PE), are such that throughout the motion	A. KE remains constant B. PE remains constant C. KE/PE is constant D. KE + PE remains constant
4	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:	A. 8 B. 4 C. 6 D. 7
5	If the period of oscillation of mass (M) suspended from a spring is 2s, then the period of mass 4M will be	A. 1 s B. 2 s C. 3 s D. 4 s
6	The minimum wavelength of the X-rays produced by electrons accelerated through a potential difference of V volts is directly proportional to	A. \sqrt{V} B. $V^{>2</sup>}$ C. $1/\sqrt{V}$ D. $1/V$
7	A charge Q is divided into two parts q and Q - q and separated by a distance R. the force of repulsion between them will be maximum when:	A. $q = Q/4$ B. $q = Q/2$ C. $q = Q$ D. None of these
8	The velocity v of a particle at time t is given by: $v = at + b / t + c$ The dimensional formula of a,b and c care respectively:	A. $L^{>2</sup>}$; T and $LT^{>2</sup>}$ B. $LT^{>2</sup>}$; LT and L C. $LT^{>2</sup>}$; $LT^{>2</sup>}$ and $LT^{>2</sup>}$ D. L;LT and $LT^{>2</sup>}$
9	A person standing near the track of a fast moving train has tendency to fall towards it because of	A. Vibration due to motion of train B. Gravitation force of attraction between person and trains C. The high speed of train D. Some other effect
10	Ultra-violet radiation of 6.2 eV falls on an aluminium surface K.E of fastest electrons emitted is(work function = 4.2 eV)	A. 3.2×10^{-21} J B. 3.2×10^{-19} J C. 7×10^{-25} J D. 9×10^{-32} J
11	How much water a pump of 2kW can raise in one minute to a height of 10 m. take $g = 10 \text{ m/s}^2$?	A. 1000 liters B. 1200 liters C. 100 liters D. 2000 liters
12	Who explained the origin of the Fraunhofer lines?	A. Fraunhofer B. Kirchhoff C. Fresnel D. Snell
13	A 220 V, 50 Hz, AC source is connected to an inductance of 0.2.H and a resistance of 20 ohm in series What is the current in the circuit?	A. 10 A B. 5 A C. 33.3 A D. 3.33 A
		A. Young's modulus

14	Which of the modulus of elasticity is involved in compressing a rod to decrease its length?	B. Bulk modulus C. Modulus of rigidity D. None of the above
15	Boyle's law is applicable in	A. Isochoric process B. Isothermal process C. Isobaric process D. Isotonic process
16	A photocell with a constant p.d of V volt across it illuminated by a point source from a distance of 25 cm. When the source is moved to a distance of 1 m, the electrons emitted by the photocell	A. Carry 1/4th their previous energy B. Are 1/6th as numerous as before C. Are 1/4th as numerous as before D. Carry 1/4th their previous momentum
17	The time period of a simple pendulum is 2 seconds if its length is increased by 4 times then its period becomes	A. 16 s B. 12 s C. 8 s D. 4 s
18	What remains constant when the earth revolves around the sun?	A. Angular momentum B. Linear momentum C. Angular kinetic energy D. Linear kinetic energy
19	Electrons in the atom are held in the atom due to	A. Coulomb forces B. Nuclear forces C. Gravitational forces D. Van der Waal's forces
20	The average power dissipation in a pure capacitor in AC circuit is	A. $\frac{1}{2} CV^2$ B. CV^2 C. $2CV^2$ D. Zero