



☐ d. 20.5pF

Question 2

Not yet answered

Marked out of 1

🚩 Flag question

What must the charge (sign and magnitude) of a particle of mass 5 g be for it to remain stationary when placed in a downward-directed electric field of magnitude 800 N/C?

Select one:

- ☐ a. $-30.6 \mu\text{F} \mu\text{F}$
- ☐ b. $-61.3 \mu\text{F} \mu\text{F}$
- ☐ c. $+61.3 \mu\text{F} \mu\text{F}$
- ☐ d. $-30.6 \mu\text{F} \mu\text{F}$

Question 3

Not yet answered

Marked out of 1

🚩 Flag question

Four cells each of e.m.f 1.5 V are connected together in parallel to form a battery. The equivalent e.m.f of the battery is?





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Message



Question 13

Not yet answered

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Flag question

Which of the following is the correct unit for volume charge density?

Select one:

- ☐ a. $C.m^{-2}$
- ☐ b. $C.m^{-1}$
- ☒ c. $C.m^{-3}$
- ☐ d. $C.m^1$

Question 14

Not yet answered

Marked out of 1

Flag question

In a semiconductor crystal, if current flows due to breakage of crystal bonds, then the semiconductor is called

Select one:

- ☐ a. acceptor
- ☐ b. donor
- ☒ c. Intrinsic semiconductor
- ☐ d. Extrinsic semiconductor

Question 15

Not yet answered

Marked out of 1

Flag question

A positive charge moving with a constant velocity v enters a region of a uniform magnetic field pointing to the top of the page. What is the

Question 3

Not yet answered

Marked out of 1

Flag question

The weight of a charge-bearing oil droplet with charge $10^{10} e^-$ in an electric field in Millikan's apparatus is 10^{-5} kg. If the droplet is located midway between the plates which are 10cm apart, determine the electric field strength needed to keep the droplet suspended.

Select one:

- ☒ a. 1.25×10^4 V/m
- ☐ b. 2×10^4 V/m
- ☐ c. 2×10^{-14} V/m
- ☐ d. 1.25×10^5 V/m

Question 4

Not yet answered

Marked out of 1

Flag question

One of the following statements about electrical potential energy is

Question 14

Not yet answered

Marked out of 1

Flag question

In the figure below the appropriate expression for the currents at the node is.....

Select one:

- ☐ a. $I_5 - I_4 - I_3 - I_2 - I_1 = 0$
- ☐ b. $I_5 + I_1 + I_2 - I_3 - I_4 = 0$
- ☐ c. $I_1 + I_2 - I_3 - I_4 - I_5 = 0$
- ☐ d. $I_1 + I_4 + I_5 - I_2 - I_3 = 0$

Question 15

Not yet answered

Marked out of 1

Flag question

Which of the following is/are correct about a charge q , moving with velocity v , in a uniform magnetic field?

i. The magnitude and direction of the force, F_B , depends on v and q . ii. The magnitude and direction of the force F_B independent of v and q . iii. The magnitude and direction of the force, F_B is zero always

Select one:

- ☐ a. i only
- ☐ b. ii only
- ☐ c. ii and iii
- ☐ d. i, ii and iii

Question 9

Not yet answered

Marked out of 1

 Flag question

A $10\mu\text{F}$ capacitor is charged by a 24V battery through a $400\text{k}\Omega$ resistor. After 1s, what is the voltage across the resistor?

Select one:

- ☐ a. 5.3V
- ☐ b. 24V
- ☐ c. 29.3V
- ☐ d. 18.7V

Question 10

Not yet answered

Marked out of 1

 Flag question

The magnetic field produced near the current-carrying conductor is

Select one:

- ☒ a. stronger
- ☐ b. weaker
- ☐ c. neutral

Question 1

Not yet answered

Marked out of 1

 Flag question

Which of the following is true? i.

Doping of semiconductors improves its conductivity. ii. doping a

semiconductor renders it totally immune to ambient temperature.

Doping of semiconductor alters the composition of carriers in it.

Select one:

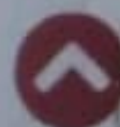
- ☐ a. i, ii, iii.
- ☐ b. i, ii.
- ☒ c. i, iii.
- ☐ d. ii, iii.

