ECAT Physics Chapter 12 Electrostatics Online Test

Sr	Questions	Answers Choice
1	The electric field due to an infinite long thin wire at a distance R varies as	A. 1/R B. 1/R² C. R D. R²
2	A wire is bent into a ring of radius R is given a charge q. The magnitude of the electrical field at the centre of the ring is	A. Two B. 1/2 C. Zero D. 3/2
3	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
4	Two point charges A and B separated by a distance R attract each other with a force of 12 x 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
5	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 = ! D. None of these
6	The force of repulsion between two point charges is F, when these are at a distance 0.1 m apart. Now the point charges are replaced by sphere of radii 5 cm each having the same charge as that of the respective point charges. The distance between their centre is again kept 0.1 m ; then the force of repulsion will	A. Increase B. Decrease C. Remain F D. Become 10F/9
7	A point charge Q is placed at the mid-point of a line joining two charges. 4q and q. if the net force on charge q is zero. then Q must be equal to	A. -q B. +q C. -2q D. +4q
8	A point charge A of charge +4μC and another B of charge -1μC are placed in air at a distance 1 m apart. Then the distance of the point on the line joining the charge B, where the resultant electric field is zero, is (in m)	A. 2 B. 1 C. 0.5 D. 1.5
9	A hollow insulated conduction sphere is given a positive charge of 10μC. What will be the electric field at the centre of the sphere if its radius is 2 meters?	A. Zero B. 5μC m⁻² C. 20μC m⁻² D. 8μC m⁻²
10	An electric dipole is at the centre of a hollow sphere of radius r. The total normal electric flux through the sphere is (here Q is the charge and d is the distance between the two charges of the dipole)	A. Q/4πr² B. 2Q/4πr² C. Q.d D. Zero

11	Consider a spherical shell of metal at he centre of which a positive point charge is kept	A. The electric filed is zero outside the shell B. The electric field is zero everywhere C. The electric field is zero in the region inside the shell D. The electric field is non-zero in both regions outside and inside the shell
12	The unit of intensity of electric field is	A. newton/coluomb B. jule/coluomb C. volt x metre D. newton/metre
13	In a Milikian's oil drop experiment the charge on an oil drop is calculated to be 6.35×10^{-19}C. The number of excess electrons on the drop is	A. 3.9 B. 4 C. 4.2 D. 6
14	Two point charge +3**μC and +8μC repel each other with a force of 40 N. If a charge of -5μC is added to each of them, then the force between then will become**	A. -10 N B. +10 N C. +20 N D. -20 N
15	The force between two chares 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