

Question 2

Answer saved

Marked out of 1

Flag question

A two farad and a four Farad capacitor are connected in series. What single capacitance is "equivalent" to this combination?

Select one:

- ☐ a. 8 Farads
- ☐ b. 0.5 Farads
- ☐ c. 0.75 Farads
- ☒ d. 1.33 Farads

Question 3

Answer saved

Marked out of 1

Flag question

Gauss's law can be applied to the following except

Select one:

- ☐ a. location of excess charge on a conductor
- ☐ b. the Coulomb's law
- ☐ c. field just outside any charged conductor
- ☒ d. no correct option

Question 4

Answer saved

Marked out of 1

Flag question

The direction of field at any point can be determined by drawing a?

Select one:

- ☐ a. normal at that point
- ☒ b. tangent to the line of force passing through that point
- ☐ c. parabola to the line of force passing through that point
- ☐ d. smooth curve at that point

☐ c. 1:2

☐ d. $v_2:1$

Question 7

Not yet answered

Marked out of 1

Flag question

A transformer has 200 turns in its primary coil and 600 turns in its secondary coil. If the current in the primary coil is 12.0 A, what is the current in the secondary coil?

Select one:

☐ a. 0.4 A

☒ b. 4.0 A

☐ c. 40.0 A

☐ d. 0.04A

Question 8

Not yet answered

Marked out of 1

Flag question

A current 3A flows through a metre length conductor. Calculate the force experienced by this conductor if a quarter if its length is perpendicular to a magnetic field of 0.5T .

Select one:

☐ a. 0.375N

**Question 13**

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 rms current

Select one:

- ☐ a. 0.74A
- ☐ b. 0.78A
- ☐ c. 0.72A
- ☐ d. 1.11A

Question 14

Not yet answered

Marked out of 1

Flag question

A magnetic induction of $20\mu\text{T}$ is applied to long straight current carrying wire of radius 120mm.

Find the current in the wire. Take

$$\mu_0 = 4\pi \times 10^{-7} \text{Tm/A}$$

Question 14

Not yet answered

Marked out of 1

Flag question

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Find the current in the wire. Take

$$\mu_0 = 4\pi \times 10^{-7} \text{ Tm/A}$$

$$\mu_0 = 4\pi \times 10^{-7} \text{ Tm/A.}$$

Select one:

- ☐ a. 120 A
- ☐ b. 1.2 A
- ☐ c. 12 A
- ☐ d. 0.12 A

Question 15

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

Question 10

Not yet answered

Marked out of 1

 Flag question

A metal ball of 10kg with 5 C charges is moving perpendicular to the magnetic field of 5T. The radius of the path is 80 m. What is the speed of the ball and the period of the ball?

Select one:

- ☒ a. 200m/s, 6.0s
- ☐ b. 80m/s, 2.5 s
- ☐ c. 120m/s, 6.0 s
- ☐ d. 200 m/s, 2.5 s

Question 11

Not yet answered

Marked out of 1

 Flag question

A loop of wire of 25 turns has an area of $2.0 \times 10^{-2} \text{ m}^2$. A current of

Which of following circuit element stores energy in electromagnetic field?

Select one:

- ☐ a. Inductor
- ☐ b. Condenser
- ☐ c. Resistor
- ☐ d. Capacitor

Question 9

Not yet answered

Marked out of 1

 Flag question

An inductor, $L = 1H$, in series with a resistor, $R = 150 \Omega$, are connected to an a.c. source 60v,

Question 7

Not yet answered

Marked out of 1

 Flag question

Two point charges are 6 cm apart. They are moved to a new separation of 3 cm. By what factor does the resulting mutual force between them change?

Select one:

- ☐ a. $1/2$
- ☐ b. 2
- ☒ c. 4
- ☐ d. $1/4$

Question 8

Not yet answered

Marked out of 1

 Flag question

Materials which are non-conductors at low temperatures and become



Question 7

Not yet answered

Marked out of 1

 Flag question

Capacitance 15F and 5F are connected in parallel across a 20v battery. What is the energy stored?

Select one:

- ☐ a. 4000J
- ☐ b. 0.004J
- ☐ c. 200J
- ☐ d. 400J

Question 8

Not yet answered

Marked out of 1

 Flag question

Which of following circuit element stores energy in electromagnetic

- ☒ d. doping with group V elements leads to excess holes in the conduction band.



