ECAT Physics Chapter 12 Electrostatics

Sr	Questions	Answers Choice
1	The statement "the electric force of repulsion or attraction between two point charges is directly proportional to the product of the charges and inversely proportional to square of the distance between them" refer to	A. Coulomb's law B. Gauss's law C. Biot-Sarwat law D. Ampere's law
2	Heating effect caused by an electric circuit is written	A. H = I²Rt B. H = I²R C. H = IR²t D. H = IR²
3	If we increase the distance between two plates of the capacitor, the capacitance will	A. Increase B. Decrease C. Remain same D. First increase then decrease
4	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
5	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
6	Coulomb force, when any material medium is placed between two charges	A. Increases B. Decreases C. Remain unchanged D. None of these
7	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
8	The electrode connected with the positive terminal of the current source is called	A. cathode B. anode C. electrolyte D. position
9	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
10	In a building, there are 15 bulbs of 40 watts, 5 bulbs of 100 watts, 5 fans of 80 watts and a heater of 1 kilowatt. The voltage of the electric main is 220 volts. The minimum efficiency of the main fuse of the building will be	A. 0.4 A B. 11.4 A C. 9.8 A D. 10.6 A
11	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
12	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
13	The unit of resistance is	A. volt B. ampere C. ohm D. coat
14	Magnetic effect at a point caused due to flow a current depend upon the	A. Quantity of current B. Distance from current C. Both the quantity of current and distance from current element D. None of the all

15	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
16	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
17	The electric lines of force are	A. Imaginary B. Physically existing everywhere C. Physically existing near the charge D. All of the above
18	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
19	When an electron is accelerated through a P.D. of an one volt, it will acquire energy equal to	A. One joule B. One erg C. One electron volt D. None of these
20	A current of 1.6 A is passed through a solution of $CuSO_4$. How many Cu^{2+} ions are liberated in one minute?	A. 3 x 10²⁰ B. 3 x 10¹⁰ C. 6 x 10²⁰ D. 6 x 10¹⁰