Question 2

Not yet answered

Marked out of 1

 Flag question



Question 4

Not yet answered

Marked out of 1

Flag question

The emf of a battery is equal to its terminal potential difference:

Select one:

- ☐ a. under all conditions
- ☐ b. only when the battery is being charged
- ☐ c. only when a large current is in the battery
- ☐ d. only when there is no current in the battery

Question 5

Not yet answered

Marked out of 1

Flag question

An inductor, $L = 0.5H$, in series with a resistor, $R = 250 \Omega$, are connected to an a.c. source $100V$, $50Hz$. Determine the apparent power of the circuit.

Select one:

- ☐ a. $33.9VA$
- ☐ b. $34VA$

Question 10

Not yet answered

Marked out of 1

Flag question

The magnetic field produced near the current-carrying conductor is

Select one:

- ☐ a. stronger
- ☐ b. weaker
- ☐ c. neutral
- ☐ d. none of above

Question 11

Not yet answered

Marked out of 1

Flag question

The electric flux is negative when the angle between $\mathbf{E}$ and $\mathbf{A}$ is?

Select one:

- ☐ a. zero
- ☐ b. 90°
- ☐ c. 45°
- ☐ d. greater than 90°



Question 2

Not yet answered

Marked out of 1

Flag question

A circular ring 5 cm in radius has a positive charge of 3×10^{-7} C. Compute the magnitude of the electric field intensity on the axis of the ring 4 cm from its centre.

Select one:

- ☐ a. 2.60×10^{-10} N/C
- ☐ b. 4.65×10^8 N/C
- ☐ c. 3.00×10^{-7} N/C
- ☒ d. 4.1×10^5 N/C

Question 3

Not yet answered

Marked out of 1

Flag question

An alternating current flowing through a coil produces a magnetic field having

Select one:

- ☐ a. zero strength
- ☐ b. constant strength but alternating directions



- ☐ b. constant strength but alternating directions
- ☐ c. constant directions but alternating strengths
- ☒ d. alternating strengths and directions

Question 4

Not yet answered

Marked out of 1

Flag question

The quantity $(1/2)\epsilon\epsilon_0 E^2$ has the significance of:

Select one:

- ☐ a. energy/farad
- ☐ b. energy/coulomb
- ☐ c. energy
- ☒ d. energy/volume

Question 5

Not yet answered

Marked out of 1

Flag question

Which of following circuit element stores energy in electromagnetic field?

Select one:

☐ d. Coulomb's law

Question 5

Not yet answered

Marked out of 1

[Flag question](#)

A given RLC circuit has $R = 100\Omega$, $L = 1\text{H}$ and $C = 10\mu\text{F}$ all connected in series with a source of $200\sin \omega t$ with $\omega = 400$. Calculate the phase angle and determine the circuit type.

Select one:

- ☐ a. 33.7° inductive
- ☐ b. 56.3° capacitive
- ☐ c. 33.7° capacitive
- ☐ d. 56.3° inductive

Question 6

Not yet answered

Marked out of 1

[Flag question](#)

What is the electric field at a point P which is 30 cm to the right of a point charge $Q = -3.0\mu\text{C}$?

Select one:



Question 1

Not yet answered

Marked out of 1

Flag question

Two identical conducting plates of plate area A are separated by a distance d to form a parallel plate air capacitor. Now a metal sheet of thickness $d/2$ is inserted between the plates of the capacitor. The ratio of capacitance before the insertion of plate and after the insertion of plate is

Select one:

- ☐ a. 1:2
- ☐ b. 1:1
- ☐ c. 1:2
- ☐ d. $\sqrt{2}$:1



Quiz

1

2

7

8

13

14

Finish attempt

Time left 0:08

Question 7

Not yet answered

Marked out of 1

Flag question

Two capacitors are identical except that one is filled with air and the other with oil. Both capacitors carry the same charge. The ratio of the electric fields $E_{\text{air}}/E_{\text{oil}}$ is:

Select one:

- ☒ a. between 0 and 1
- ☐ b. 0
- ☐ c. 1
- ☐ d. between 1 and infinity

Question 8

Not yet answered

Marked out of 1

Flag question

- ☐ b. constant strength but alternating directions
- ☐ c. constant directions but alternating strengths
- ☒ d. alternating strengths and directions

Question 4

Not yet answered

Marked out of 1

Flag question

The quantity $(1/2)\epsilon\epsilon E^2$ has the significance of:

Select one:

- ☐ a. energy/farad
- ☐ b. energy/coulomb
- ☐ c. energy
- ☒ d. energy/volume

Question 5

Not yet answered

Marked out of 1

Flag question

Which of following circuit element stores energy in electromagnetic field?

