NAT II Physical Science Physics

Sr	Questions	Answers Choice
1	In Which case does the potential energy decreases?	A. On compressing a spring B. On stretching a spring C. One moving a body against gravitational force D. One the rising of an air bubble in water
2	In an A.C. circuit, a resistance of R ohm is connected in series with an inductance L. If phase angle between voltage and current be 45°, the value of inductive reactance will be	A. R/4 B. R/2 C. R D. Cannot be found with the given data
3	The dimensional formula for the modulus of elasticity is same as that for:	A. Stress B. Strain C. Velocity D. Surface tension
4	When light wavelength 300 nm (nanometer) falls on a photoelectric emitter, photoelectrons are liberated. For another emitter, however, light of 600 nm wavelength is sufficient for creating photoemission. What is the ratio of the work functions of the two emitters?	A. 1 : 2 B. 2 : 1 C. 4 : 1 D. 1 : 4
5	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
6	A body of mass 2 kg is thrown up vertically with K.E. of 490 joules. If the acceleration due to gravity is 9.8 m/s^2, the height at which the K.E, of the body becomes half its original value is given by:	A. 50 m B. 12.5 m C. 25 m D. 10 m
7	A 50-volt battery is connected across 10-ohm resistor. The current is 4.5 A. The internal resistance of the battery is	A. Zero B. 0.5 ohm C. 1.1 ohm D. 5.0 ohm
8	To make the frequency double of an oscillator, we have to	A. Double the mass B. Half the mass C. Quadruple the mass D. Reduce the mass to one fourth
9	A charge Q is divided into two parts q and Q - q and separated by a distance R. The force of repulsion between them will be maximum when:	A. q = Q/4 B. q = Q/2 C. q = Q D. None of these
10	The conductivity of a superconductor is	A. Infinite B. Very large C. Very small D. Zero
11	One cannot see fog because	A. Fog absorbs light B. The refractive index of fog is infinity C. Light suffers total reflection at the droplet in a fog D. Light is scattered by the droplet in fog
12	At 0°K which of the following properties of a gas will be zero?	A. Kinetic energy B. Potential energy C. Vibrational energy D. Density
13	Choose the correct statement	A. Both an ammeter and voltmeter should have small resistance B. Both an ammeter and a voltmeter should have large resistance C. An ammeter should have large resistance and a voltmeter should have small resistance D. An ammeter should have small resistance and a voltmeter should

		resistance and a voltmeter should have large resistance
14	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
15	The mass of a proton is 1847 times that of an electron. An electron and a proton are projected into a uniform electric field in a direction at right angles to the direction of the field with the same initial kinetic energy.The	A. Both the trajectories will be equally curved B. The proton trajectory will be less curved than the electron trajectory C. The electron trajectory will be less curved than the proton trajectory D. The relative curving of the trajectories will be dependent on the value of the initial kinetic energy
16	Angular momentum is	A. Vector (axial) B. Vector (polar) C. Scalar D. None of these
17	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
18	There are discrete energy levels in atoms. It was first experimentally demonstrated by	A. Rutherford's experiment B. Franck Hertz experiment C. Marsden's experiment D. Somerfield experiment
19	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
20	In which of the following states does the incandescent substance give continuous spectrum?	A. Vapours in atomic state B. Vapours in molecular state C. Solid or fluid in bulk state D. Solid or fluid in plasma state