

Physics General Science Test Hard Mode

Sr	Questions	Answers Choice
1	A piece of fuse wire melts when a current of 15 ampere flows through it. With this current, if it dissipates 22.5 W. the resistance of fuse wire will be	A. Zero B. $10\ \Omega$ C. $1\ \Omega$ D. $0.10\ \Omega$
2	The distance between node and anti-node is	A. λ B. $\lambda/2$ C. $\lambda/4$ D. 2λ
3	When the displacement is half of the amplitude the ratio of potential energy to the total energy is	A. $1/2$ B. $1/4$ C. 1 D. $1/8$
4	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?	A. 0.25 m B. 0.5 m C. 1 mm D. 2 mm
5	In a simple harmonic motion (SHM) which of the following does not hold?	A. The force on the particle is maximum at the ends B. The acceleration is minimum at the mean position C. The potential energy is maximum at the mean position D. The kinetic energy is maximum at the mean position.
6	When a Na ion and a Cl ion are placed in air a force F acts between them when they are separated by a distance of 1 cm from each other the permittivity of air and the dielectric constant of water are ϵ_0 and K respectively When a piece of salt is placed in water then the force between Na^+ and Cl^- ions separated by a distance of 1 cm will be	A. F B. $F/K\epsilon$ C. $F/K\epsilon^2$ D. F/K
7	Which quantity is increased in step-down transformer?	A. Current B. Voltage C. Power D. Frequency
8	A force of 10N is acting along y-axis its component along x-axis is	A. 10N B. 20N C. 100N D. Zero N
9	Which of the following four statements is false?	A. A body can have zero velocity and still be accelerated B. A body can have a constant velocity and still have a varying speed C. A body can have a constant speed and still have a varying velocity D. The direction of the velocity of a acceleration is constant
10	The twinkling of stars is due to	A. The fact that stars do not emit light continuously B. The refractive index of the earth's atmosphere fluctuate C. Intermittent absorption of star light by its own atmosphere D. None of them
11	The dimensional formula of torque is:	A. $[ML^2T^{-2}]$ B. $[ML^2T^{-1}]$ C. $[ML^2T^{-1}]$ D. $[ML^2T^{-2}]$

		U. $\frac{1}{\mu_0} \frac{4\pi}{r^2} [ML^{-2}I^2]$
12	Which of the following particle would experience the largest magnetic force when projected with the same velocity perpendicular to a magnetic field?	A. Proton B. Electron C. He ⁺⁺ D. Li ⁺
13	Two electric bulbs of 200 W and 100 W have same voltage. If R1 and R2 be their resistance respectively then	A. $R_1 = 2R_2$ B. $R_1 = R_2$ C. $R_1 = 4R_2$ D. $R_1 = \frac{1}{2}R_2$
14	A prism splits a beam of white light into its seven constituent colors this is so because	A. Phase of different colors is different B. Amplitude of different colors is different C. Energy of different colors is different D. Velocity of different colors is different
15	At 0° K which of the following properties of a gas will be zero?	A. Kinetic energy B. Potential energy C. Vibrational energy D. Density
16	The frequency of the incident light falling on a photosensitive metal plate is doubled the kinetic energy of the emitted photoelectrons is	A. Double the earlier value B. Unchanged C. More than doubled D. Less than doubled
17	The magnetic moment of a circular coil carrying current is	A. Directly proportional to the length of the wire in the coil B. Inversely proportional to the length of the wire in the coil C. Directly proportional to the square of the length of the wire in the coil D. Inversely proportional to the square of the length of the wire in the coil
18	A 2 kg body and a 3 kg body have equal momentum if the kinetic energy of 3 kg body is 10 J, the KE of 2 kg body will be	A. 6.66 J B. 15 J C. 22.5 J D. 45 J
19	Two point charges A and B separated by a distance R attract each other with a force of 12×10^{-3} N. The force between A and B when the charges on them are doubled and distance is halved	A. 1.92 N B. 19.2 N C. 12 N D. 0.192 N
20	One cannot see through fog because	A. Fog absorbs light B. The refractive index of fog is infinity C. Light suffers total reflection at the droplet in a fog D. Light is scattered by the droplets in fog