Khadijah ❤️ Are you done

Question 9

Not yet answered

Marked out of 1

Flag question

A parallel plate air capacitor with no dielectric between the plates is connected to the constant voltage source. How would capacitance and charge change if dielectric of dielectric constant $K=2$ is inserted between the plates. C_0 and Q_0 are the capacitance and charge of the capacitor before the introduction of the dielectric.

Select one:

- ☐ a. $C=C_0/2$ and $Q=2Q_0$
- ☐ b. $C=2C_0$ and $Q=Q_0/2$
- ☒ c. $C=C_0/2$ and $Q=Q_0/2$
- ☐ d. $C=2C_0$ and $Q=2Q_0$

Question 10

Not yet answered

Marked out of 1

Flag question

A galvanometer has spring constant 'k', a magnetic field 'B' and deflection angle θ . The coil has N turns and an area A. Which of the following is the condition for equilibrium of the coil when current I flows in the galvanometer.

Select one:

- ☐ a. $KB = \theta IAN$
- ☒ b. $K\theta = BIAN$
- ☐ c. $BI = K\theta AN$
- ☐ d. $K\theta = BA/IN$

Question 11

Not yet answered

Marked out of 1

Flag question

Field which does not have magnetic poles is

Select one:

- ☐ a. straight lined
- ☐ b. normal to the wire
- ☒ c. tangent to the wire
- ☐ d. circular

Question 12

Not yet answered

Marked out of 1

Question 10

Not yet answered

Marked out of 1

Flag question

A galvanometer has spring constant ' k ', a magnetic field ' B ' and deflection angle θ . The coil has N turns and an area A . Which of the following is the condition for equilibrium of the coil when current I flows in the galvanometer.

Select one:

- ☐ a. $k\theta = \theta IAN$
- ☐ b. $k\theta = BIAN$
- ☐ c. $BI = k\theta AN$
- ☒ d. $k\theta = BA/IN$

Question 11

Not yet answered

Marked out of 1

Flag question

Field which does not have magnetic poles is

Select one:

- ☐ a. straight lined
- ☐ b. normal to the wire
- ☒ c. tangent to the wire
- ☐ d. circular

Which of the following copper conductor that has the least resistance is:

Select one:

- ☐ a. thin, long and hot
- ☐ b. thick, short and cool
- ☐ c. thick, long and hot
- ☐ d. thin, short and cool

Question 3

Not yet answered

Marked out of 1

 Flag question

A potentiometer is a device used to

Select one:

- ☐ b. 2A
- ☐ c. 11A
- ☒ d. 19A

Question 15

Not yet answered

Marked out of 1

 Flag question

The capacitor has a capacitance of $4.0 \mu\text{F}$. The resistor has resistance of $2.5 \text{ M}\Omega$. Calculate the maximum value of the charging current and the charge stored by the capacitor when the capacitor is fully charged.

Select one:

- ☒ a. $4 \mu\text{A}$, $40 \mu\text{C}$
- ☐ b. $40 \mu\text{A}$, $400 \mu\text{C}$
- ☐ c. $40 \mu\text{A}$, $40 \mu\text{C}$
- ☐ d. $4.0 \mu\text{A}$, $4.0 \mu\text{C}$

Finish attempt ...

Question 2

Not yet answered

Marked out of 1

 Flag question

Electric field is steepest in the direction in which the potential

Select one:

- ☐ a. Remains constant
- ☐ b. Increases
- ☐ c. Either decrease or remain constant
- ☒ d. Decrease

Question 1

Not yet answered

Marked out of 1

 Flag question

When a positive charge is moved in an electrostatic field from a point at high potential to a low potential, its kinetic energy

Select one:

- ☐ a. Remains Constant
- ☐ b. Decreases
- ☒ c. Increases
- ☐ d. It will first increase and the decrease sharply

Question 2

Not yet answered

Marked out of 1

 Flag question

Electric field is steepest in the direction in which the potential



Quiz navigation

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5	6	7	8
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13	14	15	

Finish attempt...