Select one:

- ☐ b. below the valence band of silicon
- ☐ c. closer to the conduction band of silicon than its valence band.
- ☐ d. closer to the valence band of silicon than its conduction band

Question 4

Not yet answered

Marked out of 1

[Flag question](#)

The total flux emerging from a given charge is independent of the medium surrounding it. This is the statement of

Select one:

- ☐ a. Gauss's law
- ☐ b. Kirchhoff's law
- ☐ c. Ohm's law
- ☐ d. Coulomb's law

Question 5

Not yet answered

Marked out of 1

[Flag question](#)

A given RLC circuit has $R = 100\Omega$, $L = 1\text{H}$ and $C = 10\mu\text{F}$ all connected in series with a source of $200\sin \omega t$ with $\omega = 400$. Calculate the phase angle and determine the circuit type.

Select one:

Question 4

Not yet answered

Marked out of 1

 Flag question

A $2\text{-}\mu\text{F}$ and a $1\text{-}\mu\text{F}$ capacitor are connected in series and charged from a battery. They store charges P and Q , respectively. When disconnected and charged separately using the same battery, they have charges R and S , respectively. Then:

Select one:

- ☐ a. $R > S > Q = P$
- ☐ b. $P > Q > R = S$
- ☒ c. $R > P = Q > S$
- ☐ d. $R = P > S = Q$

Question 5

Not yet answered

Marked out of 1

 Flag question

Which of the following statements about a capacitor is incorrect?

Select one:

- ☐ a. It is used for storing charges.
- ☐ b. It is mostly made of two parallel plates.
- ☐ c. It is charged by connecting a battery across the terminal.
- ☐ d. The charge on it is inversely proportional to the potential difference across the terminals.

- ☐ a. $2.51 \times 10^{-5} \text{ s}$
- ☐ b. $1.38 \times 10^{-5} \text{ s}$
- ☐ c. $1.38 \times 10^{-8} \text{ s}$

Question 2

Not yet answered

Marked out of 1

 Flag question

A long wire carries a steady current. It is bent into a circle of one turn and the magnetic field at the centre of the coil is B . It is then bent into a circular loop of n turns. The magnetic field at the centre of the coil for same current will be

Select one:

- ☐ a. nB
- ☐ b. $n^2 B$
- ☐ c. $2nB$
- ☐ d. $2n^2 B$

Question 3

Not yet answered

Marked out of 1

 Flag question

Question 1

Not yet answered

Marked out of 1

 Flag question

An electron is situated in a uniform electric field of intensity $1.2 \times 10^5 \text{ N/C}$. Calculate the time it takes to travel 20mm from rest if the charge is $1.6 \times 10^{-19} \text{ C}$ and the mass is $9.1 \times 10^{-31} \text{ kg}$

A. $3.25 \times 10^{-6} \text{ s}$

Select one:

- ☐ a. $2.31 \times 10^{-6} \text{ s}$
- ☐ b. $1.38 \times 10^{-5} \text{ s}$
- ☐ c. $1.38 \times 10^{-8} \text{ s}$

Question 2

Not yet answered

Marked out of 1

 Flag question

- ☐ c. It becomes zero
- ☐ d. It becomes infinity

Question 11

Not yet answered

Marked out of 1

 Flag question

Light bulb has input power consumption of 50 watts. The light bulb was activated for 60 seconds and produced heat of 2400 joules. Find the efficiency of the light bulb.

Select one:

- ☒ a. 20%
- ☐ b. 80%
- ☐ c. 12.5%
- ☐ d. 60%

Question 12

Not yet answered

Marked out of 1

 Flag question

On an equipotential surface

See answer



A uniform electric field of 4.50 kN/C passes through a rectangular surface of area 12 cm by 14 cm . The field makes an angle of 60° with the normal to the area. Determine the electric flux through the surface.

