Physics ECAT Pre Engineering Chapter 12 Electrostatics Online Test

Sr	Questions	Answers Choice
1	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
2	The electric intensity outside the two oppositely charged parallel metal plates is	A. Maximum B. Minimum C. Zero D. Infinite
3	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
4	A proton is about 1840 times heavier than an electron. When it is accelerated by a potential difference of 1 KV, its kinetic energy will be	A. 1840 KeV B. 1/1840 KeV C. 1 KeV D. 920 KeV
5	If two bulbs one of 60 W and other of 100 W are connected in parallel, then which one of the following will flow more?	A. 60 W bulb B. 100 W bulb C. Both equally D. None of these
6	The powers of tow electric bulbs are 100 W and 200 W. Both of them are joined with 220 V mains. The ratio of resistances of their filaments will be	A. 1 : 2 B. 2 : 1 C. 1 : 4 D. 4 : 1
7	One coulomb of charge is created by	A. 10 electrons B. 1.6 x 10⁻¹⁹electrons C. 6.25 x 10¹⁸electrons D. 6.25 x 10²¹electrons
8	A sheet of aluminium foil of negligible thickness is introduced between the plates of a capacitor. The capacitance of the capacitor	A. Increases B. Decreases C. Remain unchanged D. Becomes infinite
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	The earth's potential is taken as	A. Negative B. Positive C. Zero D. Infinite
11	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
12	When three identical bulbs of 60 watt, 200 volt rating are connected in series to a 200 volt supply, the power drawn by them will be	A. 180 watt B. 10 watt C. 20 watt D. 60 watt
13	The resistivity of a substance depends upon the	A. length B. mass C. area D. temperature
14	When a dielectric material is introduced between the plates of a charged condenser the electric field between the plates	A. Decreases B. Increases C. No change D. May increase or decresase
15	Calculate the amount of charge flowing in 2 minutes in a wire of resistance 10Ωwhen a potential difference of 20 V is applied between its ends	A. 120 C B. 240 C C. 20 C D. 4 C

16	An electric dipole is at the centre of a hollow sphere of radius r. The total normal electric flux through the sphere is (here Q is the charge and d is the distance between the two charges of the dipole)	A. Q/4πr² B. 2Q/4πr² C. Q.d D. Zero
17	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
18	Current provided by a battery is maximum when	A. Internal resistance equal to external resistance B. Internal resistance is greater than external resistance C. Internal resistance is less then external resistance D. None of these
19	Cause of heat production in a current carrying conductor is	A. Collisions of free electrons with one another B. High drift speed of free electrons C. Collisions of free electrons with atoms or ions of conductor D. High resistance value
20	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
21	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
22	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
23	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
24	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
25	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
26	Coulomb force, when any material medium is placed between two charges	A. Increases B. Decreases C. Remain unchanged D. None of these
27	Which of the following represents an electric current?	A. C⁻¹ B. CS⁻¹ C. J.S⁻¹ D. dynes⁻¹
28	Which of the following does not obey ohm's law?	A. Copper B. Al C. Diode D. None
29	The SI unit of conductivity is	A. ohm-m B. ohm⁻¹m⁻¹ C. ohm-m⁻¹ D. ohm⁻¹m
30	Heating effect caused by an electric circuit is written	A. H = I²Rt B. H = I²R C. H = IR²t D. H = IR²
	Consider a spherical shell of metal at he centre of which a positive point charge	A. The electric filed is zero outside the shell B. The electric field is zero everywhere C. The electric field is zero in the region inside the

