

Physics General Science Test Hard Mode

Sr	Questions	Answers Choice
1	In a capacitive circuit	A. Current leads voltage by phase of $\pi/2$ B. Voltage leads current by phase of $\pi/2$ C. Current and voltage are in same phase D. Sometime current and sometime voltage leads
2	Two point charge $+3\mu\text{C}$ and $+8\mu\text{C}$ repel each other with a force of 40 N. if a charge of $-5\mu\text{C}$ is added to each of them then the force between will become	A. -10N B. $+10\text{N}$ C. $+20\text{N}$ D. -20N
3	To make the frequency double of an oscillator we have to	A. Double the mass B. Half the mass C. Quadruple the mass D. Reduce the mass to one-fourth
4	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. $3.2 \times 10^{-21} \text{ J}$ B. $3.2 \times 10^{-19} \text{ J}$ C. $7 \times 10^{-25} \text{ J}$ D. $9 \times 10^{-32} \text{ J}$
5	The excess (equal in number) of electrons that must be placed on each of two small spheres spaced 3 cm apart. with force of repulsion between the spheres to be 10^{-19} N is	A. 25 B. 225 C. 625 D. 1250
6	Which one of the following phenomena is not explained by Huygen's construction of wavefront?	A. Refraction B. Reflection C. Diffraction D. Origin of spectra
7	Two bodies with masses M_A and M_B are moving with equal kinetic energy. Their linear momenta are numerically in a ratio $ P_A : P_B $ will be:	A. $\frac{M_B}{M_A}$ B. $\frac{M_A}{M_B}$ C. $\sqrt{\frac{M_B}{M_A}}$ D. $\frac{M_A}{M_B} \sqrt{2}$
8	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
9	A photoelectric cell converts	A. Electrical energy to light energy B. Light energy to light energy C. Light energy to electrical energy D. Light energy to elastic energy
10	A 50-volt battery is connected across 10-ohm resistor. The current is 4.5 A. The internal resistance of the battery is	A. Zero B. 0.5Ω C. 1.1Ω D. 5.0Ω

11	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	<p>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</p>
12	Planck's constant has the dimensions of:	<p>A. Energy B. Momentum C. Frequency D. Angular momentum</p>
13	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 B. 0.5 m C. 1 mm D. 2 mm</p>
14	Boyle's law is applicable in	<p>A. Isochoric process B. Isothermal process C. Isobaric process D. Isotonic process</p>
15	At 0° K which of the following properties of a gas will be zero?	<p>A. Kinetic energy B. Potential energy C. Vibrational enegy D. Density</p>
16	What is the ratio of r.m.s velocity for O ₂ to H ₂ ?	<p>A. 1/4 B. 4 C. $\sqrt{4} : 1$ D. $1 : \sqrt{4}$</p>
17	A particle is moving in a uniform magnetic field then	<p>A. Its momentum changes but total energy remains the same B. Both momentum and total energy remains the same C. Both changes D. Total energy change but momentum remains</p>
18	A voltmeter has resistance of 2000 ohms and it can measure up to 2V. If we want to increase its range to 10V then required resistance in series will be	<p>A. 2000Ω B. 4000Ω C. 6000Ω D. 8000Ω</p>
19	The magnetic moment of a circular coil carrying current is	<p>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</p>
20	Radio waves of constant amplitude can be generated with	<p>A. Rectifier B. Filter C. FET D. Oscillator</p>