Physics General Science Test Hard Mode

Sr	Questions	Answers Choice
1	If the period of oscillation of mass (M) suspended from a spring is 2s, then the period of mass 4M will be	A. 1 s B. 2 s C. 3 s D. 4 s
2	The time period of a simple pendulum is 2 seconds if its length is increased by 4 times then its period becomes	A. 16 s B. 12 s C. 8 s D. 4 s
3	Blood has a density	A. Equal to water B. Greater then water C. Lesser then water D. None of these
4	The de broglie wave corresponding to a particle of mass m and velocity v has a wavelength associated with it	A. h/mv B. hm v C. mh/v D. m/hv
5	A person standing near the track of a fast moving train has tendency to fall towards it because of	A. Vibration due to motion of train B. Gravitation force of attraction between person and trains C. The high speed of train D. Some other effect
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. FK/ε₀ C. F/Kε₀ D. F/K
7	Who explained the origin of the Fraunhofer lines?	A. Fraunhoffer B. Kirchhoff C. Fresnel D. Snell
8	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
9	A couple produces	A. Purely linear motion B. Purely rotational motion C. Linear and rotational motion D. No motion
10	The modulus of rigidity of a liquid is	A. Zero B. 1 C. Infinity D. A value not one of those mentioned above
11	At a certain instant a stationary transverse wave is found to have maximum kinetic energy the appearance of string of that instant is:	A. Sinusoidal shape with amplitude A/3 B. Sinusoidal shape with amplitude A/2 C. Sinusoidal shape with amplitude A D. Straight line
12	The temperature at which the speed of sound becomes double as was at 27°C is	A. 273°C B. 0°C C. 927°C D. 1027°C
13	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
14	Mechanical waves on the surface of a liquid are	A. Transverse B. Longitudinal C. Torsional D. Both transverse and longitudinal
		A. Increase at the equator but remain unchanged at the poles B. Decrease at the equator but remain

15	If the earth were to rotate faster than its present speed the weight of an object will	unchanged at the poles C. Remain unchanged at the decrease but decrease at the poles D. Remain unchanged at the equator but increase at the poles
16	The dimensional formula of toque is:	A. [ML²T²] B. [ML T ²] C. [ML ⁻¹T ⁻²] D. [ML ⁻²T ⁻²]
17	Ball pen function on the principle of	A. Viscosity B. Boyle's law C. Gravitational force D. Surface tension
18	Radio waves of constant amplitude can be generated with	A. Rectifier B. Filter C. FET D. Oscillator
19	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
20	At constant volume temperature is increased then	A. Collision on walls will be less B. Number of collisions per unit time will increase C. Collisions will be in straight lines D. Collisions will not change