31	Consider a spherical shell of metal at the centre of which a positive point charge is kept	C. The electric field is zero in the region inside the shell D. The electric field is non-zero in both regions outside and inside the shell
32	For two resistance wires joined in parallel, the resultant resistance is 6/5 ohm. When one of the resistance wire breaks, the effective resistance becomes 2 ohm. The resistance of the broken wire is	A. 3/5 ohm B. 2 ohm C. 6/5 ohm D. 3 ohm
33	If we plot graph between potential difference (V) and current (I) obeying ohm's law, it will give us	A. parabola B. straight line C. hyper bola D. ellipse
34	Which one of the following causes production of heat when current is set up in a wire?	A. Fall of electrons from higher orbits to lower orbits B. Inter-atomic collisions C. Inter-electron collisions D. Collisions of conduction electron with atoms
35	A closed surface contains two equal and opposite charges. The net electric flux from the surface will be	A. Negative B. Positive C. Infinite D. Zero
36	The force between two chares 0.06 m apart is 5 N. If each charge is moved towards the other by 0.01 m, then the force between them will become	A. 7.20 N B. 11.25 N C. 22.50 N D. 45.00
37	Three resistors of resistance R each are combined in various ways. Which of the following cannot be obtained?	A. 3RΩ B. 2R/4Ω C. R/3Ω D. 2R/3Ω
38	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
39	Electron volt is the unit of	A. Potential difference B. Energy C. Resistance D. Capacitance
40	The unit of resistance is	A. volt B. ampere C. ohm D. coat
41	The electric lines of force are	A. Imaginary B. Physically existing everywhere C. Physically existing near the charge D. All of the above
42	At any point on the right bisector of the line joining two equal and opposite charges	A. At electric field is zero B. The electric potential is zero C. The electric potential decreases with increasing distance from the centre D. The electric field is perpendicular to the line joining the charges
43	The speed of randomly moving electrons depends upon	A. pressure B. volume C. temperature D. mass
44	Electric flux is defined by the relation	A. E.A. B. E x A C. E/A D. none of these
45	The liquid which conduct current is known as	A. heating effect B. chemical energy C. electrolyte D. ohm's law

46	One coulomb per second is equal to	A. One volt B. One ampere C. One hom D. One henry
47	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
48	In bringing an electron towards another electron, electrostatic potential energy of system	A. Decreases B. Increases C. Remains uncharged D. Becomes zero
49	The electric field will be uniform	A. Near a positive point charge B. Near a negative point charge C. Between two oppositely charged parallel metal plates D. None of above
50	The substances whose resistance decreases with the increase in temperature these substances have coefficient of	A. positive temperature B. negative temperature C. absolute temperature D. zero temperature
51	The electric flux is linked with a surface will be maximum when	A. The surface is held parallel to the electric field B. The surface is held perpendicular to the electric field C. The surface makes an angle of 45° with the electric field D. All of the above
52	One moving a charge of 20 coulombs by 2 cm, 2 J of work is done, then the potential difference between the points is	A. 0.1 V B. 8 V C. 2 V D. 0.5 V
53	The capacitance of a parallel plate capacitor depends upon	A. Area of the plates B. Separation between the plates C. Medium between the plates D. All of the above
54	The electric intensity at infinite distance from the point charge will be	A. Infinite B. Positive C. Zero D. Negative
55	The current through a metallic conductor is due to the motion of	A. protons B. neutrons C. electrons D. free electrons
56	The value of electrical constant of proportionality k is	A. 9 x 10⁹Nm²C⁻² B. 9 x 10⁻⁹Nm²C⁻² C. 9 x 10¹⁰Nm²C² D. 9.85 x 10⁻¹²N⁻¹C⁻²
57	The minimum charge on any object can not be less than	A. 1.6 x 10⁻¹⁹C B. 3.2 x 10⁻¹⁹C C. 1.0 C D. 4.8 x 10⁻¹⁹C
58	Ohm's law states that	A. The current through a resistor is directly proportional to the applied voltage B. The voltage across a resistor is directly proportional to the current passing through it C. Resistance is the constant of proportionality between the voltage and current D. all of these
59	Two point charge +3**μC and +8μC repel each other with a force of 40 N. If a charge of -5μC is added to each of them, then the force between then will become**	A. -10 N B. +10 N C. +20 N D. -20 N
60	If electric and gravitational force on an electron in a uniform electric field will be	A. E=mg/q B. E=q/mg C. E=,g/q