Select one:

- ☐ a. $0.378 \text{ Nm}^2/\text{C}$
- ☐ b. $378 \text{ Nm}^2/\text{C}$
- ☐ c. 378 N/C
- ☐ d. $378 \text{ Nm}^2/\text{C}$

Question 13

Not yet answered

Marked out of 1

Flag question

Resistances of 2.0Ω , 4.0Ω , and 6.0Ω and a 24-V emf device are all in parallel. The sum

$$\frac{1}{R_T} = \frac{4}{20}$$

$$R_T = 5 \Omega$$

$$V = IR$$

$$20 = I \times 5$$

$$I = 4 A$$

Question 12

Not yet answered

Marked out of 1

 Flag question

Which of the following is the correct about flux from a point charge?

- I. It is the product of electric field strength and force between charges
- II. It is the product of Force between charges and the product of the charges
- III. It is the product of electric field strength and cross-sectional area

Select one:

- ☐ a. I only
- ☐ b. II only
- ☐ c. III only
- ☐ d. I, II and III

Question 15

Not yet answered

Marked out of 1

 Flag question

In which of the following does the valence band overlap with the conduction band.

Select one:

- ☐ a. Conductor
- ☐ b. Non-conductor
- ☐ c. Pure semiconductor
- ☐ d. P-type semiconductor

The diagram below shows the electric field near two point charges L and R.



What is the polarity of the charge at L and R respectively?

Select one:

- ☐ a. Positive Positive
- ☐ b. Positive Negative
- ☐ c. Negative Positive
- ☐ d. Negative Negative

Question 8

Not yet answered

Marked out of 1

Flag question

A parallel plate air capacitor is made of 0.2 m square tin plates and 1 cm apart. It is connected to a 50 V battery. What is the charge on each plate?

Select one:

- ☐ a. 1.77 nC
- ☐ b. $1.77 \mu\text{C}$
- ☐ c. 1.77 C
- ☒ d. 1.77 pC

Question 9

Not yet answered

Marked out of 1

Flag question

A 120 V power line is protected by a 15 A fuse. What is the maximum power that can be drawn from the line?

Question 2

Not yet answered

Marked out of 1

Flag question

A coil of wire with N turns and area A is placed into a magnetic field of magnitude B . The angle of the normal to the plane of the coil is at an angle ϕ with respect to the magnetic field. According to the Faraday's law, which of the following changes will produce an emf in a coil of wire?

Select one:

- ☐ a. magnetic field is decreased
- ☐ b. area is increased
- ☐ c. angle ϕ is decreased
- ☒ d. any of the above choices

Question 3

Not yet answered

Marked out of 1

Flag question

A reverse biased PN junction has

☐ a. 5.60

☐ b. 4.60

Question 11

Not yet answered

Marked out of 1

Flag question

Calculate the electric field outside a spherical Gaussian surface at a point that is 4.2 cm from the center of the sphere. The sphere has a total charge of 10^{-8} C and the diameter is 4 cm.

Select one:

☐ a. 47000/E

☐ b. 16000/E

☐ c. 16000/m

☐ d. 16000/m

Question 12

Not yet answered

Marked out of 1

Flag question

- ☐ b. has no internal resistance
- ☐ c. generates heat in an external circuit half as fast as would a single cell
- ☒ d. has half the internal resistance of a single cell

Question 2

Not yet answered

Marked out of 1

 Flag question

Which is/are correct about Coulomb's law? i. For similar charges, force is positive; ii. For non-identical charges, the force is negative; iii. For similar charges, force is negative; iv. For non-identical charges, force is positive

Select one:

- ☐ a. i & ii
- ☐ b. ii & iii
- ☐ c. iii & iv
- ☐ d. i, ii, iii & iv

Question 3

Not yet answered

Marked out of 1

 Flag question

The electric field, $\vec{E}$, is said to be uniform if it is:

Select one:

- ☒ a. constant in magnitude and direction

The plates of a parallel plate air capacitor are charged to 100 V. A 2mm plate is inserted between the plates of the capacitor. To maintain the same potential difference, the distance between the capacitor plates is increased by 1.6mm. The dielectric constant of the plate is

Select one:

- ☒ a. 1.25
- ☐ b. 5
- ☐ c. 2.5
- ☐ d. 4

Question 4

Not yet answered

- ☐ d. 960 V

Question 12

Not yet answered

Marked out of 1

 Flag question

A given RLC circuit has $R = 100\Omega$, $L = 1\text{H}$ and $C = 10\mu\text{F}$ all connected in series with a source of $200\sin \omega t$ with $\omega = 400$. Calculate the impedance of the RLC circuit.

