NAT II Physical Science Physics

Sr	Questions	Answers Choice
1	The number of translation degrees of freedom for a diatomic gas is	A. 2 B. 3 C. 5 D. 6
2	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
3	A lens behaves as a converging lens in air and a diverging lens in water. The refractive index of the material is	A. Equal to unity B. Equal to 1.33 C. Between unity and 1.33 D. Greater than 1.33
4	A couple produces	A. Purely linear motion B. Purely rotational motion C. Linear and rotational motion D. No motion
5	The force between two charges 0.06 m apart is 5 N. If each charge is moved towards the other by 0.01 m, then the force between them will become	A. 7.20 N B. 11.25 N C. 22.50 N D. 45.00
6	The unit of electric current 'ampere' is the amount of current flowing through each of two parallel wires 1 m apart and of infinite length will give rise to a force between them equal to	A. 1 N/m B. 2 x 10⁻⁷N/m C. 1 x 10⁻²N/m D. 4 x 10²N/m
7	A particle moves along a circular path under the action of a force. The work done by the force is	A. Zero B. Positive and non-zero C. Negative and non zero D. None of the above
8	An object is placed at a distance of f/2 from a convex lens. The image will be	A. At one of the foci, virtual and double its size B. At, 3f/2, real and inverted C. At 2f, virtual and erect D. At f, real and inverted
9	Energy is stored in the choke coil in the form of	A. Heat B. Magnetic energy C. Electric energy D. Electro-magnetic energy
10	The peak voltage in 220 volt A.C. supply is nearly	A. 220 volt B. 253 volt C. 311 volt D. 440 volt
11	With the increase of temperature viscosity	A. Increase B. Decrease C. Remains same D. Doubles
12	A body moves a distance of 10 m along a straight line under the action of a force of 5 Newton's. If the work done is 25 joules, the angle which the force takes with the direction of motion of the body is:	A. 0° B. 30° C. 60° D. 90°
13	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

14	Which one of the following phenomena is not explained by Hugen's construction of wavefront?	A. Refraction B. Reflection C. Diffraction D. Origin of sepectra
15	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 electron decreases C. Number of electrons and holes remains same D. Number of electrons and holes increases equally
16	If a diamagnetic substance is brought near north or south pole of a bar magnet it is	A. Attracted by the poles B. Repelled by the poles C. Repelled by north pole and attracted by the south pole D. Attracted by the north pole and repelled by the south pole
17	A photocell with a constant p.d. of V volt across it illuminated by a point source from a distance of 25 cm. When the source is moved to a distance of 1m, the electrons emitted by the photocell	A. Carry 1/4th their previous energy B. Are 1/16th as numerous as before C. Are 1/4th as numerous as before D. Carry 1/4th their previous momentum
18	The nuclear model of atom was proposed by	A. J.J Thomson B. E. Rutherford C. Neil Bohr D. Summerfield
19	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. 200V, 50 Hz B. 2V, 50 Hz C. 200V, 500 Hz D. 2V, 5 Hz
20	The frequency of the incident light falling on a photosensitive metal plate is doubled, the kinetic energy of the emitted photoelectrons is	A. Double the earlier value B. Unchanged C. More than doubled D. Less than doubled