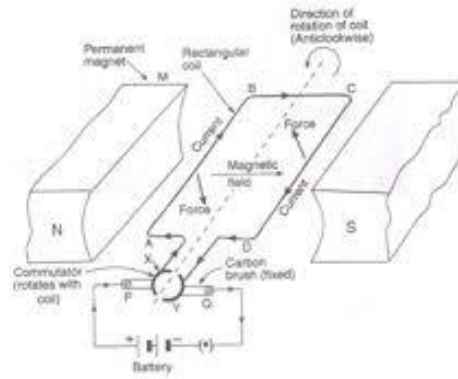


**SALWAN PUBLIC SCHOOL AFTERNOON,
RAJENDRA NAGAR
CLASS – X SCIENCE
LESSON PLAN
CHAPTER 13 : MAGNETIC EFFECT OF CURRENT**

TOPIC	ELECTRIC MOTOR, ELECTROMAGNETIC INDUCTION, ELECTRIC GENERATOR, DOMESTIC ELECTRIC CIRCUITS
DURATION	4 PERIODS (Approx. 40 minutes each) Period 1: Electric motor Period 2: Electromagnetic induction Period 3: Electric generator Period 4: Domestic electric circuits
PRE- REQUISITE FOR THE COURSE	This topic requires knowledge of: • Magnetic field and its properties • Flemings left hand rule
LEARNING OBJECTIVE	Students will be able to: • State and explain the principle of electric motor and its working • Identify and explain the main parts of an electric motor • State and explain the Fleming’s right hand rule • State the law of electromagnetic induction • State and explain the principle and working of an electric generator • Explain the concepts – Electric fuse, Short circuit, Overloading, Earthing of electric devices SKILLS and COMPETENCIES: 1) Critical thinking and problem solving (working effectively with others), 2) Character building (Taking tasks fearlessly and achieves goals.) 3) Communication (evaluating the information critically and competently). 4) Collaboration (responding open mindedly to different ideas) 5) Creativity (developing, implementing and communicating new ideas)
TRANSACTION METHODOLOGY	Transaction of the Lesson Plan: Activity, Think Pair Share, Discussion The facilitator begins the session with helping the students in recalling the Fleming’s left hand rule and introduces the principle of electric motor.



The facilitator will draw the basic diagram of an electric motor, label its basic part and explain their functions. Facilitator will further explain the working of an electric motor with the help of a teaching aid. The facilitator will play a video on smart board to further enhance the student's understanding of working of an electric motor.

Activity: Facilitator will perform the Faraday's experiment in front of students and ask them to explain their observation.

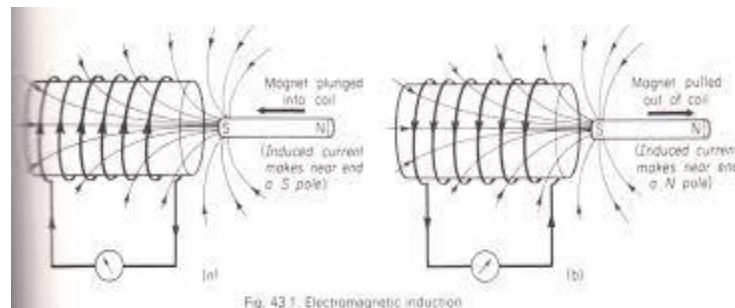
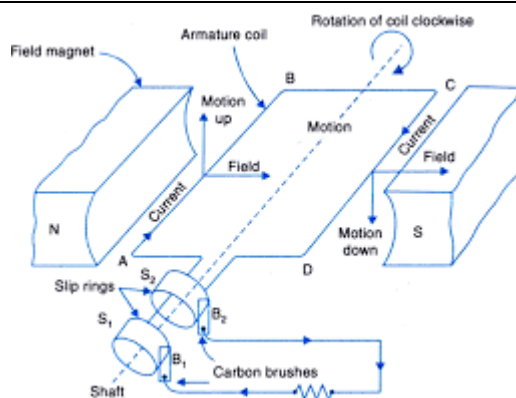


Fig. 43.1: Electromagnetic induction

Explain and Summarize:

The facilitator explain the reason behind the deflection in galvanometer and introduces and explain the concept of electromagnetic induction and electric flux. Facilitator will further explain to the student Fleming's right hand rule and how to apply it to find the direction of induced current produced in the coil.

The facilitator will explain the principle of electric generator

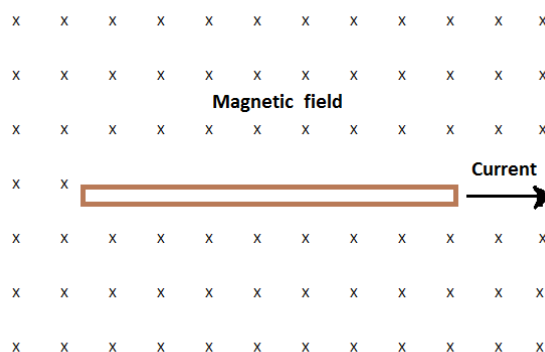


The facilitator will draw the basic diagram of an electric generator, label its basic part and explain their functions. Facilitator will further explain the working of an electric motor with the help of a video played on smart board.

The facilitator will discuss the following concepts with the students – electric fuse, Short circuit, Overloading and Earthing of devices

Think Pair Share: Discussion of topic through Collaborative Learning: 15 min (Critical Thinking, Collaboration)

The facilitator will draw a situation on the board and explain, how to apply Fleming right hand rule to find the direction of force experienced by the conductor carrying current. The X mark represents the magnetic field into the plane of the paper.



Discussion of topic and Guided Practice 20 min Inquiry based learning (Critical Thinking and Problem Solving)

After the discussion, the facilitator will draw certain situation on the board and ask students to apply Fleming's rule to find induced current and force experienced by the conductor in a magnetic field.

Guided practice followed by Independent Practice- NCERT questions to be discussed in the classroom.

	Value Points learned: - • Principle and working of an electric motor • Main parts of an electric motor • Law of electromagnetic induction • Faraday's experiment of electromagnetic induction • Principle and working of an electric generator • Electric fuse, Short circuit, Overloading and Earthing Closure: 5 min A short oral test would be taken to check proper assimilation of the topic discussed The facilitator helps the students in recalling the basic parts and principle of an electric motor and generator, Law of electromagnetic induction and Faraday's experiment of electromagnetic induction. Revision Questions: - What is the function of split rings in an electric motor? Draw the diagram of an electric generator and explain its working Explain the function of brushes in electric generator. Explain Fleming's right hand rule. What is the importance of electric fuse in a circuit? What do you understand by Short circuit? Define the term overloading. What is the role of earthing in an electrical device?
LEARNING OUTCOMES	Students would be able to: • Explain the principle and working of an electric motor. • Explain the main part of an electric motor • State and explain law of electromagnetic induction • Explain Faraday's experiment of electromagnetic induction • Explain the principle and working of an electric generator. • State and explain the concepts – Short circuit, Electric fuse, Earthing of electric devices and Overloading.
SELF STUDY, HOME WORK, ASSIGNMENTS	Students would do the given questions in their H.W. notebooks: • Define the principle of electric motor. • Draw the diagram of an electric motor, label the main parts and explain them. • Explain the working of an electric motor. • Explain the law of electromagnetic induction with help of a diagram. • Draw the diagram of an electric generator, label the main parts and explain them. • Explain overloading and ways to prevent it. • Explain the working of an electric generator.