

ECAT Physics Online Test

Sr	Questions	Answers Choice
1	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	<p>A. 1 : 2 B. 2 : 1 C. 1 : 4 D. 4 : 1</p>
2	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. 10μF B. 20μF C. 30μF D. 15μF</p>
3	A certain charge liberates 0.8 g of oxygen. The same charge will liberate. how many g of silver?	<p>A. 108 g B. 10.8 g C. 0.8 g D. 108/0.8 g</p>
4	In a voltmeter the conduction takes place due to	<p>A. Electrons only B. Holes only C. Electrons and holes D. Electrons and ions</p>
5	A conducting wire is drawn to double its length. Final resistivity of the material will be	<p>A. Double of the original one B. Half of the original one C. One fourth of the original one D. Same as original one</p>
6	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	<p>A. Zero B. 10Ω C. 1Ω D. 0.10Ω</p>
7	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	<p>A. 0.1 watt B. 1 watt C. 10 watt D. 100 watt</p>
8	The conductivity of a superconductor is	<p>A. Infinite B. Very large C. Very small D. Zero</p>
9	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	<p>A. 0.1 watt B. 1 watt C. 10 watt D. 100 watt</p>

- 10 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
- 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 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
- 13 Two electric bulbs of 200 W and 100 W have same voltage. If R_1 and R_2 be their resistance respectively then
A. $R_1 = 2R_2$
B. $R_2 = 2R_1$
C. $R_2 = 4R_1$
D. $R_1 = 4R_2$
- 14 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
- 15 Question Image
A. $5 \mu F$
B. $10 \mu F$
C. $3 \mu F$
D. $6 \mu F$
- 16 Taking the earth to be a spherical conductor of diameter 12.8×10^3 km. Its capacity will be
A. $711 \mu F$
B. $611 \mu F$
C. $811 \mu F$
D. $511 \mu F$

17	The nature of capacity of electrostatic capacitor depends on	A. Shape B. Size C. Thickness of plates D. Area
18	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
19	The energy required to charge a capacitor of $5\mu F$ by connecting D.C. source of 20 KV is	A. 10 KJ B. 5 KJ C. 2 KJ D. 1 KJ
20	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 decrease
21	A capacitor of capacity $1\mu F$ is charged to 1 KV. The energy stored in J	A. 5 B. 0.5 C. 0.005 D. 50
22	If the distance between the plates of a parallel plate condenser of capacity $10\mu F$ is doubled then new capacity will be	A. $5\mu F$ B. $20\mu F$ C. $10\mu F$ D. $15\mu F$
23	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
24	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
25	A condenser of capacity $50\mu F$ is charged to 10 V. The energy stored is	A. $1.25 \times 10^{-3} J$ B. $3.75 \times 10^{-3} J$ C. $2.5 \times 10^{-3} J$ D. $5 \times 10^{-3} J$
26	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. $2C$
27	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. $4 \times 10^{-3} J$ D. $2 \times 10^{-3} J$
28	A medium of dielectric constant 'K' is introduced between the plates of parallel plate condenser. As a result its capacitance	A. Increase k times B. Decreases k times C. Decreases $1/K$ times D. Remains unchanged
29	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. $2F$

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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