		D. E=qg/m
61	The charge per unit time through any cross-section of a conductor is called	A. capacitance B. electric power C. current D. potential difference
62	The graphical representation of ohm's law is	A. hyperbola B. straight line C. ellipse D. parabola
63	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
64	The material in the form of wire or rod or plate which leads the current into or cut of the electrolyte is known as	A. voltmeters B. resistance C. electrode D. current
65	Resistance of a conductor is increased, the currant will	A. Decrease B. Increase C. Remain the same D. None of these
66	The unit of intensity of electric field is	A. newton/coluomb B. jule/coluomb C. volt x metre D. newton/metre
67	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
68	A charge Q is divided into two parts q and Q - q and separated by a distance R. The force of repulsion between them will be maximum when	A. q = Q/4 B. q = Q/2 C. q = ! D. None of these
69	The ratio of the gravitational force F_g to the electrostatic force F_e between two electrons at the same distance apart is approximately	A. 9.8 B. 24 x 10¹⁹ C. 24 x 10⁴² D. 24 x 10⁻⁴⁴
70	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
71	One electron volt is equal to	A. 1.6 x 1019eV B. 6.25 x 1018 eV C. 1.6 x 1018 eV D. 6.25 x 1019eV
72	The electric flux from a closed surface	A. Is independent of the shape of the surface B. Depends on the charge enclosed by the surface C. Both a and b D. None of the above
73	An alpha particle is accelerated through a potential difference of 10^6 volt. Its kinetic energy will be	A. 1 MeV B. 2 MeV C. 4 MeV D. 8 MeV
74	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
75	Capacitance of two or more capacitors	A. Increases in series combination B. Increases in parallel combination C. Remains unchanged D. None of the above
76	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
77	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
		A. Infinite

78	The conductivity of a superconductor is	A. Infinite B. Very large C. Very small D. Zero
79	A piece of fuse wire melts when a current of 15 ampere flows through it. With this current. If it dissipates 22.5 W, the resistance of fuse wire will be	A. Zero B. 10Ω C. 1Ω D. 0.10Ω
80	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
81	The electrode connected with the positive terminal of the current source is called	A. cathode B. anode C. electrolyte D. position
82	If 2.2 kilowatt power is transmitted through a 10 ohm line at 22000 volt, the power loss in the form of heat will be	A. 0.1 watt B. 1 watt C. 10 watt D. 100 watt
83	Electric potential of earth is taken to be zero because the earth is good	A. Semiconductor B. Conductor C. Insulator D. Dielectric
84	Ohm is the unit of	A. current B. capacitance C. energy D. resistance
85	A capacitor of capacity 1μF is charged to 1 KV. The energy stored in J	A. 5 B. 0.5 C. 0.005 D. 50
86	What is the current is a 2 x 10^6ohm resistor having a potential difference of 2 x 10^3volts?	A. 10⁻¹A B. 10⁻²A C. 10⁻⁴A D. 1 mA
87	Taking the earth to be a spherical conductor of diameter 12.8 x 10^3km. Its capacity will be	A. 711μF B. 611μF C. 811μF D. 511μF
88	Electron volt is the unit of.	A. Potential difference B. Energy C. Resistance D. Capacitance
89	The charge carriers in gases are	A. electrons B. ions C. protons D. ions and electrons
90	The SI unit of capacitance is	A. Farad B. Henry C. Ohm D. Volt

