WORKSHEET 2

CHAPTER 2 – MAGNETIC EFFECTS OF ELECTRIC CURRENT

A. Tick (✓) the correct option.

1. The number of poles in a bar magnet are:
   a. 4 b. 2 c. 3 d. 1
2. How does the magnetic field change on increasing the distance from the conductor?
   a. Increases b. Decreases c. Remains same d. None of these
3. A device used to measure small currents due to changing magnetic field is
   a. galvanometer b. ammeter c. voltmeter d. potentiometer
4. Which of the following is the common domestic power supplied in India?
   a. 220 V, 100 Hz b. 220 V, 50 Hz c. 110 V, 100 Hz d. 100 V, 50 Hz
5. Kilowatt-hour is the unit of
   a. potential difference b. current c. power d. electrical energy

B. Fill in the blanks.

1. Like magnetic poles _____ each other; unlike magnetic poles _____ each other.
2. An electromagnet is a solenoid with _____ core.
3. The polarity of an electromagnet can be changed by reversing the direction of _____
4. Electric generator converts _____ into _____
5. Connecting the metallic body of electrical appliance to the earth by a conducting wire to prevent electric shock is called _____

C. State whether the given statements are true or false.

1. Magnetic poles always exist in pair. It is impossible to have a single pole alone.
2. Magnetic field lines cannot intersect each other.
3. When direction of current is downwards in a straight current carrying conductor. Direction of magnetic field lines is anti-clockwise.
4. Retentivity is referred to as the capacity of a material to retain magnetic property.
5. Electric short circuit occurs when live wire and earthing wire come in contact.

D. Match the following.

1. SI unit of magnetic field	small bar magnet that rotates
2. Magnetic field inside the solenoid	Tesla
3. Compass needle	temporary magnet
4. Solenoid	uniform

Name: ..... Teacher's signature: .....

Class: X Date: .....

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E. Answer the following questions.

Very Short Answer Questions

1. Name three core cables of electric power supply.
2. What is an electromagnet?

Short Answer Questions

1. State the principle of electric generator.
2. Explain different ways to induce current in a coil.

Long Answer Questions

1. What are the advantages of AC over DC?
2. State Fleming's left-hand rule.

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ANSWERS

WORKSHEET 2

A. Tick (✓) the correct option.

1. b
2. b
3. a
4. b
5. d

B. Fill in the blanks.

1. repel, attract
2. soft iron
3. electric current
4. mechanical energy, electrical energy
5. earthing

C. State whether the given statements are true or false.

1. T
2. T
3. F
4. T
5. F

D. Match the following.

1. SI unit of magnetic field	Tesla
2. Magnetic field inside the solenoid	uniform
3. Compass needle	small bar magnet that rotates
4. Solenoid	temporary magnet

E. Answer the following questions.

Very Short Answer Questions

1. Live, Neutral and Earth
2. An electromagnet is a solenoid with a soft iron core.

Short Answer Questions

1. Electric generator works on the principle of electromagnetic induction, i.e. when a coil is rotated in a uniform magnetic field, then current is induced in it.
2. The different ways to induce current in a coil are:
   - By moving the coil in a magnetic field.
   - By changing the magnetic field around the coil.

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Long Answer Questions

1. The advantages of AC over DC are:
   - Alternating current can be transmitted over long distances with negligible loss of energy. Since power wastage in AC transmission is almost negligible, the cost of AC transmission is low.
   - AC at any desired voltage can be obtained using transformers.
   - The magnitude of AC can be reduced using a choke coil, without involving loss of energy.
   - When required, AC can be changed into DC.
2. According to Fleming's left-hand rule: Stretch the forefinger, middle finger, and the thumb of your left hand such that they are mutually perpendicular to each other. If the forefinger indicated the direction of magnetic field and the middle finger indicates the direction of current, then the thumb gives the direction of motion or the force acting on the conductor.

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