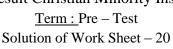


# St. Lawrence High School

## A Jesuit Christian Minority Institution





Class - X

Subject – Physical Science

Date - 22.06.20

Chapter – Current Electricity

Topic – Magnetic effect of current

Choose the correct option for the following questions.

 $1 \times 15 = 15$ 

- 1. Magnetic effect of electric current was first proposed by scientist
  - a. Ampere
  - b. Faraday
  - c. Coulomb
  - d. Oersted

### Ans: d. Oersted

- 2. 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

#### Ans: There is a flow of current in the wire

- 3. 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

#### Ans: b. The S pole of the needle will deflect towards his right hand

- 4. 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

### Ans: The N pole of the needle will deflect towards his right hand

- 5. 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

Ans: d.

- 6. 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

### Ans: d. Concentric circular around the wire

- 7. 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

### Ans: a. Straight exactly at the centre of the coil

- 8. Looking perpendicular on a loop from one side, the current is found to be clockwise, then
  - a. N pole will be generated on that side of the coil
  - b. S pole will be generated on the opposite side of the coil
  - c. N pole will be generated on the opposite side of the coil
  - d. None of these

### Ans: c. N pole will be generated on the opposite side of the coil

- 9. Looking perpendicular on a loop from one side, the current is found to be anti clockwise, then
  - a. N pole will be generated on that side of the coil
  - b. S pole will be generated on that side of the coil
  - c. N pole will be generated on the opposite side of the coil
  - d. None of these

### Ans: a. N pole will be generated on that side of the coil

- 10. In Fleming's left hand rule, thumb of the left hand indicates
  - a. Magnetic field
  - b. Direction of current
  - c. Deflection of magnetic needle
  - d. None of these.

#### Ans: d. None of these.

- 11. If N pole of a magnetic needle is repelled by a circular loop, then the current at that face of the loop can be
  - a. Clock wise only
  - b. Anti clockwise only
  - c. Both Clock wise or Anti clockwise
  - d. None of these

#### Ans: b. Anti clockwise only

- 12. If S pole of a magnetic needle is attracted by a circular loop, then the current at that face of the loop can be
  - a. Clock wise only
  - b. Anti clockwise only
  - c. Both Clock wise or Anti clockwise
  - d. None of these

### Ans: b. Anti clockwise only

- 13. The motion of a coil of a d.c. motor obeys,
  - a. Ampere's swimming rule
  - b. Right hand thumb rule
  - c. Fleming's right hand rule
  - d. Fleming's left hand rule

Ans: Fleming's left hand rule

- 14. 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
  - a. Number of circular lines of force per unit length will increase
  - b. Number of circular lines of force per unit length will decrease
  - c. Number of circular lines of force per unit length will remain same
  - d. Nothing can be said
    - Ans: b. Number of circular lines of force per unit length will decrease
- 15. Electric motors work under the principle of
  - a. Electromagnetic induction
  - b. Fleming's right hand rule
  - c. Lenz's law
  - d. Conversion of electrical energy to mechanical energy

Ans: d. Conversion of electrical energy to mechanical energy

Name of the teacher – Soumitra Maity