

NAT I Engineering Physics

Sr	Questions	Answers Choice
1	The part of a transistor which is heavily doped to produce large number of majority carriers is	<p>A. Emitter</p> <p>B. Base</p> <p>C. Collector</p> <p>D. Any of the above depending on nature of transistor.</p>
2	The volt/metre is the unit of:	<p>A. Potential</p> <p>B. Work</p> <p>C. Force</p> <p>D. Electric field intensity</p>
3	The time period of a simple pendulum is 2 seconds if its length is increased by 4 times then its period becomes	<p>A. 16 s</p> <p>B. 12 s</p> <p>C. 8 s</p> <p>D. 4 s</p>
4	To get a resultant displacement of 10 m, two displacement vectors of magnitude 6 m and 8 m should be combined	<p>A. Parallel</p> <p>B. Antiparallel</p> <p>C. At angle 60°</p> <p>D. Perpendicular to each other</p>
5	In which of the following states does the incandescent substance give continuous spectrum?	<p>A. Vapours in atomic state</p> <p>B. Vapours in molecular state</p> <p>C. Solid or fluid in bulk state</p> <p>D. Solid or fluid in plasma state</p>
6	The angle between rectangular components of a vector is	<p>A. 0°</p> <p>B. 60°</p> <p>C. 90°</p> <p>D. 120°</p>
7	Electrons in the atom are held in the atom due to	<p>A. Coulomb forces</p> <p>B. Nuclear forces</p> <p>C. Gravitational forces</p> <p>D. Van der Waal's forces</p>
8	The magnetic moment of a circular coil carrying current is	<p>A. Directly proportional to the length of the wire in the coil</p> <p>B. Inversely proportional to the length of the wire in the coil</p> <p>C. Directly proportional to the square of the length of the wire in the coil</p> <p>D. Inversely proportional to the square of the length of the wire in the coil</p>
9	Shunt required in an ammeter of resistance R to decrease its deflection from 30 ampere to 10 ampere is	<p>A. R/4</p> <p>B. R/3</p> <p>C. R/2</p> <p>D. R</p>
10	If in a moving coil galvanometer a current 1 produces a deflection θ then	<p>A. $i \propto \tan \theta$</p> <p>B. $i \propto \theta^2$</p> <p>C. $i \propto \theta$</p> <p>D. $i \propto \sqrt{\theta}$</p>
11	Two point charge +3 μ C and +8 μ C repel each other with a force of 40 N. if a charge of -5 μ C is added to each of them then the force between will become	<p>A. -10N</p> <p>B. +10N</p> <p>C. +20N</p> <p>D. -20N</p>
12	The initial velocity of a body moving along a straight line in 7 m/s. It has a uniform acceleration of 4 m/s ² . The distance covered by the body in the 5th second of its motion is	<p>A. 25 m</p> <p>B. 35 m</p> <p>C. 50 m</p> <p>D. 85 m</p>
13	A body is dropped from a tower with zero velocity reaches ground in 4s. The height of the tower is about	<p>A. 80 m</p> <p>B. 20 m</p> <p>C. 160 m</p> <p>D. 40 m</p>
14	The direction of induced current is such that it opposes the very cause that has produced it This is the law of	<p>A. Lenz</p> <p>B. Faraday</p> <p>C. Kirchoff</p>

D. Fleming

15	The essential distinction between X-rays and y-rays is that	A. y-rays have smaller wavelength than X-rays B. y-rays emanate from nucleus while X-rays emanate from outer part of the atom C. y-rays have greater ionizing power than X-rays D. y-rays are more penetrating than X-rays
16	The velocity of a particle at an instant is 10 m/s and after 5 s 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
17	A voltmeter has resistance of 2000 ohms and it can measure up to 2V. If we want to increase its range to 10V then required resistance in series will be	A. 2000Ω B. 4000Ω C. 6000Ω D. 8000Ω
18	As the electron in Bohr orbit of hydrogen atom passes from state $n = 2$ to $n = 1$ the kinetic energy K and potential energy U change as	A. K two-fold, U also two-fold B. K four-fold, U also four-fold C. K four-fold, U two-fold
19	A photoelectric cell converts	A. Electrical energy to light energy B. Light energy to light energy C. Light energy to electrical energy D. Light energy to elastic energy
20	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