ECAT Physics Chapter 12 Electrostatics

Sr	Questions	Answers Choice
1	A sheet of aluminium foil of negligible thickness is introduced between the plates of a capacitor. The capacitance of the capacitor	A. Increases B. Decreases C. Remain unchanged D. Becomes infinite
2	Two point charges A and B separated by a distance R attract each other with a force of 12×10^{-3}N. The force between A and B when the charges on them are doubled and distance is halved	A. 1.92 N B. 19.2 N C. 12 N D. 0.192 N
3	The charge carriers in gases are	A. electrons B. ions C. protons D. ions and electrons
4	In a voltmeter the conduction takes place due to	A. Electrons only B. Holes only C. Electrons and holes D. Electrons and ions
5	If the length of the conductor is double and its cross sectional area is halved, its conductance will	A. Increase four fold B. Become one-fourth C. Become one-half D. Remains unchanged
6	A hollow insulated conduction sphere is given a positive charge of $10\,\mu$C. What will be the electric field at the centre of the sphere if its radius is 2 meters?	A. Zero B. $5\ \mu$C m^{-2} C. $20\ \mu$C m^{-2} D. $8\ \mu$C m^{-2}
7	The electric flux from a closed surface	A. Is independent of the shape of the surface B. Depends on the charge enclosed by the surface C. Both a and b D. None of the above
8	A conducting wire is drawn to double its length. Final resistivity of the material will be	A. Double of the original one B. Half of the original one C. One fourth of the original one D. Same as original one
9	Battery is charged in motor cars, which is based on	A. Chemical effect B. Magnetic effect C. Electric effect D. None
10	The SI unit of current is	A. watt B. coulomb C. volt D. ampere
11	The thermistors are usually made of	A. Metals with low temperature coefficient of resistivity B. Metals with high temperature coefficient of resistivity C. Metal oxides with high temperature coefficient of resistivity D. Semi conducting materials having low temperature coefficient of resistivity

12	The energy required to charge a capacitor of 5 μF by connecting D.C. source of 20 KV is	A. 10 KJ B. 5 KJ C. 2 KJ D. 1 KJ
13	A medium of dielectric constant 'K' is introduced between the plates of parallel plate condenser. As a result its capcitance	A. Increase k time B. Decreases k times C. Decreases 1/K times D. Remains unchanged
14	Three resistors of resistance R each are combined in various ways. Which of the following cannot be obtained?	A. 3R Ω B. 2R/4 Ω C. R/3 Ω D. 2R/3 Ω
15	Two conductors having the same type of charges are connected by a conducting wire. There would not be any amount of charges on them if	A. They have the same potential B. They have the same amount of charge C. They have the same capacity D. They have the same shape
16	A capacitor is charged with a battery and then it is disconnected. A slab of dielectric is now inserted between the plates, then	A. The charge in the plates reduces and potential difference increase B. Potential difference between the plates increase, stored energy decreases and charge remains the same C. Potential difference between the plates decreases and charge remains unchanged D. None of the above
17	If the distance of separation between two chares is increased, the electrical potential energy of the system will	A. Increase B. Decrease C. May increase or decrease D. Remain the same
18	Which one of the following is the unit of electric field intensity	A. JC^{-1} B. Vm^{-1} C. Cm^{-1} D. CJ^{-1}
19	The electric field intensity at a point due to a point charge	A. Falls off inversely as the distance B. Falls off inversely as the square of distance C. Remains unchanged with distance D. Increase directly as square of distance
20	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