Select one:

- ☐ a. 150 ?
- ☐ b. 160 ?
- ☐ c. 170 ?
- ☒ d. 180 ?

Question 13

Not yet answered

Marked out of 1

 Flag question

An inductor connected to an a.c. source 24V, 50Hz. If the inductor causes a current of 0.5A to flow out of the source, determine the inductance of the inductor.



- ☐ c. electric intensity
- ☐ d. electric field lines

Question 15

Not yet answered

Marked out of 1

Flag question

A battery of emf 4v and internal resistance of 2 Ohms is joined to a resistor of 8 Ohms. Calculate the terminal potential difference

Select one:

- ☐ a. 3.2v
- ☐ b. 4.8v
- ☐ c. 24v
- ☐ d. 4.8v

Finish attempt



Quiz navigation



Marked out of 1

Flag question

Which of the following is **TRUE** of THE APPLICATION OF Gauss's law

Select one:

- ☐ a. For spherical charge distribution, the Gaussian surface is a sphere
- ☐ b. For a charge distributions that have the symmetry of an infinite surface uniform plane, the Gaussian surface is a plane
- ☐ c. For a charge distributions that have the symmetry of an infinite surface uniform plane, the Gaussian surface is a "coin-shaped" flat cylinder.
- ☐ d. For charge distribution that have the symmetry of an infinitely long cylinder or wire, the Gaussian surface is coaxial cylinder

Question 15

Not yet answered

Marked out of 1

Flag question

A transformer has 200 turns in its primary coil and 600 turns in its



Question 9

Not yet answered

Marked out of 1

 Flag question

A straight wire of length 0.20 m moves at a speed of 3.0 m s^{-1} 90° to magnetic field of flux density 0.10 T. Find the induced e.m.f

Select one:

- ☐ a. 0.5 V
- ☒ b. 0.06 V
- ☐ c. 0.05 V
- ☐ d. 0.04 V

Question 10

Not yet answered

Marked out of 1

 Flag question

Select one:

- ☒ a. $E = IR + Ir$
- ☐ b. $E = IR - Ir$
- ☐ c. $E = IR/Ir$
- ☐ d. $E = IR(Ir)$

Question 11

Not yet answered

Marked out of 1

Flag question

There are 1000 turns in the secondary coil of a transformer and 500 turns in the primary coil. What will be the voltage across the secondary coil if voltage of 240 V is applied across the primary coil?

Select one:

- ☐ a. 60 V
- ☐ b. 120 V
- ☐ c. 480 V
- ☐ d. 960 V

Question 12

Not yet answered

Marked out of 1

Flag question

A series RLC circuit has $R = 100\Omega$, $L = 1H$ and $C = 10\mu F$ all connected in



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- ☐ c. -ve terminal to p and -ve terminal to n
- ☐ d. None of the above

Question 9

Not yet answered

Marked out of 1

Flag question

When a charge is accelerated through a potential difference of 500 V, its kinetic energy increases from $2.0 \times 10^{-5} \text{ J}$ to $6.0 \times 10^{-5} \text{ J}$. What is the magnitude of the charge?

Select one:

- ☐ a. $4.0 \times 10^{-8} \text{ C}$
- ☐ b. $8.0 \times 10^{-8} \text{ C}$
- ☐ c. $1.2 \times 10^{-7} \text{ C}$
- ☐ d. $1.6 \times 10^{-7} \text{ C}$

Question 10

Not yet answered

Marked out of 1

Flag question

For a cell with EMF, E and internal resistance, r connected with an external resistor of resistance R in a closed circuit. The EMF can be expressed as _____?

- ☐ a. voltage across each capacitor
- ☒ b. charge
- ☐ c. capacitance
- ☐ d. resistance

Question 3

Not yet answered

Marked out of 1

Flag question

What is the magnitude of a point charge whose electric field 50 cm away has magnitude 2.0N/C?