91	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
92	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
93	The capacity of a parallel plat capacitor depends on the	A. Type to metal used B. Thickness of plates C. Potential applied across the plates D. Separation between the plates
94	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
95	The potential difference across each resistance in series combination is	A. same B. different C. zero D. none of these
96	In a voltmeter the conduction takes place due to	A. Electrons only B. Holes only C. Electrons and holes D. Electrons and ions
97	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
98	One joule is equal to	A. 1.6 x 10¹⁹eV B. 6.25 x 10¹⁸eV C. 1.6 x 18¹⁸eV D. 6.25 x 10¹⁹eV
99	An electron of charge e coulomb passes through a potential difference of V volts its energy in joules will be	A. V/e B. eV C. e/V D. V
100	The nature of capacity of electrostatic capacitor depends on	A. Shape B. Size C. Thickness of plates D. Area
101	Potentiometer is more sensitive than voltmeter, because	A. Voltmeter has a very high resistance B. Voltmeter has a very low resistance C. Potentiometer does not draw any current from a source of unknown potential difference D. Potentiometer is sensitive
102	A 50 volt battery is connected across 10 ohm resistor. The current is 4.5 A. The internal resistance of the battery is	A. Zero B. 0.5Ω C. 1.1Ω D. 5.0Ω
103	If the distance of separation between two chares is increased, the electrical potential energy of the system will	A. Increase B. Decrease C. May increase or decrease D. Remain the same
104	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
105	A uniform resistance wire of Length L and diameter d has a resistance R. Another wire of same material has length, 4L and diameter 2d, the resistance will be	A. 2 R B. R C. R/2 D. R/4
106	Some charge is being given to a conductor. Then its potential	A. Is maximum at surface B. Is maximum at centre C. Is remain same throughout the conductor D. Is maximum somewhere between surface and

		centre
107	The SI unit of current is	A. watt B. coulomb C. volt D. ampere
108	The SI unit of electric field intensity is	A. CN⁻¹ B. NC⁻¹or Vm⁻¹ C. JC⁻¹ D. AV⁻¹
109	Surface density of charge is defined as	A. Charge per unit volume B. Charge per unit length C. Charge per unit area D. Charge per unit mass
110	Two point charges A and B separated by a distance R attract each other with a force of 12 x 10^{-3}N. The force between A and B when the charges on them are doubled and distance is halved	A. 1.92 N B. 19.2 N C. 12 N D. 0.192 N
111	A 100 W, 200 V bulb is connected to a 160 volts supply. The actual power consumption would be	A. 64 W B. 80 W C. 100 W D. 125 W
112	10^6electrons are moving through a wire per second, the current developed is	A. 1.6 x 10⁻¹⁹ B. 1 A C. 1.6 x 10⁻¹⁵A D. 10⁶A
113	Two electric bulbs of 200 W and 100 W have same voltage. If $R_1$and R_2be their resistance respectively then	A. R₁= 2R₂ B. R₂= 2R₁ C. R₂=4R₁ D. R₁= 4R₂
114	The resistance of an incandescent lamp is	A. Smaller when switched on B. Greater when switched off C. The same whether it is switch off or switch on D. Greater when switched on
115	A parallel plate capacitor is first charged and then a dielectric slab is introduced between the plates. The quantity that remains unchanged is	A. Charge Q B. Potential V C. Capacity D. Energy U
116	The charge carriers in electrolyte are positive and negative	A. protons B. electrons C. ions D. none of these
117	If 2.2 kilowatt power is transmitted through 1 10 ohm line at 22000 volt, the power loss in the form of heat will be	A. 0.1 watt B. 1 watt C. 10 watt D. 100 watt
118	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
119	Which one of the following has larger value of relative permitivity $E_r$at room temperature?	A. Vaccum B. Air C. Glass D. Water
120	Electric generators which convert mechanical energy into	A. solar energy B. thermal energy C. kinetic energy D. electrical energy
121	Solar cell converts sunlight directly into	A. potential energy B. thermal energy C. mechanical energy D. electrical energy
122	Question Image	A. 5µF B. 10µF C. 3µF

