

Physics ECAT Pre Engineering Chapter 12 Electrostatics

Sr	Questions	Answers Choice
1	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 field is normal to the surface of the cube D. Electric field varies within the cube
2	The electric potential at the surface of an atomic nucleus ($Z = 50$) of radius 9.0×10^{-15} is	A. 9×10^5 V B. 9 V C. 8×10^6 V D. 80 V
3	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
4	Electric potential of earth is taken to be zero because the earth is good	A. Semiconductor B. Conductor C. Insulator D. Dielectric
5	The relation $V = IR$ represents	A. Ampere law B. Faraday's law C. Ohm's law D. Len's law
6	Physicist George Simon ohm was a	A. German physical B. French physicist C. Chinese physicist D. Russian physicist
7	The graphical representation of ohm's law is	A. hyperbola B. straight line C. ellipse D. parabola
8	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
9	Electric flux is defined by the relation	A. E.A. B. $E \times A$ C. E/A D. none of these
10	In case of a parallel plate capacitor if the plate separation is doubled and plate area is halved, the capacitance becomes	A. Four-fold B. One-half C. One-fourth D. Zero
11	A (100 W , 200 W) bulb is connected to a 160 V power supply. The power consumption would be	A. 64 W B. 80 W C. 100 W D. 125 W
12	10^6 electrons are moving through a wire per second, the current developed is	A. 1.6×10^{-19} A B. 1 A C. 1.6×10^{-15} A D. 10^6 A
13	In a voltmeter the conduction takes place due to	A. Electrons only B. Holes only C. Electrons and holes D. Electrons and ions
14	Heating effect caused by an electric circuit is written	A. $H = I^2 R t$ B. $H = I^2 R$ C. $H = IR^2 t$ D. $H = IR^2$

15	The SI unit of permittivity is	<p>A. Nm^2/C^2</p> <p>B. $\text{N}^{-1}\text{m}^2/\text{C}^2$</p> <p>C. NmC^2</p> <p>D. Nm^2/C^2</p>
16	Ohm established a relation between	<p>A. voltage and resistance</p> <p>B. voltage and charge</p> <p>C. voltage and current</p> <p>D. voltage resistance and charge</p>
17	The resistivity of a substance depends upon the	<p>A. length</p> <p>B. mass</p> <p>C. area</p> <p>D. temperature</p>
18	The minimum resistance that can be obtained by connecting 5 resistance of $1/4\Omega$ each is	<p>A. $4/5$</p> <p>B. $5/4$</p> <p>C. 20</p> <p>D. 0.05</p>
19	Which one of the following is the unit of electric field intensity	<p>A. JC^{-1}</p> <p>B. Vm^{-1}</p> <p>C. Cm^{-1}</p> <p>D. CJ^{-1}</p>
20	A 10 F capacitor is charged to a potential difference of 50 V and is connected to another uncharged capacitor in parallel. Now the common potential difference becomes 20 volt. The capacitance of second capacitor is	<p>A. 10</p> <p>B. 20</p> <p>C. 30</p> <p>D. 15</p>