Final Assessment Quiz

PHY-106

The respondent's email address (**201370210@gift.edu.pk**) was recorded on submission of this form.

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1. The pointer of a magnetic compass *   1 point

○ is affected only by permanent magnets

◉ Aligns itself parallel to the applied magnetic field

○ vibrates in the magnetic field of the current

○ Aligns itself perpendicular to the magnetic field

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*   1 point

Given that $\vec{B} = 40\hat{\imath} - 18\hat{k}$. The vector $\vec{B}$ lies in:

○ XY Plane

◉ XZ Plane

○ YZ Plane

○ None of these

At a given instant, a proton moves in the +x direction in a region where there is magnetic   1 point
field in the -z direction. The magnetic force on the proton will be the: *

○ -y direction

⦿ +y direction

○ +z direction

○ -z direction

An electric intensity is a potential gradient, if may expressed in the units of N/C or *   1 point

○ Volt

○ Volt meter

⦿ Volt per meter

○ Joule

A torch bulb uses a 5 V supply and makes a current of 0.5 A. It is switched on for 1 year.   1 point
How much electrical energy is used? *

⦿ 78,840,000J

○ 78,840,00 J

○ 78,8400 J

○ 78,840 J

Equipotential surfaces in an electric field are always *   1 point

○ Spherical

○ Closed Surfaces

○ Tangent to the electric lines of force

◉ perpendicular to the lines of force

which statement describes the electric potential difference between two points in a wire   1 point
that carries a current? Hint (use the Power Formula) *

◉ The force required to move a unit positive charge between the points

○ The ratio of the energy dissipated between the points to the current

○ The ratio of the power dissipated between the points to the current

○ The ratio of the power dissipated between the points to the charged move

What can be used as the unit of energy? *   1 point

○ N/m

○ V A

○ V/C

◉ W s

If a current of 2 A passes through a wire for 20 s, What number of electrons crossed the   1 point
cross-section in this duration? *

○ 1.5 X 10^20

○ 1.5 X 10^21

◉ 1.5 x 10^22

○ 1.5 x 10^23

The ratio of Drift velocity and Electric field is: *   1 point

○ qt/m

○ et/m

○ e/m

◉ Both qt/m and et/m

Which of the following field is governed by the Maxwell's equations? *   1 point

○ Electrodynamics

○ Optics

○ Electric circuits

◉ All of these

It is often contended that V = iR is a statement of --------- but it is known as ----------
_ * *   1 point

○ Ohm's law and equation for Potential Difference

○ Ohm's law and equation for Current

◉ Ohm's law and equation for resistance

○ equation for resistance and ohm's law

What is the value of current in a wire of 100 cm long at right angle to the uniform magnetic field of 0.5 Tesla when the force acting on the wire is 5 N? *   1 point

○ 10 A

○ 0.1 x 10^2 A

○ 1000 x 10^-2

◉ All of these

A long straight wire of radius R=1 m carries a steady current 1 A. What is the magnetic field at the surface of the wire? * *   1 point

○ 0.0002 mT

○ 0.2 mT

○ 0.002 mT

◉ 0.02 mT

What is the displacement current if you have an rate of change of electric field $dE/dt=1$ V/m and cross sectional area A= 3 m^2 . *   1 point

○ 0.0265 nano ampere

○ 0.265 nano ampere

○ 26.5 nano ampere

● 2.65 nano ampere

If we increase the value of current as Square root of 4 times Ampere then how much value of voltage we will increase to keep the R constant in this equation R=V/I *   1 point

○ 4 V

● 2 V

○ no change

○ 3 V

The quantity analogue to potential difference is *   1 point

● Pressure

○ Mass

○ Energy

○ Inertia

○ Other:

If the number of coulombs per second through a wire of 10 ohm resistance across 12 V line is 12, the current is *   1 point

○ 5 A

◉ 10 A

○ 12 A

○ 15 A

Gauss's Law is most useful in cases where the charge distributions *   1 point

○ are made up of discrete point charges

○ are finite in their spatial extent

○ give rise to inverse square law fields

◉ posses a certain amount of symmetry

Electric field intensity at a point is *   1 point

◉ inversely proportional to the square of the distance from the charge

○ Directly proportional to the square of the distance from the charge

○ inversely proportional to the distance from the charge

○ None of these

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