		D. 6μF
123	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	A. 10μF B. 20μF C. 30μF D. 15μF
124	If the resistance of 2 ohm and 4 ohm are connected in parallel, the equivalent resistance will be	A. 6 ohm B. 4 ohm C. zero ohm D. 1.33 ohm
125	A point charge A of charge +4μC and another B of charge -1μC are placed in air at a distance 1 m apart. Then the distance of the point on the line joining the charge B, where the resultant electric field is zero, is (in m)	A. 2 B. 1 C. 0.5 D. 1.5
126	Two conductors having the same type of charges are connected by a conducting wire. There would not be any amount of charges on them if	A. They have the same potential B. They have the same amount of charge C. They have the same capacity D. They have the same shape
127	A wire of radius r has resistance R. If it is stretched to a wire of r/2 radius, then the resistance becomes	A. 2R B. 4R C. 16R D. Zero
128	The resistance of a conductor does not depend on its	A. mass B. resistivity C. length D. cross-sectional area
129	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
130	A 60 W bulb operates on 220 V supply. The current flowing through the bulb is	A. 11/3 A B. 3 A C. 3/11 A D. 6
131	In Pakistan electricity is supplied for domestic use at 220 V, it is supplied at 110 V in USA. If the resistance of a 60 W bulb for use in Pakistan is R, the resistance of a 60 W bulb for use in USA will be	A. 2 R B. R/4 C. R/2 D. R
132	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
133	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
134	Three resistors of resistance 2,3 and 6 ohms are connected in parallel, their equivalent resistance is	A. 11.0 ohm B. 1.0 ohm C. 7.0 ohm D. 3.0 ohm
135	The colour sequence in a carbon resistor in red, brown, orange and silver. The resistance of the resistor is	A. 21 x 10³<u>+</u> 10% B. 23 x 10¹<u>+</u> 10% C. 21 x 10³<u>+</u> 5% D. 12 x 10³<u>+</u> 5%
136	The fractional change in resistance per kelvin is known as	A. temperature coefficient B. resistance coefficient C. super temperature D. critical temperature
		A. 64 W

137	A (100 W , 200 W) bulb is connected to a 160 V power supply. The power consumption would be	B. 80 W C. 100 W D. 125 W
138	If the length of the conductor is double and its cross sectional area is halved, its conductance will	A. Increase four fold B. Become one-fourth C. Become one-half D. Remains unchanged
139	The minimum resistance that can be obtained by connecting 5 resistance of 1/4Ωeach is	A. 4/5Ω B. 5/4Ω C. 20Ω D. 0.05 Ω
140	A hollow insulated conduction sphere is given a positive charge of 10μC. What will be the electric field at the centre of the sphere if its radius is 2 meters?	A. Zero B. 5μC m⁻² C. 20μC m⁻² D. 8μC m⁻²
141	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
142	The relation between the charge Q of a parallel plate capacitor and the P.D between its plates is	A. Q=V/C B. Q=C/V C. Q=1/2CV D. Q=CV
143	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
144	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
145	Which one of the following is the unit of electric field intensity	A. JC⁻¹ B. Vm⁻¹ C. Cm⁻¹ D. CJ⁻¹
146	The resistance of 20 cm long wire is 10Ω. When the length is changed to 40 cm. The new resistance is	A. 10Ω B. 20Ω C. 30Ω D. 40Ω
147	If a charged spherical conductor of radius 10 cm has potential V at a point distance 5 cm from its centre, then the potential at a point distance 15 cm from the centre will be	A. 1/3 V B. 2/3 V C. 3/2 V D. 3V
		A. 1.25 x 10⁻³J B. 3.75 x 10⁻³J

