

LESSON PLAN 1
SUBJECT: SCIENCE
CLASS X

(BLOOM'S LEVELS AND SUB CATEGORIES TO BE PUT,
ACCORDINGLY, THE TABLE TO BE FILLED)

TOPIC- ELECTRICITY

BRIEF DESCRIPTION- concept of charge, electric current, electric potential, ohm's law, resistivity and its application, Joules heating
KPI DEFINITION:

KPI 01 -Students face problems in understanding the practical Applications for proper circuit Designing and use of Multimeter.

KPI 02: Students face problem to understand the concepts to solve Questions related to resistance in series and parallel.

KPI 03- students face problems in Applying the concepts of formula to be applied to solve the numerical part of power And Resistivity

effect, electric power and various formulas of power in terms of V, I and R

OBJECTIVES:

I- Specific Objectives-

SP 1. To enable the students to-

- a) To understand the practical use of general circuits using various electronic components (for example cell or a battery, Resistance, Rheostat etc) and to make them understand about various concepts which are used for the better learning outcomes regarding the topic.

- b) To give more practice to students in form of different pattern of questions.
- c) Proper Book Reading And points to Remember part is to be prepared for preparation of Assertion and reasoning type Questions.
- d) to understand the use of electronic devices such as Ammeter, Voltmeter etc and to approach towards the practical thinking
- e) To discuss about the practical example related to topic so that students can be able to solve Case based study. this will help to connect the subject with daily life examples.

II -Behavioural Objectives

To enable the students to-

B1. Make the own small circuits and to understand why parallel combination is used in Domestic electric circuit

B2 To Develop the critical thinking of the students and to develop the scientific Attitude.

B3 Find problem in understanding the language of questions and time management

B4 Students find problem in writing any solution in proper language

B5 Demonstration: students should be able to demonstrate the activity of resistance connected in series and parallel and explain that why parallel connections are used in domestic electric circuits

B6 Application: Students should apply their understanding to solve problems related Electricity such as calculating power by using different formulas, concepts of applications of joules heating effect of electric current, concept of calculating electricity bills(consumption).

B7 Construction: They might be asked to construct simple electronic circuits and to make them aware about soldier machine.

PROCESS /ACTIVITIES

Activities can be Based on the discussion method followed by Demonstration method of that particular content

Conceptual explanation will be given to the students

ACTIVITY 1: To verify ohm's law

ACTIVITY 2: To find the values of Resistance connected in Series and Parallel and to compare it using a Multimeter.

ACTIVITY 3: To assign activity to the students to Practically calculate the electricity consumption of one classroom or a house containing different electrical devices

ASSESSMENT:

A1 Worksheet of Related topic should be given to the students

A2 Students can Also be assessed on the Basis of Activities that they are performing in Lab and to teach them about the concept of error occurred in there theoretical and practical Reading

A3 MCQ sheet as According to Board requirement is to be given

A4 Oral Assessments: Conduct oral quizzes or discussions to gauge their ability to explain concepts verbally. Encourage students to ask questions and engage in discussions about real-world applications.

A5 Projects and Presentations: Assign projects related to practical applications of the electricity, such as to to verify ohms law, why Ammeter is connected in series and voltmeter in parallel, presentation of cell or battery etc. Require students to present their findings and explain their projects to the class.

A6 Peer Assessment: Encourage peer evaluations where students assess and provide feedback on each other's presentations or project work.

A7 Class Participation and Homework: Evaluate students based on their active participation in class discussions and their ability to complete homework assignments related to the topic

EXPECTED LEARNING OUTCOME–

Students will be able to:

1. To get the complete understanding of the chapter.
2. Solve different typology of questions.
3. students can be able to understand use of kwh in finding electric bill consumption
4. students can understand the meaning of 5-star rating of electrical appliances.
5. students get aware about the concept of how potential difference and current are related in voltage regulators of electric fans

LESSON PLAN 2
SUBJECT : SCIENCE
CLASS: X

**(BLOOM'S LEVELS AND SUB CATEGORIES TO BE PUT,
ACCORDINGLY, THE TABLE TO BE FILLED)**

TOPIC- MAGNETIC EFFECT OF ELECTRIC CURRENT

BRIEF DESCRIPTION- . Magnetic effects of current: Magnetic field, field lines, field due to a current carrying

KPI DEFINITION :

KPI 01: Students face problems in understanding the conceptual questions, HOTS questions

KPI 02 : Students face problems in solving numerical portion/ mathematical calculations

KPI 03 : Students Face problems in solving MCQ based questions of chapter Magnetic effect of electric current

KPI 04: students face problem to understand the concept of mass and weight.

conductor, field due to current carrying coil or solenoid; Force on current carrying conductor, Fleming's Left Hand Rule, Direct current. Alternating current: frequency of AC. Advantage of AC over DC. Domestic electric circuits.