Time left: 0:03:34

Question 2

Not yet answered

Marked out of 1

 **Flag question**

A galvanometer of $50\ \Omega$ gives full scale deflection with 2 mA current. To convert it into ammeter, range of 10 A is connected with it, shunt resistance should be

Select one:

- ☐ a. $0.1\ \Omega$
- ☐ b. $0.2\ \Omega$
- ☒ c. $0.01\ \Omega$
- ☐ d. $0.02\ \Omega$

Question 3

Not yet answered

Marked out of 1

 **Flag question**

2:26 PM

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- ☐ d. Silicon is doped with Sodium

Question 9

Not yet answered

Marked out of 1

Flag question

A galvanometer has spring constant ' k ', a magnetic field ' B ' and deflection angle θ . The coil has N turns and an area A . Which of the following is the condition for equilibrium of the coil when current I flows in the galvanometer.

Select one:

- ☐ a. $k\theta = \theta IAN$
- ☐ b. $k\theta = BIAN$
- ☐ c. $BI = k\theta AN$
- ☐ d. $k\theta = BA/IN$

Question 10

Not yet answered

Marked

☐ d. 2V

Question 14

Not yet answered

Marked out of 1

 Flag question

Determine the electric flux emerging from a circular surface radius 0.025m^2 if the electric field strength is 100V/m and the field lines makes an angle of 30° with the surface.

Select one:

- ☒ a. $0.098\text{Nm}^2/\text{C}$
- ☐ b. $0.170\text{Nm}^2/\text{C}$
- ☐ c. $0.090\text{Nm}^2/\text{C}$
- ☐ d. $0.196\text{Nm}^2/\text{C}$

Not yet answered

Marked out of 1

 Flag question

- 14:26
- ☐ a. Power - kW·h
 - ☐ b. Energy - kW
 - ☒ c. Potential difference - J/C
 - ☐ d. Current - A/s

Question 14

Not yet answered

Marked out of 1

 Flag question

An alternating voltage whose peak value is 80 volts is connected across a 60 ohms. What is the value of ~~rmsrms~~ current?

Select one:

- ☐ a. 1.33 A
- ☐ b. 0.94 A
- ☐ c. 1.88A
- ☐ d. 0.67A

Question 15

Not yet answered

Marked out of 1

 Flag question

Question 8

Not yet answered

Marked out of 1

Flag question

What is the electric flux through a sphere of radius 4m that contains $50\mu\text{C}$?

Select one:

☐ a. $5.56 \times 10^6 \text{ Nm}^2/\text{C}$

$5.56 \times 10^6 \text{ Nm}^2/\text{C}$

☐ b. $2.28 \times 10^6 \text{ Nm}^2/\text{C}$

$2.28 \times 10^6 \text{ Nm}^2/\text{C}$

☐ c. $22.8 \times 10^6 \text{ Nm}^2/\text{C}$

$22.8 \times 10^6 \text{ Nm}^2/\text{C}$

☐ d. $1.42 \times 10^6 \text{ Nm}^2/\text{C}$

$1.42 \times 10^6 \text{ Nm}^2/\text{C}$

Select one:

- ☐ a. 0.4 A
- ☐ b. 4.0 A
- ☐ c. 40.0 A
- ☐ d. 0.04A

Question 8

Not yet answered

Marked out of 1

Flag question

A current 3A flows through a metre length conductor. Calculate the force experienced by this conductor if a quarter if its length is perpendicular to a magnetic field of 0.5T .

Select one:

- ☐ a. 0.275N
- ☐ b. 0.370N
- ☐ c. 0.375N
- ☐ d. 0.38N

Question 9

Not yet answered

Marked out of 1

Flag question

A series R-L-C circuit has R is 100 Ω , L is 0.5H and C is 10 μ F is connected to a 50Hz a.c. source given as v is $120 \sin \omega t$. Find the instantaneous current at time 0.10s through the circuit.

Question 12

Not yet answered

Marked out of 1

Flag question

In a p-type semiconductor, the current conduction is due to

Answer:

- ☐ a. Holes
- ☐ b. Electrons
- ☐ c. Electrons
- ☐ d. Protons

Question 13

Not yet answered

Marked out of 1

Flag question

Light bulb has input power consumption of 50 watts. The light bulb was switched for 40 seconds and produced heat of 2000 joules. Find the efficiency of the light bulb.