Select one:

- ☐ a. $3.76 \times 10^{-11} \text{ C}$
- ☐ b. $4.05 \times 10^{-11} \text{ C}$
- ☐ c. $5.56 \times 10^{-11} \text{ C}$
- ☐ d. $2.00 \times 10^{-11} \text{ C}$

Question 4

Not yet answered

Marked out of 1

Flag question

Which of the following is true about electric dipole:

Select one:

- ☐ a. no net charge, but does have a net electric field

Question 8

Not yet answered

Marked out of 1

Flag question

Which of the following is/are correct for parallel current-carrying conductor?

- I. the force between the conductors is inversely proportional to the distance between them;
- II. the force between the conductors is directly proportional to the current flowing in them;
- III. if current flows in the same direction in the conductors, force between them is attractive.

Select one:

- ☐ a. I, II
- ☒ b. I, II & III
- ☐ c. II & III
- ☐ d. I & III

Question 9

Not yet answered

Marked out of 1

Flag question





☐ d. P-type semiconductor

Question 4

Not yet answered

Marked out of 1

Flag question

Faraday's law indicates that a changing magnetic field produces

Select one:

- ☐ a. an electric field.
- ☐ b. an induced magnetic field.
- ☒ c. a force field.
- ☐ d. light.

Question 5

Not yet answered

Marked out of 1

Flag question

Two charges $q_1 = 15 \text{ } \mu\text{C}$ and $q_2 = -17 \text{ } \mu\text{C}$ are within a rectangular surface of dimension 2cm by 5cm. Compute the total flux through the surface in Nm^2C^{-1}

Select one:

- ☐ a. 1.321



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Question 1

Not yet answered

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Flag question

A loop of wire carrying a current of 2.0 A is in the shape of a right triangle with two equal sides, each 15 cm long. A 0.7 T uniform magnetic field is parallel to the hypotenuse. The resultant magnetic force on the two equal sides has a magnitude of:

Select one:

- ☐ a. 0
- ☐ b. 0.21 N
- ☐ c. 0.30 N
- ☒ d. 0.41 N

Question 2

Not yet answered

Marked out of 1

Flag question

Which of the following is correct about Coulomb's law?

1. The bodies were small compared to the distance between them.

- ☒ c. $1 \text{ N A}^{-1} \text{ m}^{-1}$
☐ d. $1000 \text{ N A}^{-1} \text{ m}^{-1}$

Question 12

Not yet answered

Marked out of 1

 Flag question

The potential difference across a 4 ohm resistor is 20 volts. Assuming that all of the energy dissipated by this resistor is in the form of heat, how many joules of heat are radiated in 10 seconds?

Select one:

- ☐ a. 1000 Joules
☐ b. 100 Joules
☐ c. 0.100 Joules
☐ d. 10 Joules

Question 13

Not yet answered

Marked out of 1

 Flag question

In the figure below, a, b are:



☐ d. Galvanometer

Question 15

Not yet answered

Marked out of 1

 Flag question

The potential difference between the two plates of a parallel plate capacitor is

Select one:

- ☐ a. $\frac{Qd}{\epsilon_0 A \epsilon_0 A}$
- ☐ b. $\frac{d \epsilon_0 d \epsilon_0}{A Q A Q}$
- ☐ c. $\frac{A d}{\epsilon_0 Q \epsilon_0 Q}$
- ☐ d. $\frac{Q A}{d \epsilon_0 d \epsilon_0}$

Finish attempt ...

◀ Announcements

Jump to...



☐ d. unity

Question 3

Not yet answered

Marked out of 1

 Flag question

In an antique automobile, a 6-V battery supplies a total of 48 W to two identical headlights in parallel. The resistance (in ohms) of each bulb is:

Select one:

- ☐ a. 0.67
- ☐ b. 1.5
- ☐ c. 3
- ☐ d. 4

Question 4

Not yet answered

Marked out of 1

 Flag question

How can a magnetic field be produced?

Question 9

Not yet answered

Marked out of 1

Flag question

Which of the following applies to current flowing through a p-n junction diode? i. Applied voltage must equal barrier potential. ii. Current that flows when reverse biased is known as saturation current. iii. Majority carriers are withdrawn from diode when reverse biased.

Select one:

- ☐ a. i, ii.
- ☐ b. i, ii, iii.
- ☐ c. i, ii, iii, iv.
- ☐ d. ii, iii, iv.

