NAT II Physical Science Physics

Sr	Questions	Answers Choice
1	The excess (equal in number) of electrons that must be placed on each of two small spheres spaced 3 cm apart, with force of repulsion between the spheres to be 10^{-19}N, is	A. 25 B. 225 C. 625 D. 1250
2	The velocity of a particle at an instant is 10 m/s and after 5s the velocity of the particle is 20 m/s. The velocity 3s before in m/s is:	A. 8 B. 4 C. 6 D. 7
3	The percentage errors in the measurements of mass and speed are 2% and 3% respectively. How much will be the maximum error in the estimate of the kinetic energy obtained by measuring mass and speed	A. 11% B. 8% C. 5% D. 1%
4	If 2.2 kilowatt power is transmitted through a 10 ohm line at 22000 volt, the power loss in the form of heat will be	A. 0.1 watt B. 1 watt C. 10 watt D. 100 watt
5	Copper and germanium are cooled to 70K from room temperature, then	A. Resistance of copper increases while that of germanium decreases B. Resistance of copper decreases while that of germanium increases C. Resistance of both decreases D. Resistance of both increases
6	When the length of a microscope tube increase, its magnifying power	A. Decreases B. Increases C. Does not Change D. May increase or decrease depending on the observer and the place of observation
7	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
8	In a voltmeter the conduction takes place due to	A. Electrons only B. Holes only C. Electrons and holes D. Electrons and ions
9	A piece of fuse wire melts when a current of 15 ampere flows through it. With this current, if it dissipates 22.5 W, the resistance of fuse wire will be	A. Zero B. 10 ohm C. 1 ohm D. 0.10 ohm
10	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
11	In a common base transistor circuit, the current gain is 0.98. On changing the emitter current by 5.00 mA, the change in collector current is	A. 0.916 mA B. 2.45 mA C. 4.9 mA D. 5.1 mA
12	Surface tension of water is due to	A. Inter molecular attractions B. Intermolecular spaces C. Inter molecular repulsion D. None of above
13	Two forces are acting together on an object. The magnitude of their resultant is minimum when the angle between the force is	A. 0° B. 60° C. 120° D. 180<b style="color: rgb(34, 34,

		34); font-family: arial, sans-serif; font-size: 16px;">°
14	The sum of the magnitude of two forces acting at a point is 18 and the magnitude of their resultant is 12. If the resultant is at 90°with the force of the smaller magnitude, then their magnitudes are:	A. 3, 15 B. 4, 14 C. 5, 13 D. 6, 12
15	The motion without consideration of its cause is studied in	A. Kinematics B. Mechanics C. Statics D. Modern Physics
16	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
17	Which of the following four statement is false?	A. A body can have zero velocity and still be accelerated B. A body can have a constant velocity and still have a varying speed C. A body can have a constant speed and still have a varying velocity D. The direction of the velocity of a body can change when its acceleration is constant
18	The essential distinction between X-rays andγ-rays is that	A. γ-rays have smaller wavelength than X-rays B. γ-rays emanate from nucleus while X-rays emanate from outer part of the atom C. γ-rays have greater ionizing power than X-rays D. γ-rays are more penetrating than X-rays
19	A wire is stretched to double of its length. The strain is	A. 2 B. 1 C. zero D. 0.5
20	The fundamental unit which has same power in the dimensional formula of surface tension and viscosity is:	A. Mass B. Length C. Time D. None