Answer:

- ☐ a. 20%
- ☐ b. 80%
- ☐ c. 12.5%
- ☐ d. 90%

Question 14

Not yet answered

Marked out of 1

Flag question

Three resistors (2 Ohms, 4 Ohms, 8 Ohms) are connected in parallel with a potential difference of 20V maintained across them find the total current

Answer:

- ☐ a. 7.5A
- ☐ b. 2A
- ☐ c. 11A
- ☐ d. 13A

Question 15

Not yet answered

Marked out of 1

Flag question

The capacitor has a capacitance of $40 \mu\text{F}$. The resistor has resistance of $2.5 \text{ k}\Omega$. Calculate the maximum value of the charging current and the charge stored by the capacitor when the capacitor is fully charged.

Answer:

- ☐ a. 4 mA , $40 \mu\text{C}$
- ☐ b. $40 \mu\text{A}$, $400 \mu\text{C}$
- ☐ c. $40 \mu\text{A}$, $40 \mu\text{C}$
- ☐ d. 4 mA , $40 \mu\text{C}$

☐ d. 400 V/m

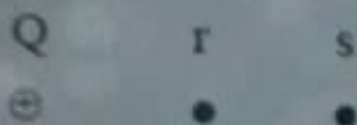
Question 5

Not yet answered

Marked out of 1

Flag question

The diagram below shows a positive point charge Q .



Which of the following describes the magnitude and direction of the electric field at points r and s respectively?

Select one:

- ☐ a. Same and Away from Q
- ☐ b. Same and towards Q
- ☐ c. different and Away from Q
- ☐ d. different and towards Q

Question 6

Not yet answered

Marked out of 1

Flag question

Which of the following is true about p-n junction diode? i. Forward bias current rises linearly. Reverse bias current is absolutely zero. iii. Width of depletion region is unchanged when forward biased.

Question 13

Not yet answered

Marked out of 1

Flag question

One electronVolt is

Select one:

- ☐ a. the total energy of an electron which has been accelerated through 1V
- ☐ b. the potential energy of an electron which has been accelerated through 1V
- ☐ c. the electric energy of an electron which has been accelerated through 1V
- ☒ d. the kinetic energy of an electron which has been accelerated through 1V

Question 14

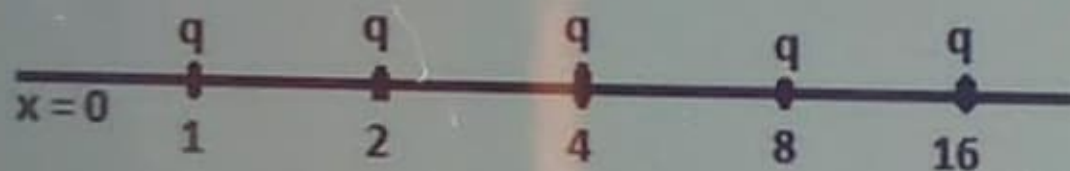
Not yet answered

Marked out of 1

Flag question

A resistance R is connected to a cell of internal resistance r , then

An infinite number of charges each equal to q are placed along the x -axis at $x = 1, x = 2, x = 4, x = 8$, and so on. Find the potential and the electric field at the point $x = 0$ due to this set of charges.



Select one:

- ☐ a. $V = \frac{2q}{4\pi\epsilon_0}$ and $E = \frac{4q}{12\pi\epsilon_0}$ $V = \frac{2q}{4\pi\epsilon_0}$ and $E = \frac{4q}{12\pi\epsilon_0}$
- ☐ b. $V = \frac{q}{4\pi\epsilon_0}$ and $E = \frac{2q}{4\pi\epsilon_0}$ $V = \frac{q}{4\pi\epsilon_0}$ and $E = \frac{2q}{4\pi\epsilon_0}$
- ☐ c. $V = \frac{3q}{4\pi\epsilon_0}$ and $E = \frac{5q}{4\pi\epsilon_0}$ $V = \frac{3q}{4\pi\epsilon_0}$ and $E = \frac{5q}{4\pi\epsilon_0}$
- ☐ d. $V = \frac{q}{12\pi\epsilon_0}$ and $E = \frac{5q}{4\pi\epsilon_0}$ $V = \frac{q}{12\pi\epsilon_0}$ and $E = \frac{5q}{4\pi\epsilon_0}$

Question 6

Not yet answered

Marked out of 1

 Flag question

Determine the force between two protons placed at the distance 1m.

