Practice Challenge - Objective

Subject: Phy

Topic : Magnetic effects of electric current - Exam Prep 1

Class: X

Time: 00:20 hrs

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1. Consider the following statements and choose the correct option.
   1. Magnetic field lines form closed loops.
   2. No two field lines intersect

   A. Only 1 is true

   B. Only 2 is true

   C. Both 1 and 2 are true

   D. Both 1 and 2 are false

2. Choose the incorrect statement from the following regarding magnetic field lines.

   A. The direction of magnetic field is tangent to the magnetic field line at any point.

   B. Magnetic field lines form closed loops.

   C. If magnetic field lines are parallel, it represents zero field strength.

   D. Magnetic field lines do not intersect each other

3. A compass needle deflects when kept next to an electric wire. The reason for the deflection is:

   A. the charges force the needle into deflecting

   B. the flow of charges have an associated magnetic field

   C. the flow of charges have an associated gravitational field

   D. friction offered by flowing charges

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4. The spacing between the magnetic field lines _____ as we move away from the current carrying conductor.

   A. Increases

   B. Decreases

   C. Remains unaffected

   D. Increases or decreases depending on the conductor

5. Outside a magnet, the magnetic field lines originate at_____and ends at_____.

   A. north pole, south pole

   B. south pole, north pole

   C. north pole, east pole

   D. north pole, west pole

6. The compass is circled around a bar magnet. State at which point around the bar magnet, the compass will show the maximum deflection?

   A. Near the poles

   B. Halfway between south pole and north pole

   C. Near the north pole only

   D. Near the south pole only

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7. In which direction does the magnetic field lines run inside a bar magnet?

   A. From north to south

   B. From south to north

   C. There are no magnetic field lines inside a bar magnet

   D. The field lines runs perpendicular to the north-south direction.

8. The direction of magnetic lines of force produced by passing a direct current in a straight conductor are :

   A. Perpendicular to the conductor & coming outwards

   B. Parallel to conductor

   C. Surrounding the conductor and of circular nature

   D. Perpendicular to the conductor & coming inwards

9. On which of the following factor, the direction of deflection of a magnetic needle of a compass depends when the compass is kept near a current carrying wire?

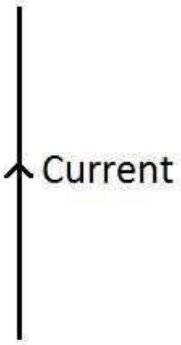
   A. Direction of current flowing.

   B. Magnitude of current flowing.

   C. Size of magnetic needle.

   D. Size of the battery.

10. There is a straight wire carrying current as shown in the figure. What is the direction of the magnetic field around the wire when the reference point is above the wire?



A. Clockwise direction along the circle encircling the wire.

B. Anti-clockwise direction along the circle encircling the wire.

C. In the direction of the current.

D. Opposite to the direction of the current.