

ECAT Pre General Science Physics Chapter 12 Electrostatics

Sr	Questions	Answers Choice
1	One coulomb of charge is created by	A. 10 electrons B. 1.6×10^{-19} electrons C. 6.25×10^{18} electrons D. 6.25×10^{21} electrons
2	An alpha particle is accelerated through a potential difference of 10^6 volt. Its kinetic energy will be	A. 1 MeV B. 2 MeV C. 4 MeV D. 8 MeV
3	The dot product of electric field intensity E and vector area A is called	A. Electric potential B. Electric flux C. Electric field D. Magnetic field
4	A proton is about 1840 times heavier than an electron. When it is accelerated by a potential difference of 1 KV, its kinetic energy will be	A. 1840 KeV B. 1/1840 KeV C. 1 KeV D. 920 KeV
5	Ohm's law states that	A. The current through a resistor is directly proportional to the applied voltage B. The voltage across a resistor is directly proportional to the current passing through it C. Resistance is the constant of proportionality between the voltage and current D. all of these
6	Heating effect caused by an electric circuit is written	A. $H = I^2 R t$ B. $H = I^2 R$ C. $H = I R^2 t$ D. $H = I R^2$
7	The relation between charge 'Q' and current 'I' is given by	A. $Q = I/t$ B. $Q = I t$ C. $Q = I^2 t$ D. $Q = I^2/t$
8	A cube of metal is given a positive charge Q. For the above system, which of the following statements is true?	A. Electric potential at the surface of the cube is zero B. Electric potential within the cube is zero C. Electric field is normal to the surface of the cube D. Electric field varies within the cube
9	The charge per unit time through any cross-section of a conductor is called	A. capacitance B. electric power C. current D. potential difference
10	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
11	Battery is charged in motor cars, which is based on	A. Chemical effect B. Magnetic effect C. Electric effect D. None
12	The capacity of a parallel plate capacitor depends on the	A. Type of metal used B. Thickness of plates C. Potential applied across the plates D. Separation between the plates
13	Electric generators which convert mechanical energy into	A. solar energy B. thermal energy C. kinetic energy D. electrical energy
		A. One joule

14	When an electron is accelerated through a P.D. of one volt, it will acquire energy equal to	B. One erg C. One electron volt D. None of these
15	If the two charges in Coulomb's law have double distance between them, then electric force	A. Becomes two-fold B. Becomes four-fold C. Remains the same D. None of these
16	If the distance between the plates of a parallel plate condenser of capacity $10\mu\text{F}$ is doubled then new capacity will be	A. $5\mu\text{F}$ B. $20\mu\text{F}$ C. $10\mu\text{F}$ D. $15\mu\text{F}$
17	The electric field due to an infinite long thin wire at a distance R varies as	A. $1/R$ B. $1/R^2$ C. R D. R^2
18	A wire of radius r has resistance R. If it is stretched to a wire of r/2 radius, then the resistance becomes	A. 2R B. 4R C. 16R D. Zero
19	The unit of intensity of electric field is	A. newton/coulomb B. jule/coulomb C. volt x metre D. newton/metre
20	The graphical representation of ohm's law is	A. hyperbola B. straight line C. ellipse D. parabola