Physics General Science Test Hard Mode

Sr	Questions	Answers Choice
1	Absolute temperature can be calculated by	A. Mean square velocity B. Motion of the molecule C. Both (A) and (B) D. None of these
2	In which case application of angular velocity is useful?	A. When a body is rotating B. When velocity of body is in a straight line C. When velocity is in a straight line D. None of these
3	The angle between rectangular components of a vector is	A. 0° B. 60° C. 90° D. 120°
4	The half life of a radio-isotope is 5 years The fraction of atoms decayed in this substance after 15 years will be	A. 1 B. 3/4 C. 7/8 D. 5/8
5	Two forces of 10N and 15N are acting simultaneously on an object in the same direction. Their resultant is	A. Zero B. 5N C. 25N D. 150N
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	A. 12 m/s B. 24 m/s C. 18 m/s D. 36 m/s
7	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. L² ; T and LT² B. LT² ; LT and L C. LT⁻²; L and T D. L;LT and T⁻²
8	The essential distinction between X-rays and y-rays is that	A. y-rays have smaller wavelength than X-rays B. y-rays emanate from nucleus while X-rays emanate from outer part of the atom C. y-rays have greater ionizing power than X-rays D. y-rays are more penetrating than X-rays
9	The sum of the magnitude of two forces acting at a point is 18 and the magnitude of their resultant is 12. If the resultant is at 90° with the force of the smaller magnitude then their magnitude are:	A. 3, 15 B. 4, 14 C. 5, 13 D. 6, 12
10	To make the frequency double of na oscillator we have to	A. Double the mass B. Half the mass C. Quadruple the mass D. Reduce the mass to one-fourth
11	Which quantity is increased in step-down transformer?	A. Current B. Voltage C. Power D. Frequency
12	The primary winding of transformer has 500 turns whereas its secondary has 5000 turns The primary is connected to an a.c supply of 20 V, 50 Hz The secondary will have an output of	A. 200 V, 50 Hz B. 2 V, 50 Hz C. 200 V, 500 Hz
13	The direction of induced current is such that it opposes the very cause that has produced it	A. Lenz B. Faraday

	This is the law of	C. Kirchoff D. Fleming
14	In an AC circuit a resistance of R ohm i connected in series with an inductance L if phase angle between voltage and current be 45^{o} the value of inductive reactance will be	A. R/4 B. R/2 C. R
15	Radio waves of constant amplitude can be generated with	A. Rectifier B. Filter C. FET D. Oscillator
16	Velocity of sound in a diatomic as is 300 m/sec what is its rms velocity	A. 400 m/sec B. 40 m/sec C. 430 m/sec D. 300 m/sec
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	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
19	With the increase of temperature viscosity	A. Increase B. Decrease C. Remains same D. Doubles
20	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