

Question FBQ1 : The reorientation of a polar material is not perfect due to____ agitation.

Answer: Therma

Question FBQ2 : Magnetic susceptibility is negative for____ substances

Answer: Diamagnetic

Question FBQ3 : In a dielectric material, the extent of the charge separation depends on the magnitude of the _____ field.

Answer: local

Question FBQ4 : The maximum safe voltage is for a capacitor is called the _____ voltage.

Answer: working

Question FBQ5 : The presence of dielectric led to the modification of _____ law.

Answer: Gauss

Question FBQ6 : _________ is the property of an electron that makes it behave as if it were rotating around an axis of its own

Answer: Spin

Question FBQ7 : Diamagnetism involves a change in the _______ of the magnetic moment of an atom.

Answer: Magnitude

Question FBQ8 : Two capacitors connected in parallel have ___ potential difference

Answer: Equal

Question FBQ9 : Paramagnetism is exhibited by those atoms or molecules in which the _________ magnetic moment is not cancelled.

Answer: Spin

Question FBQ10 : _________ is the magnetic dipole moment per unit volume.

Answer: Magnetisation

Question FBQ11 : _________ is the state of magnetic polarization of a material.

Answer: Magnetisation

Question FBQ12 : The ratio of the magnetic moment and the angular momentum is calledGyro-magnetic _____.

Answer: ratio

Question FBQ13 : The magnetic susceptibility χ_m for a diamagnetic material is _____?

Answer: Negative

Question FBQ14 : The magnetic susceptibility χ_m for a paramagnetic material is _____?

Answer: Positive

Question FBQ15 : Free currents in a _______ material are caused by external current sources.

Answer: Magnetized

Question FBQ16 : Magnetic susceptibility is negative for _____ substances.

Answer: Diamagnetic

Question FBQ17 : The relative permeability

K_m for a ferromagnetic material is _____ than unity.

Answer: Greater

Question FBQ18 : The relative permeability
K_m for a diamagnetic material is _____ than unity.

Answer: Less

Question FBQ19 : An atom which loses an electron becomes _____?

Answer: A cation

Question FBQ20 : An atom which gains an electron becomes _____?

Answer: An anion

Question FBQ21 : Conducting materials contain____ which are free to move about.

Answer: Electrons

Question FBQ22 : Molecules that acquire a dipole moment only in the presence of an electric field are _____.

Answer: Non- polar

Question FBQ23 : Molecules whose centre of positive charges coincides with the centre of negative charges are _____?

Answer: Polar

Question FBQ24 : Molecules that possess a permanent dipole moment irrespective of the presence of an electric field are _____?

Answer: Polar

Question FBQ25 : Ferromagnetic materials are used in the cores of transformers have very_____ hysteresis loop.

Answer: narrow

Question FBQ26 : <p style="text-align:justify">Two plates of a parallel plate capacitor are 8.85 mm apart and 2.00 m² in area. Compute the capacitance of the parallel plate capacitor. (Take ε_o = 8.85 x 10⁻¹² F/m).

Answer: 2 x 10-9 F

Question FBQ27 : <p style="text-align:justify">What is the charge on a parallel plate capacitor with capacitance of 3.54 μF when a potential difference of 10,000 V is applied across it?

Answer: 0.0354 C

Question FBQ28 : _____ is the SI unit of capacitance?

Answer: Farad

Question FBQ29 : Magnetic fields are due to____ charges in motion.

Answer: Electric

Question FBQ30 : A non-polar molecule acquires a ____ moment only in the presence of an electric field.

Answer: Dipole

Question FBQ31 : What happens to the capacitance of a parallel plate capacitor if we increase the distance of separation between the parallel plates of a capacitor by two?

Answer: The capacitance reduces by a factor of 2

Question FBQ32 : The introduction of a dielectric material between the plates of a parallel plate capacitor _____ the capacitance?

Answer: increases

Question FBQ33 : Materials which respond very strongly to the presence of magnetic fields are called___ materials

Answer: Ferromagnetic

Question FBQ34 : In ___ molecules the centres of positive and negative charges are located at different points.

Answer: polar

Question FBQ35 : The value of the magnetic flux B when the magnetic intensity H is zero is called _____

Answer: Remanence

Question MCQ1 : The capacitance of a parallel plate capacitor depends on____.

Answer: All the options

Question MCQ2 : The magnetic dipole moment per unit volume is called_____.

Answer: Magnetisation

Question MCQ3 : In a dielectric material, the extent of the charge separation depends on the magnitude of the ___.

