ECAT Physics Chapter 12 Electrostatics

Sr	Questions	Answers Choice
1	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
2	A charge of 0.1 c accelerated through a potential difference of 1000V acquires kinetic energy	A. 200 J B. 100 J C. 1000 J D. 400 J
3	The SI unit of electric field intensity is	A. CN⁻¹ B. NC⁻¹or Vm⁻¹ C. JC⁻¹ D. AV⁻¹
4	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 filed is normal to the surface of the cube D. Electric filed varies within the cube
5	Which of the following does not obey ohm's law?	A. Copper B. Al C. Diode D. None
6	The ohm's is defined as	A. 1 ampere / 1 volts B. 1 coulomb / 1 volt C. 1 volt / 1 ampere D. 1 volt / 1 coulomb
7	The relation between charge 'Q' and current 'I' is given by	A. Q = I/t B. Q = It C. Q = I²t D. Q = I²/t
8	The liquid which conduct current is known as	A. heating effect B. chemical energy C. electrolyte D. ohm's law
9	A heater coil rated at (1000 W - 200 V) is connected to 110 volt line. What will be the power consumed?	A. 200 W B. 302.5 C. 250 W D. 350 W
10	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
11	Electric potential of earth is taken to be zero because the earth is good	A. Semiconductor B. Conductor C. Insulator D. Dielectric
12	The conductivity of a superconductor is	A. Infinite B. Very large C. Very small D. Zero
13	The resistance of the given conductor can be increased by	A. Increasing the area B. Changing resistivity C. Decreasing the length D. None of the above because change does not matter because in any case the volume remains the same

14	The energy stored in a charge capacitor	A. 1/2CV² B. 1/2C²V C. 1/2C/V² 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	Which one of the following is the unit of electric field intensity	A. JC⁻¹ B. Vm⁻¹ C. Cm⁻¹ D. CJ⁻¹
17	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
18	The electric potential at the surface of an atomic nucleus (Z = 50) of radius 9.0 x 10^{-15} is	A. 9 x 10⁵V B. 9 V C. 8 x 10⁶V D. 80 V
19	In a Milikian's oil drop experiment the charge on an oil drop is calculated to be 6.35 x 10^{-19}C. The number of excess electrons on the drop is	A. 3.9 B. 4 C. 4.2 D. 6
20	The potential difference across the conductors should be maintained constant by connecting the ends of wire to the terminal of a device called a source of	A. power B. current C. resistance D. temperature