Physics General Science Test Hard Mode

Sr	Questions	Answers Choice
1	Which one of the following is a simple harmonic motion?	A. Wave moving through a string fixed at both ends. B. Earth spinning about its own axis C. Ball bouncing between two rigid vertical walls D. Particle moving in a circle with uniform speed.
2	Two bodies with masses M_A and M_B are moving with equal kinetic energy.Their linear moments are numerically in a ratio $\|P_A\| : \|P_B\|$ will be:	A. M_B: M_A B. M_A: M_B C. √M_A : √M_B D. M_A²: M_B²
3	The smooth or steady stream-line flow is know as	A. Laminar flow B. Turbulent flow C. Both a and b D. None of the above
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 x 10-21 J B. 3.2 x 10-19 J C. 7 x 10-25 J D. 9 x 10-32 J
5	An ideal choke (used along with fluorescent tube) would be	A. A pure resistor B. A pure capacitor C. A pure inductor D. A combination of an inductor and a capacitor
6	The volt/metre is the unit of:	A. Potential B. Work C. Force D. Electric field intensity
7	A p-n junction has a thickness of the order of	A. 1 cm B. 1 mm C. 10⁻⁶ cm D. 10⁻¹² cm
8	Choose the correct statement	A. Both an ammeter and voltmeter should have small resistance B. Both an ammeter and a voltmeter should have large resistance C. An ammeter should have large resistance and a voltmeter should have small resistance D. An ammeter should have small resistance and a voltmeter should have large resistance
9	If the dot product of two non-zero vectors vanishes the vectors will be	A. In the same direction B. Opposite to each other C. Perpendicular to each other D. Zero

10	The fundamental unit which has same power in the dimensional formula of surface tension and viscosity is:	A. Mass B. Length C. Time D. None
11	The nucleus 6C12 absorbs an energetic neutron and emits a beta particle (β) The resulting nucleus is	A. ₇N¹⁴ B. ₅B¹³ C. ₇N¹³ D. ₆N¹³
12	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. FK/ε₀ C. F/Kε₀ D. F/K
13	The distance between node and anti-node is	A. λ B. λ/2 C. λ/4 D. 2λ
14	Two point charges placed at distance of 20 cm in air repel each other with a certain force.When a dielectric slab of thickness 8 cm and dielectric constant K is introduced between these point charges force of interaction becomes half of its previous value Then K is approximately.	A. 2 B. 4 C. √2 D. 1
15	In LCR series AC circuit the phase angle between current and voltage is	A. Any angle between 0 and ±π/2 B. π/2 C. π D. Any angle between 0 and π/2
16	With the propagation of a longitudinal wave through a material medium the quantities transmitted in the propagation direction are	A. Energy momentum and mass B. Energy C. Energy and mass D. Energy and linear momentum
17	As the electron in Bohr orbit of hydrogen atom passes from stat n = 2 to n = 1 the kinetic energy K and potential energy U change as	A. K two-fold,U also two-fold B. K four-fold,U also four-fold C. K four-fold,U two-fold
18	The velocity of falling raindrops attains limited value because of	A. Up thrust of air B. Vlscous force exerted by air C. Surface tension effect D. Air currents atmosphere
19	For obtaining appreciable extension the wire should be	A. Short and thin B. Long and thin C. Short and tick D. Long and thick
20	In a common base transistor circuit the current gain is 0.98.On changing the emitter current by 5.00 mA, the change in collector current is:	A. 0.196 mA B. 2.45 mA C. 4.9 mA D. 5.1 mA