OBJECTIVES:

I- Specific Objectives-

f) **SP 1** To give more practice to students in form of different pattern of questions.

- g) **SP 2** Proper Book Reading And points to Remember part is to be prepared for preparation of Assertion and reasoning type Questions.
- h) **SP 3** To discuss about the practical example related to topic so that students can be able to solve Case based study. this will help to connect the subject with daily life examples.
- i) **SP 4** Solving simple problems and experiments related to magnetic effects of current to reinforce their understanding.
- j) **SP 5** Understanding the relationship between electricity and magnetism.
- k) **SP 6** Learning about the right-hand rule to determine the direction of magnetic fields around a current-carrying wire.

- l) **SP 8** understand the concept of alternating and direct current

II -Behavioural Objectives

To enable the students to-

B1 to develop interest in framing their own practical examples

B2 to understand the basic difference between A.C. and D.C.

B3 To Find problem in understanding the language of questions and time management

B4 Observation: Students should be able to observe and identify the magnetic field produced by a current-carrying conductor using magnetic field lines or iron filings.

B5 Demonstration: They should be able to demonstrate how the direction of the magnetic field around a wire can be determined using the right-hand rule.

B6 Application: Students should apply their understanding to solve problems related to the magnetic effect of current, such as calculating the magnetic field strength or direction in different scenarios.

B7 Construction: They might be asked to construct simple electromagnets and understand how the number of turns and current affect their strength.

B8 Comparison: Students should be able to compare and contrast the magnetic properties of different materials, such as ferromagnetic, paramagnetic, and diamagnetic substances.

ASSESSMENT:

A1 - Worksheet of Related topic should be given to the students

A2 - Written Examinations:

- (a) Multiple-choice questions to test basic concepts like the right-hand rule.
- (b) Short-answer questions to assess understanding of magnetic field direction in different scenarios.
- (c) Problem-solving questions that require students to calculate magnetic field strength or determine the effect of changing variables in electromagnets.
- (d) Practical Experiments:

Conduct experiments where students must set up and observe the magnetic field around a current-carrying wire or coil.

Ask them to record observations and draw conclusions from the experiments.

- (e) Oral Assessments: Conduct oral quizzes or discussions to gauge their ability to explain concepts verbally.

Encourage students to ask questions and engage in discussions about real-world applications.

- (f) Projects and Presentations: Assign projects related to practical applications of the magnetic effect of current, such as building simple electromagnets or researching how magnets are used in everyday devices. Require students to present their findings and explain their projects to the class.
- (g) Peer Assessment: Encourage peer evaluations where students assess and provide feedback on each other's presentations or project work.
- (h) Class Participation and Homework: Evaluate students based on their active participation in class discussions and their ability to complete homework assignments related to the topic

DIGITAL CONTENT TO BE USED: (if applicable)

To explain the topic properly in a visualized manner.

EXPECTED LEARNING OUTCOME-

Students will be able to:

6. To get the complete understanding of the chapter.
7. Solve different typology of questions
8. Can connect the subject with their daily life examples
9. Understanding Concepts: Students should grasp the fundamental concepts, such as how an electric current produces a magnetic field and the right-hand rule for determining magnetic field direction.
10. Application Skills: They should be able to apply their knowledge to real-world scenarios, such as understanding how electric motors work or how electromagnets are used in devices like doorbells.
11. Problem Solving: Students should develop problem-solving skills related to magnetic fields, such as calculating the strength of a magnetic field or predicting the behavior of magnets in different situations.
12. Experimental Skills: Proficiency in conducting experiments to observe and measure magnetic fields and using equipment such as compasses and iron filings.
13. Critical Thinking: Encouraging critical thinking by asking questions like, "What happens to the magnetic field when the current direction changes?" or "How can we increase the strength of an electromagnet?"
14. Scientific Inquiry: Fostering curiosity and inquiry by prompting students to ask questions and explore magnetic phenomena in their environment.
15. Communication: Developing the ability to communicate their understanding of magnetic effects clearly and effectively through written and oral presentations.

16. Safety Awareness: Instilling a sense of safety when working with electricity and magnets, emphasizing precautions and proper handling.
17. Connection to Future Studies: Recognizing the relevance of electromagnetism and its importance in advanced physics and engineering courses.

Placement of Objectives, Instructional Activities and Assessment						
	Topic:					
	KNOWLEDGE	UNDERSTANDING	APPLICATION	ANALYSIS	SYNTHESIS	EVALUATION
Objectives	SP1,	SP2/SP3	SP4-SP8			
Activities	B1/B5	B3/B4	B2/B6/B7/B8			
Assessment				A1 / A2		

REVIEW OF THE LESSON PLAN
(TO BE DONE WHEN THE LESSON GETS OVER)

- Problems faced –**
- Success-**
- Failure-**
- Real Learning Outcomes**
- ELO-**

Students' response/ participation

Teacher's Learning

TO INCORPORATE IN TERM 2-