

ECAT Physics Chapter 12 Electrostatics

Sr	Questions	Answers Choice
1	The SI unit of current is	A. watt B. coulomb C. volt D. ampere
2	What is the current is a $2 \times 10^6 \Omega$ resistor having a potential difference of 2×10^3 volts?	A. $10^{-1} A$ B. $10^{-2} A$ C. $10^{-4} A$ D. 1 mA
3	The conventional current in a circuit is defined as " current which passes from a point at higher potential to a point at lower potential as if it represent a movement of	A. negative charges B. positive charges C. protons D. electrons
4	Electric flux is defined by the relation	A. E.A. B. $E \times A$ C. E/A D. none of these
5	The unit of conductance is	A. ohm B. meter C. mho D. ohm-meter
6	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
7	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
8	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
9	A ten ohm electric heater operates on a 110 V line. Calculate the rate at which it develops heat in watts	A. 1310 W B. 670 W C. 810 W D. 1210 W
10	The dot product of electric field intensity E and vector area A is called	A. Electric potential B. Electric flux C. Electric field D. Magnetic field
11	Question Image	A. $5 \mu F$ B. $10 \mu F$ C. $3 \mu F$ D. $6 \mu F$

12	The resistance of 20 cm long wire is 10Ω . When the length is changed to 40 cm. The new resistance is	<p>A. 10Ω</p> <p>B. 20Ω</p> <p>C. 30Ω</p> <p>D. 40Ω</p>
13	A parallel plate capacitor is first charged and then a dielectric slab is introduced between the plates. The quantity that remains unchanged is	<p>A. Charge Q</p> <p>B. Potential V</p> <p>C. Capacity</p> <p>D. Energy U</p>
14	A heater coil rated at (1000 W - 200 V) is connected to 110 volt line. What will be the power consumed?	<p>A. 200 W</p> <p>B. 302.5</p> <p>C. 250 W</p> <p>D. 350 W</p>
15	Resistor is a device which convert electric energy to	<p>A. Heat energy</p> <p>B. Chemical energy</p> <p>C. Elastic energy</p> <p>D. All of the above</p>
16	Two point charge $+3\mu\text{C}$ and $+8\mu\text{C}$ repel each other with a force of 40 N. If a charge of $-5\mu\text{C}$ is added to each of them, then the force between them will become	<p>A. -10 N</p> <p>B. +10 N</p> <p>C. +20 N</p> <p>D. -20 N</p>
17	The electric field intensity at a point due to a point charge	<p>A. Falls off inversely as the distance</p> <p>B. Falls off inversely as the square of distance</p> <p>C. Remains unchanged with distance</p> <p>D. Increase directly as square of distance</p>
18	The energy stored in a charge capacitor	<p>A. $\frac{1}{2}CV^2$</p> <p>B. $\frac{1}{2}C^2V$</p> <p>C. $\frac{1}{2}C/V^2$</p> <p>D. None of these</p>
19	In a Millikan's oil drop experiment the charge on an oil drop is calculated to be $6.35 \times 10^{-19}\text{C}$. The number of excess electrons on the drop is	<p>A. 3.9</p> <p>B. 4</p> <p>C. 4.2</p> <p>D. 6</p>
20	The resistance of a conductor does not depend on its	<p>A. mass</p> <p>B. resistivity</p> <p>C. length</p> <p>D. cross-sectional area</p>