148	A condenser of capacity 50μF is charged to 10 V.The energy stored is	C. 2.5 x 10⁻³J D. 5 x 10⁻³J
149	A one microfarad capacitor of a TV is subjected to 4000 V potential difference. The energy stored in capacitor is	A. 8 J B. 16 J C. 4 x 10⁻³J D. 2 x 10⁻³J
150	Physicist George Simon ohm was a	A. German physical B. French physicist C. Chinese physicist D. Russian physicist
151	The electric field intensity at a point due to a point charge	A. Falls off inversely as the distance B. Falls off inversely as the square of distance C. Remains unchanged with distance D. Increase directly as square of distance
152	If an electron of charge 'e' is accelerated through a potential difference V., it will acquire energy	A. Ve B. V/e C. e/V D. 2Ve
153	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
154	Free electrons are	A. tightly bound B. fixed C. loosely bound D. tightly fixed
155	The unit of conductance is	A. ohm B. meter C. mho D. ohm-meter
156	In a charged capacitor the energy is stored in	A. Both in positive and negative charges B. Positive charges C. The edges of the capacitor plates D. The electric field between the plates
157	The thermistors are usually made of	A. Metals with low temperature coefficient of resistivity B. Metals with high temperature coefficient of resistivity C. Metal oxides with high temperature coefficient of resistivity D. Semi conducting materials having low temperature coefficient of resistivity
158	If a 40 watt light bulb burns for 2 hours. how much heat is generated	A. 288 x 10³J B. 288 x 10⁸J C. 288 x 10⁵J D. 288 x 10⁶J
159	The SI unit of permitivity is	A. Nm²C² B. N⁻¹m⁻²C² C. NmC² D. Nm²C⁻¹
160	The SI unit of electric flux is	A. Weber B. Nm²C⁻¹ C. NmC⁻¹ D. Nm⁻²C
161	Equal charges are given to two spheres of different radii. The potential will	A. Be more on the smaller sphere B. Be more on the bigger sphere C. Be equal on both the sphere D. Depend on the nature of the material of the sphere
162	Ohm established a relation between	A. voltage and resistance B. voltage and charge C. voltage and current D. voltage resistance and charge
163	If one volt is needed to cause a current of one ampere to flow in a conductor, its resistance is	A. one ohm B. one joule C. one volt D. one ampere
164	Battery is charged in motor cars, which is based on	A. Chemical effect B. Magnetic effect C. Electric effect D. None

165	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
166	Resistor is a device which convert electric energy to	A. Heat energy B. Chemical energy C. Elastic energy D. All of the above
167	The unit of resistivity is	A. ohm B. ohm-m² C. ohm-meter D. ohm-m⁻¹
168	The concept of field theory was put forward by	A. Franklin B. Kepler C. Oersted D. Michael Faraday
169	At ordinary temperature, an increase in temperature increases the conductivity of	A. Conductor B. Semiconductor C. Insulator D. Alloy
170	The relation V = IR represents	A. Ampere law B. Faraday's law C. Ohm's law D. Len's law
171	The energy stored in a charge capacitor	A. 1/2CV² B. 1/2C²V C. 1/2C/V² D. None of these
172	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
173	A conducting wire is drawn to double its length. Final resistivity of the material will be	A. Double of the original one B. Half of the original one C. One fourth of the original one D. Same as original one
174	The force of repulsion between two point charges is F, when these are at a distance 0.1 m apart. Now the point charges are replaced by sphere of radii 5 cm each having the same charge as that of the respective point charges. The distance between their centre is again kept 0.1 m ; then the force of repulsion will	A. Increase B. Decrease C. Remain F D. Become 10F/9
175	If the distance between the plates of a parallel plate condenser of capacity 10μF is doubled then new capacity will be	A. 5μF B. 20μF C. 10μF D. 15μF
176	The electric field due to an infinite long thin wire at a distance R varies as	A. 1/R B. 1/R² C. R D. R²
177	Force acting upon a charged particle kept between the plates of a charged condenser if F. IF one of the plates of the condenser is removed, force acting on the same will become	A. Zero B. F/2 C. F D. 2F
178	Specific resistance of a wire depends upon	A. Length B. Cross-section area C. Mass D. None