Answer: Local field

Question MCQ4 : The presence of dielectric led to the modification of _____law.

Answer: Gauss'

Question MCQ5 : Two capacitors connected in parallel have_____.

Answer: Equal potential difference

Question MCQ6 : Inside a dielectric, the average electric field is _____than the electric field causing polarisation.

Answer: Less

Question MCQ7 : The magnitude of the force F between two charges q₁ and q₂ kept at a distance r in a dielectric medium of permittivity ε is given by:

Answer: |F| = q₁q₂/4πεr²

Question MCQ8 : A parallel plate capacitor has a capacitance of 1.0 F and the plates are 1.0 mm apart. What is the area of the plates? (Take ε_o = 8.85 x 10⁻¹² F/m)

Answer: 1.13 x 10⁸ m²

Question MCQ9 : Two plates of a parallel plate capacitor are 8.85 mm apart and 2.00 m² in area. Compute the capacitance of the parallel plate capacitor. (Take ε_o = 8.85 x 10⁻¹² F/m).

Answer: 2 x 10⁻⁹ F

Question MCQ10 : Materials which respond very strongly to the presence of magnetic fields are called___.

Answer: Ferromagnetic

Question MCQ11 : The line integral of E around any closed path equals the rate of change of the magnetic flux φ through the surface enclosed by the path is --------------------law

Answer: Faraday's

Question MCQ12 : What is the effective capacitance of a parallel arrangement of 4 µF and 4 µF capacitors?

Answer: 2 µF

Question MCQ13 : Two point charges q₁
=10nC and q₂ = -60nC are separated by
a distance r = 6cm. What is the magnitude of the electric force that
q₁ exerts on
q₂?

Answer: 1.5 x 10⁻⁵N

Question MCQ14 : Conducting materials contain _____ which are free to
move about.

Answer: Electrons

Question MCQ15 : The dipole moment per unit volume is called_____.

Answer: Polarisation

Question MCQ16 : The energy stored in a capacitor of capacitance 10 µF
is 5 J. What is the voltage applied across its terminals.

Answer: 1,000 V

Question MCQ17 : <p style="text-align:justify">What is the dipole
moment of a dipole comprising two charges q₁ = +8.0nC and
q₂ = -8.0nC with 100 mm separation?

Answer: 8.0 x 10⁻¹⁰
Cm

Question MCQ18 : How much charge is in a 1F capacitor which has a
potential difference of 110V?

Answer: 110 C

Question MCQ19 : <p style="text-align:justify">Three capacitors of
equal capacitance C are connected in series. What is the effective capacitance
of the circuit?

Answer: C/3

Question MCQ20 : Magnetic field intensity H is measured in _____.

Answer: Amperes per metre

Question MCQ21 : <p style="text-align:justify">If an atom loses an
electron, it becomes which of the following?

Answer: A cation

Question MCQ22 : <p style="text-align:justify">If an atom gains an
electron, it becomes which of the following?

Answer: An anion

Question MCQ23 : <p style="text-align:justify">The plates of a
parallel plate capacitor are separated by a distance. If a dielectric slab is
inserted between the plates, the energy stored is _____?

Answer: Decreased

Question MCQ24 : The unit for the energy stored per unit volume in a
dielectric medium is _____?

Answer: J/m3

Question MCQ25 : Which type of capacitor is used in low loss precision
circuit where miniaturisation is important?

Answer: Ceramic

Question MCQ26 : Which of these is true of paramagnetic materials?

Answer: They get displaced in the direction of increasing field.

Question MCQ27 : Which of these is true of diamagnetic materials?

Answer: They get attracted in the direction of the decreasing field.

Question MCQ28 : The ratio of the magnetic moment and the angular momentum is called _____?

Answer: Gyro-magnetic ratio

Question MCQ29 : Diamagnetism involves a change in the _____ of the magnetic moment of an atom.

Answer: Magnitude

Question MCQ30 : In paramagnetic and diamagnetic materials the magnetisation is maintained by the_____.

Answer: Field

Question MCQ31 : The maximum safe voltage for a capacitor is called the_____voltage.

Answer: Working

Question MCQ32 : Calculate the energy stored in the magnetic field of a 3H inductor which carries a current of 2A.

Answer: 6J

Question MCQ33 : The work done per unit charge is called its _____.

Answer: Potential

Question MCQ34 : Magnetic fields are due to____ charges in motion.

Answer: Electric

Question MCQ35 : Free currents in a magnetized material are caused by_____

Answer: External current sources