Physics General Science Test Hard Mode

Sr	Questions	Answers Choice
1	When n-type of semiconductor is heated	A. Number of electrons increases while that of holes decreases B. Number of holes increases while that of electrons decreases C. Number of electrons and holes remains same D. Number of electrons and holes increases equally
2	A person standing on a rotating platform has his hands lowered He suddenly outstretches his arms.The angular momentum	A. Becomes zero B. Increases C. Decreases D. Remains the same
3	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
4	A man pushes a wall but fails to displace it. He does:	A. Negative work B. Maximum positive work C. Positive work but not maximum D. No work
5	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
6	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
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	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
9	Angular momentum is	A. Vector (axial) B. Vector (polar) C. Scalar D. None of these
10	Two masses of 1 g and 4 g are moving with equal kinetic energies The ratio of the magnitudes of their linear moments is:	A. 4 : 1 B. √2 : 1 C. 1 : 2 D. 1 : 16
11	The sieman is the SI unit of	A. Resistance B. Specific Resistance C. Conductance D. Inductance
		A. M_B: M_A B. M_A: <span

12	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:	style= font-size: 14.44444465637207px;">M _B C. √M _A : √M _B D. M _A² : M _B²
13	What is the ratio of r.m.s velocity for O_2 to H_2?	A. 1/4 B. 4 C. √4 : 1 D. 1 : √4
14	What will be the duration of the day and night (in hour) if the diameter of the earth is suddenly reduced to half its original value the mass remaining constant?	A. 12 B. 6 C. 3 D. 2
15	Mechanical waves on the surface of a liquid are	A. Transverse B. Longitudinal C. Torsional D. Both transverse and longitudinal
16	The mass defect for the nucleus of helium is 0.0303 a.m.u What is the binding energy per nucleon for helium in MeV?	A. 28 B. 7 C. 4 D. 1
17	A train of 150 m length is going towards north direction at a speed of 10 ms^{-1} A parrot flies at a speed of 5 ms^{-1} towards south direction parallel to the railway track,The time taken by the parrot to cross the train is equal to	A. 12 s B. 8 s C. 15 s D. 10 s
18	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
19	The terminal velocity of a small size spherical body of radius R moving in a fluid varies as	A. R B. R² C. 1/R D. (1/R)²
20	Which of the following is a scalar quantity	A. Density B. Displacement C. Torque D. Weight