Select one:

- ☐ a. 2.3×10^{-13} N, attraction
- ☒ b. 2.3×10^{-13} N, repulsion
- ☐ c. 2.3×10^{-16} N, attraction
- ☐ d. 2.3×10^{-16} N, repulsion

Question 7

Not yet answered

Marked out of 1

 Flag question

When the current flowing in a coil is doubled and the number of

Question 9

Not yet answered

Marked out of 1

Flag question

The magnetic field pattern produced by a coil carrying a direct current is similar to the magnetic field pattern of

Select one:

- ☐ a. two straight parallel wires carrying direct current in the same direction
- ☐ b. two straight parallel wires carrying direct current flowing in opposite directions
- ☐ c. a permanent bar magnet
- ☐ d. a horseshoe permanent magnet

Question 10

Not yet answered

Marked out of 1

Flag question

Which one of the following represents correct units for electric field strength?

- ☐ b. $\text{Emf} = \mu B \mu B$
- ☒ c. $\text{Emf} = \mu B \mu B$
- ☐ d. $\text{Emf} = \mu^2 v \mu^2 v$

Question 8

Not yet answered

Marked out of 1

Flag question

A charge of $5 \mu\text{C}$ is 120m from a point when its potential difference is 10V. How far is the same charge from the same point when it is subject to a potential difference of 30V?

Select one:

- ☐ a. 3600 m
- ☐ b. 40m
- ☐ c. 6m
- ☐ d. 30m

Question 9

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

The resonant frequency of a circuit is 1000KHz. If each of capacitance and inductance in the circuit is reduced by 50% no other changes are made, the resonant frequency will be

Select one:

- ☐ a. 1000KHz
- ☐ b. 2000KHz
- ☐ c. 100.0KHz
- ☐ d. 200.0KHz

Question 6

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. $\frac{A d A d}{\epsilon_0 Q \epsilon_0 Q}$
- ☐ d. $\frac{Q A Q A}{d \epsilon_0 d \epsilon_0}$

Question 7

Not yet answered

Marked out of 1

Flag question

E.M.F for a coil depends upon

Select one:

- ☒ a. Potentiometer
- ☐ b. Ammeter
- ☐ c. Voltmeter
- ☐ d. Galvanometer

Question 14

Not yet answered

Marked out of 1

Flag question

Gauss's law can be applied to the following except

Select one:

- ☐ a. location of excess charge on a conductor
- ☒ b. the Coulomb's law
- ☐ c. field just outside any charged conductor
- ☐ d. no correct option

Question 15

Not yet answered

Marked out of 1

Flag question

Which of the following applies to current flowing through a p-n junction diode? i.



Question 14

Not yet answered

Marked out of 1

 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 field at the center of the triangle is:

Select one:

- ☐ a. towards side AB
- ☐ b. towards side BC
- ☐ c. towards side AC
- ☐ d. no direction

Question 15

Not yet answered

Marked out of 1

 Flag question

Which of the following copper conductor that has the least resistance is:



☐ c. 4?

☐ d. 8?

Question 15

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.

Finish attempt ...

← Announcements

Jump to...



Quiz navigation

1

2

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8

9

Question 14

Not yet answered

Marked out of 1

Flag question

A wire of resistance 2Ω is stretched uniformly to twice its original length. The resistance of the new wire will be

Select one:

- ☐ a. 1Ω
- ☐ b. 2Ω
- ☐ c. 4Ω
- ☐ d. 8Ω

Question 15

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 semiconductors alters the composition.

- ☐ b. N/C
- ☐ c. J/C
- ☐ d. $N \cdot m^2 \cdot C^{-2}$

Question 11

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 number of "120 V, 500 W" light bulbs that can be operated at full brightness from this line?

Select one:

- ☐ a. 1
- ☐ b. 2
- ☐ c. 3
- ☐ d. 4

Question 12

Not yet answered

Marked out of 1

 Flag question

The apparent power developed in an R - L a.c. circuit is 30VA. If the source is 36V, 50Hz and the resistor is 40 Ω , determine the inductance of the inductor.

Select one:

- ☐ a. 1.05H

Question 9

Not yet answered

Marked out of 1

Flag question

The magnetic field pattern produced by a coil carrying a direct current is similar to the magnetic field pattern of

Select one:

- ☐ a. two straight parallel wires carrying direct current in the same direction
- ☐ b. two straight parallel wires carrying direct current flowing in opposite directions
- ☐ c. a permanent bar magnet
- ☐ d. a horseshoe permanent magnet

Question 10

Not yet answered

Marked out of 1

Flag question

Which one of the following represents correct units for electric field strength?

