Physics ECAT Pre Engineering Chapter 12 Electrostatics

Sr	Questions	Answers Choice
1	A metal plate of thickness half the separation between the capacitor plates of capacitance C is inserted. The new capacitance is	A. C B. C/2 C. Zero D. 2C
2	An electric charge at rest is	A. Only an electric field B. Only a magnetic field C. Both electric and magnetic fields D. None of the above
3	The SI unit of permitivity is	A. Nm²C² B. N⁻¹m⁻²C² C. NmC² D. Nm²C⁻¹
4	A certain charge liberates 0.8 g of oxygen. The same charge will liberate. how many g of silver?	A. 108 g B. 10.8 g C. 0.8 g D. 108/0.8 g
5	An alpha particle is accelerated through a potential difference of 10^6volt. Its kinetic energy will be	A. 1 MeV B. 2 MeV C. 4 MeV D. 8 MeV
6	Coulomb force, when any material medium is placed between two charges	A. Increases B. Decreases C. Remain unchanged D. None of these
7	Coulomb's force between two point charges depends upon	A. Magnitude of charges B. Distance between them C. Medium in which they are located D. All of the above
8	Three resistance 500,500 and 50 ohms are connected in series across 555 volts mains. The current flowing through them will be	A. 0.52 A B. 1 mA C. 0.7 mA D. 1.4 A
9	The relation V = IR represents	A. Ampere law B. Faraday's law C. Ohm's law D. Len's law
10	The SI unit of capacitance is	A. Farad B. Henry C. Ohm D. Volt
11	Thermocouple is an arrangement of two different metals	A. To convert heat energy in to electrical energy B. To produce more heat C. To convert heat energy into chemical energy D. To convert electric energy in to heat energy
12	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
13	Resistance of a conductor depends upon	A. the quantity of current passing through it B. the voltage applied between its end C. its dimensions, physical state and nature of its material D. all of the above
14		A. Voltmeter has a very high resistance B. Voltmeter has a very low resistance

14	Potentiometer is more sensitive than voltmeter, because	C. Potentiometer does not draw any current from a source of unknown potential difference D. Potentiometer is sensitive
15	The energy required to charge a capacitor of 5μF by connecting D.C. source of 20 KV is	A. 10 KJ B. 5 KJ C. 2 KJ D. 1 KJ
16	A car battery has e.m.f 12 volt and internal resistance 5 x 10^{-2}ohm. If it draws 60 ampere current, the terminal voltage of the battery will be	A. 5 volt B. 3 volt C. 15 volt D. 9 volt
17	The electric intensity at infinite distance from the point charge will be	A. Infinite B. Positive C. Zero D. Negative
18	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
19	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
20	In RC series circuit the time during which the capacitor acquires 0.63 times the equilibrium charge is called	A. Time constant B. Decay constant C. None of these D. All of above