Question 10

Not yet answered

Marked out of 1

Flag question

Which of following statements is **CORRECT**?

Select one:

- ☐ a. In theoretical calculation it usually of potential of isolated system it is usually convenient to take a point at infinite distance as infinite potential

In most practical situation, the earth is taken as having zero

- ☐ c. $3.2 \times 10^{-5} \text{ C/m}^2$
- ☐ d. $6.4 \times 10^{-5} \text{ C/m}^2$

Question 7

Not yet answered

Marked out of 1

 Flag question

Three point charges lie along the x -axis. The positive charge $q_1 = 15.0 \text{ iC}$ is at $d = 2.00 \text{ m}$ from the origin, the positive charge $q_2 = 6.00 \text{ iC}$ is at the origin, and the resultant force acting on q_3 (which is negative) is zero. What is the x coordinate of q_3 ?

Select one:

- ☐ a. 0.775 m
- ☐ b. 0.376 m
- ☐ c. 0.875 m
- ☐ d. 0.795 m



UNIVERSITY OF LAGOS, NIGERIA
**OFFICE OF THE REGISTRAR & SECRETARY TO
COUNCIL**
INTERNAL MEMORANDUM

From: Ag. Registrar

To: See Distribution

Ref: No. AD/REG/G/3

Date: July 12, 2024.

INVITATION TO ATTEND EDUCATIONAL PARTNERSHIP ROUNDTABLE

The Vice Chancellor, **Professor Folasade T. Ogunsola, OON, FAS**, has requested that you be invited to attend the Educational Partnership Roundtable event organised by the United States Embassy in conjunction with the University of Lagos, scheduled to hold as follows:

Date: Monday, July 15, 2024.

Venue: J.F. Ade-Ajayi Auditorium

Time: 9:00 a.m. prompt

The event will offer the attendees the opportunity to meet the members of the US President's Advisory Council for African Diaspora Engagement.

Deans, Directors, Heads of Department and the Dean of Student Affairs are expected to mobilise students to attend the event. Other Universities within Lagos State will also attend the event.

Please find attached the flier for the event.

Thank you.

Olakunle E. Makinde (Mrs.), MNIM, fisa
Ag. Registrar

Question 14

Not yet answered

Marked out of 1

 Flag question

The rate of change of potential with respect to the distance is called as?

Select one:

- ☐ a. Potential difference
- ☒ b. Potential Gradient
- ☐ c. Capacitance
- ☐ d. Potential energy

Question 15

Not yet answered

Marked out of 1

 Flag question

A car battery is rated at $80 \text{ A} \cdot \text{h}$. An ampere-hour is a unit of:

Select one:

- ☐ a. power



Question 10

Not yet answered

Marked out of 1

Flag question

A series R-L-C circuit has $R=10\ \Omega$, $L=0.5\text{H}$ and $C=10\ \mu\text{F}$. Calculate the impedance and phase angle of this circuit if it is connected to a source 100V, 50Hz.

Select one:

- ☐ a. $161.5\ \Omega$, 86.5°
- ☐ b. $126.5\ \Omega$, -87.5°
- ☐ c. $475.4\ \Omega$, 86.5°
- ☐ d. $161.5\ \Omega$, -86.5°

Question 11

Not yet answered

Marked out of 1

Flag question

Which of the following is true? i. Doping of semiconductors improves its conductivity. ii. doping a

- ☒ a. +ve terminal to p and -ve terminal to n
- ☐ b. -ve terminal to p and +ve terminal to n
- ☐ c. -ve terminal to p and -ve terminal to n
- ☐ d. None of the above

Question 13

Not yet answered

Marked out of 1

 Flag question

Suppose I have a uniform electric field within a parallel plate capacitor with field strength $E = 41 \text{ NC}$. Suppose the capacitor's plates are 0.5m in length and 0.001m in width, and the space between the plates is 1.5cm . What is the voltage difference across the capacitor?

Select one:

- ☐ a. 0.475 V
- ☐ b. 5.5 V
- ☐ c. 61.5 V
- ☒ d. 0.615 V

Question 14 Flag question

Three charges $+1\text{mC}$, -1mC and -1mC are placed at the edges A, B & C respectively of an equilateral triangle of side 2cm . The direction of the