Select one:

- ☐ a. T
- ☐ b. N/C

Question 8

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

The magnetic field pattern produced by a coil carrying a direct current is similar to the magnetic field pattern

Marked out of 1

Flag question

A circuit has a resistance of 200 ohms. The resistance of the circuit can be reduced to 120 ohms by adding which of the following to the circuit

Select one:

- ☐ a. 80 ohm resistor in series
- ☐ b. 150 ohm resistor in parallel
- ☐ c. 240 ohm resistor in series
- ☐ d. 300 ohm resistor in parallel

Question 5

Not yet answered

Marked out of 1

Flag question

A potentiometer is a device used to

Select one:

- ☐ a. compare two voltages
- ☐ b. measure a current
- ☐ c. compare two currents
- ☐ d. measure a voltage

Question 6

Not yet answered



- ☐ c. $\text{peak} = \text{r.m.s.}/\sqrt{2}$
- ☐ d. $\text{peak} = \sqrt{2}/\text{r.m.s.}$

Question 3

Not yet answered

Marked out of 1

 Flag question

Which of the following is the best way to demagnetise a magnetised steel needle?

Select one:

- ☐ a. break it into two pieces
- ☐ b. make it red hot and then let it cool
- ☐ c. leave it inside a solenoid carrying direct current
- ☐ d. slowly pull it out of a solenoid carrying alternating current

Question 4

Not yet answered

Marked out of 1

 Flag question

A circuit has a resistance of 200 ohms. The resistance of the circuit can be reduced to 120 ohms by adding which of the following to the circuit

Select one:

- ☐ a. 80 ohm resistor in series
- ☐ b. 120 ohm resistor in parallel



PHYSIOTHERAPY)

Question 1

Not yet answered

Marked out of 1

**Flag question**

Which of the following is not true about doping of semiconductor?

Select one:

- ☐ a. **doping with group III element leads to p-type semiconductor.**
- ☐ b. **doping with group V element leads to n-type semiconductor.**
- ☒ c. **doping with group III elements leads to excess holes in valency band.**
- ☐ d. **doping with group V elements leads to excess holes in the conduction band.**

Question 2

Not yet answered

Marked out of 1

**Flag question**

The electric field associated with a uniformly charged hollow metallic





Marked out of 1

Flag question

The electric field associated with a uniformly charged hollow metallic sphere is the greatest at:

Select one:

- ☐ a. the center of the sphere.
- ☒ b. the sphere's outer surface.
- ☐ c. the sphere's inner surface.
- ☐ d. infinity.

Question 3

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 4**

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 5

Not yet answered

Marked out of 1

Flag question

A straight conductor of length 25cm moves with a velocity of 30m/s in a magnetic field of 0.4T.



**Question 5**

Not yet answered

Marked out of 1

Flag question

A straight conductor of length 25cm moves with a velocity of 30m/s in a magnetic field of 0.4T. If the resistance of the conductor is 0.8 Ω , calculate the current flowing in the conductor.

Select one:

- ☒ a. **0.72A**
- ☐ b. **1.15A**
- ☐ c. **2.08A**
- ☐ d. **3.75A**

Question 6

Not yet answered

Marked out of 1

Flag question

When valence electrons in an atom

absorb energy, they jump to a higher energy level.

Select one:

- ☐ a. **insulation band**





☐ d. **3.75A**

Question 6

Not yet answered

Marked out of 1

Flag question

When valence electrons in an atom absorb energy, they jump to

Select one:

- ☐ a. **insulation band**
- ☐ b. **absorption band**
- ☒ c. **conduction band**
- ☐ d. **valence band**

Question 7

Not yet answered

Marked out of 1

Flag question

Which of the following copper conductor that has the least resistance is:

Select one:

- ☐ a. thin, long and hot
- ☒ b. thick, short and cool



**Question 7**

Not yet answered

Marked out of 1

Flag question

Which of the following copper conductor that has the least resistance is:

Select one:

- ☐ a. thin, long and hot
- ☒ b. thick, short and cool
- ☐ c. thick, long and hot
- ☐ d. thin, short and cool

Question 8

Not yet answered

Marked out of 1

Flag question

If the flow of electric current is parallel to the magnetic field, the force will be.....

