ECAT Pre General Science Physics Online Test

Sr	Questions	Answers Choice
1	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
2	Question Image	A. 5μF B. 10μF C. 3μF D. 6μF
3	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
4	The nature of capacity of electrostatic capacitor depends on	A. Shape B. Size C. Thickness of plates D. Area
5	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
6	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
7	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

8	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
9	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
10	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
11	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
12	A condenser of capacity 50μF is charged to 10 V.The energy stored is	A. 1.25 x 10⁻³J B. 3.75 x 10⁻³J C. 2.5 x 10⁻³J D. 5 x 10⁻³J
13	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
14	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
15	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
16	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
17	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
18	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
19	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
		A. 0.1 V

20	One moving a charge of 20 coulombs by 2 cm, 2 J of work is done, then the potential difference between the points is	B. 8 V C. 2 V D. 0.5 V
21	An alpha particle is accelerated through a potential difference of 10^6volt. Its kinetic energy will be	A. 1 MeV B. 2 MeV C. 4 MeV D. 8 MeV
22	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
23	Electric potential of earth is taken to be zero because the earth is good	A. Semiconductor B. Conductor C. Insulator D. Dielectric
24	In bringing an electron towards another electron, electrostatic potential energy of system	A. Decreases B. Increases C. Remains uncharged D. Becomes zero
25	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
26	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
27	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
28	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
29	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
30	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