

## Physics General Science Test Hard Mode

Sr	Questions	Answers Choice
1	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
2	Which of the modulus of elasticity is involved in compressing a rod to decrease its length?	A. Young's modulus B. Bulk modulus C. Modulus of rigidity D. None of the above
3	When a hydrogen atom is bombarded the atom is excited to the $n = 4$ state of hydrogen atom. The energy released when the atom falls from $n = 4$ state to the ground state is	A. 1.275 eV B. 12.75 eV C. 5 eV D. 8 eV
4	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
5	Huygen's wave theory of light cannot explain	A. Diffraction B. Interference C. Polarization D. Photoelectric effect
6	For production of beats the two sources must have	A. Different frequencies and same amplitude B. Different frequencies C. Different frequencies same amplitude and same phase D. Different frequencies and same phase.
7	In an AC circuit a resistance of $R$ ohm is connected in series with an inductance $L$ if phase angle between voltage and current be $45^\circ$ the value of inductive reactance will be	A. $R/4$ B. $R/2$ C. $R$
8	Surface tension of water is due to	A. Inter molecular attraction B. Intermolecular spaces C. Inter molecular repulsion D. None of above
9	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?	A. 0.25 m B. 0.5 m C. 1 mm D. 2 mm
10	The velocity of falling raindrops attains limited value because of	A. Up thrust of air B. Viscous force exerted by air C. Surface tension effect D. Air currents atmosphere
11	Two points charges A and B separated by a distance $R$ attract each other with a force of $12 \times 10^{-3}$ N. The force between A and B when the charges on them are doubled and distance is halved	A. 1.92 N B. 19.2 N C. 12 N D. 0.192 N
12	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
13	The part of a transistor which is heavily doped to produce large number of majority carriers is	A. Emitter B. Base C. Collector D. Any of the above depending on nature of transistor.
14	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
		A. Velocity B. Acceleration

15	When sound waves travel from air to water which of these remains constant?	<b>B. Frequency</b> C. Wavelength D. All the above
16	The direction of induced current is such that it opposes the very cause that has produced it This is the law of	<b>A. Lenz</b> B. Faraday C. Kirchoff D. Fleming
17	According to Stoke's law drag force depends on	<b>A. Initial velocity</b> B. Final velocity C. Terminal velocity <b>D. Instantaneous velocity</b>
18	When n-type of semiconductor is heated	<b>A. Number of electrons increases while that of holes decreases</b> B. Number of holes increases while that of electrons decreases C. Number of electrons and holes remains same <b>D. Number of electrons and holes increases equally</b>
19	The number of translation degrees of freedom for a diatomic gas is	<b>A. 2</b> <b>B. 3</b> C. 5 D. 6
20	At constant volume temperature is increased then	<b>A. Collision on walls will be less</b> <b>B. Number of collisions per unit time will increase</b> C. Collisions will be in straight lines D. Collisions will not change