



St. Lawrence High School  
A Jesuit Christian Minority Institution



Term: Test

Work Sheet – 1

Class – X

Subject – Physical Science

Date – 07.11.20

Chapter – Current Electricity

Topic – Magnetic effect of current

Choose the correct option for the following questions.

1 × 15 = 15

1. Chose the correct option
  - a. A static charge can produce both magnetic and electric effect
  - b. A static charge produces electric field and it may produce magnetic field
  - c. A moving charge produces only magnetic field
  - d. A moving charge produces both electric and magnetic field
2. Magnetic effect of electric current was first proposed by scientist –
  - a. Ampere
  - b. Faraday
  - c. Coulomb
  - d. Oersted
3. According to Oersted, a magnetic needle brought near a conducting wire will deflect, when –
  - a. There is no current in the wire
  - b. There is a flow of current in the wire
  - c. The current through the wire continuously changes the direction
  - d. None of these
4. If a person is assumed to swim along the direction of current and faces a magnetic needle, then –
  - a. The N pole of the needle will deflect towards his right hand
  - b. The S pole of the needle will deflect towards his right hand
  - c. The S pole of the needle will deflect towards his left hand
  - d. None of these
5. In the above problem, if the person faces the needle and this time swims along the opposite direction of flow of current, then –
  - a. The N pole of the needle will deflect towards his right hand
  - b. The N pole of the needle will deflect towards his left hand
  - c. The S pole of the needle will deflect towards his right hand
  - d. None of these
6. According to thumb rule –
  - a. If the thumb of our any hand indicates the direction of current, then wrapped fingers will represent circular magnetic field around the current
  - b. If the thumb of our left hand indicates the direction of current, then wrapped fingers will represent circular magnetic field around the current
  - c. If the thumb of our left hand indicates the direction of magnetic field, then wrapped fingers will represent direction of the current
  - d. If the thumb of our right hand indicates the direction of current, then wrapped fingers will represent circular magnetic field around the current

7. Magnetic lines of force around a straight current carrying wire will be –
  - a. Straight and perpendicular to the wire
  - b. Straight and parallel to the wire
  - c. Circular and intersecting around the wire
  - d. Concentric circular around the wire
  
8. Magnetic lines of force circular coil will be –
  - a. Straight exactly at the centre of the coil
  - b. Straight everywhere inside the coil
  - c. Straight everywhere outside the coil
  - d. Intersecting inside the coil
  
9. The physical significance of magnetic lines of force is that -
  - a. It indicates the direction of deflection of S-pole of a magnetic needle
  - b. It indicates the direction of deflection of N-pole of a magnetic needle
  - c. If these are closely spaced in a region, then magnetic field at that point will be strong
  - d. Both b. and c. are correct
  
10. In Oersted's experiment, if the current through the straight wire is increased, then the deflection of the magnetic needle will be
  - a. More
  - b. Less
  - c. Same as before.
  - d. Can not be predicted
  
11. In Oersted's experiment, if the current carrying wire is coated with plastic, then -
  - a. there will be no deflection if the needle
  - b. the deflection will be in the reverse manner
  - c. deflection will be same as before
  - d. none of these
  
12. In Oersted's experiment, if an aluminum wire (which is not attracted by magnet) is used to carry current, then -
  - a. There will be no deflection
  - b. the deflection will be in the reverse manner
  - c. deflection will be same as in case of any iron wire
  - d. none of these
  
13. If the current through a straight current carrying wire is increased, then
  - a. Number of circular magnetic lines of force will increase
  - b. Number of circular magnetic lines of force will decrease
  - c. There will be no change in the number of lines of force
  - d. The direction of lines of force will be reversed
  
14. If the current through a straight conductor is reversed, then
  - a. Number of circular magnetic lines of force will increase
  - b. Number of circular magnetic lines of force will decrease
  - c. There will be no change in the number of lines of force
  - d. The direction of lines of force will be reversed

15. Certain amount of current is flowing through a straight conducting wire and circular magnetic lines of force are generated around it. If now, keeping everything same, the wire is stretched to make its length double, then –
- Number of circular lines of force per unit length will increase
  - Number of circular lines of force per unit length will decrease
  - Number of circular lines of force per unit length will remain same
  - Nothing can be said

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