Select one: **Screenshot has been saved to Pictures/Screenshot**

- ☒ a. zero
- ☐ b. infinity





- ☐ c. thick, long and hot
- ☐ d. thin, short and cool

Question 8

Not yet answered

Marked out of 1

Flag question

If the flow of electric current is parallel to the magnetic field, the force will be.....

Select one:

- ☒ a. zero
- ☐ b. infinity
- ☐ c. maximum
- ☐ d. half the original value

Question 9

Not yet answered

Marked out of 1

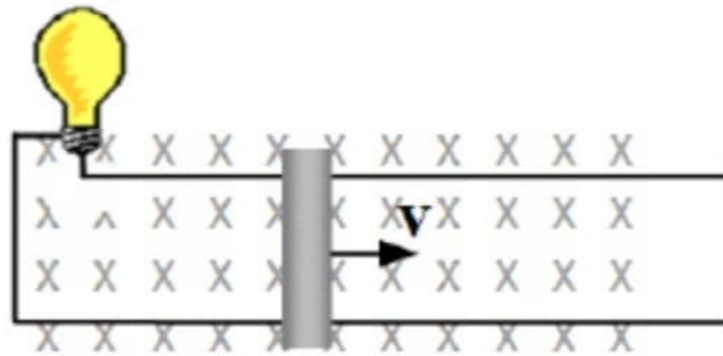
Flag question

A conducting bar slides with a velocity v to the right on some conducting rails as shown in Figure below. A uniform magnetic field is directed perpendicular to





How is the magnetic flux through the conducting loop changing, if at all, as the bar slides to the right?



Select one:

- ☐ a. **no, the magnetic flux remains constant**
- ☐ b. **yes, the magnetic flux decreases**
- ☐ c. **no, the magnetic flux increases**
- ☒ d. **yes, the magnetic flux increases**

Question 10

Not yet answered

Marked out of 1

Flag question

When capacitors are connected in parallel, what happens to the





increases

Question 10

Not yet answered

Marked out of 1

Flag question

When capacitors are connected in parallel, what happens to the effective plate area?

Select one:

- ☒ a. Increases
- ☐ b. Decreases
- ☐ c. Remains the same
- ☐ d. Becomes zero

Question 11

Not yet answered

Marked out of 1

Flag question

Transformer core losses include:

Select one: Screenshot has been saved to Pictures/
Screenshot

- ☐ a. **Hysteresis loss and copper loss**
- ☐ b. **Hysteresis loss and Eddy**



**Question 11**

Not yet answered

Marked out of 1

Flag question

Transformer core losses include:

Select one:

- ☐ a. **Hysteresis loss and copper loss**
- ☐ b. **Hysteresis loss and Eddy current loss**
- ☒ c. **Hysteresis loss, Copper loss and Eddy current loss**
- ☐ d. **Heat loss and stray magnetic fields**

Question 12

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 power factor of the circuit.

A 0

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Screenshot



**Question 12**

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 power factor of the circuit.

A 0

Select one:

- ☐ a. **0.84**
- ☒ b. **0.85**
- ☐ c. **1.00**

Question 13

Not yet answered

Marked out of 1



Flag question

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





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 14

Not yet answered

Marked out of 1

Flag question

In case the charges are similar the force is of?

Select one:

- ☐ a. **Zero value**
- ☐ b. **Maximum value**
- ☒ c. **Repulsion**
- ☐ d. **attraction**

Question 15

Not yet answered

Marked out of 1 Flag question

Determine the value of two equal charges if they repel each other with a



Select one:

- ☐ a. Zero value
- ☐ b. Maximum value
- ☒ c. Repulsion
- ☐ d. attraction

Question 15

Not yet answered

Marked out of 1

 **Flag question**

Determine the value of two equal charges if they repel each other with a force of 0.2N when placed 50cm in a vacuum

Select one:

- ☒ a. $1.7 \times 10^{-6} \text{ C}$
- ☐ b. 0 C
- ☐ c. $-1.7 \times 10^{-6} \text{ C}$
- ☐ d. $3.4 \times 10^{-6} \text{ C}$

Finish attempt ...[← Announcements](#)

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