

LESSON PLAN 1
SUBJECT : PHYSICS
CLASS: XII

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

TOPIC- CURRENT ELECTRICITY

BRIEF DESCRIPTION- Electric current, flow of electric charges in a metallic conductor, drift velocity, mobility and their relation with electric current; Ohm's law, V-I characteristics (linear and non-linear), electrical energy and power, electrical resistivity and conductivity, temperature dependence of resistance, Internal resistance of a cell, potential difference and emf of a cell, combination of cells in series and in parallel, Kirchhoff's rules, Wheatstone bridge.

KPI DEFINATION

KPI 01: Students face problems in understanding the conceptual questions, HOT'S questions

KPI 02 : Students face problems in solving numerical portion/ mathematical calculations of Kirchoff's law , Wheatstone bridge Etc.

KPI 03 : Students Face problem in analytical study of Graphical portion of resistivity and limitations of ohm's law

OBJECTIVES:

I- Specific Objectives-

- a) **SP1** To give more practice to students in form of different pattern of questions of previous year CBSE BOARD EXAM
- b) **SP2** To verify graph of ohms law for different materials of wire (copper, alloys etc)
- c) **SP3** To draw the graph between resistivity and temperature for copper, nichrome and semiconductor
- d) **SP4** To make them aware about the connections of cells of same or different EMF and internal resistance.
- e) **SP5** To give practice to students regarding conceptual questions of Kirchoff's current and voltage law for solving numerical related to KCL and KVL
- f) **SP6** To solve and give practice to students regarding Kirchoff's law and Wheatstone bridge

II -Behavioural Objectives

To enable the students to-

B1 to develop interest in framing their own practical examples

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

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

PROCESS /ACTIVITIES

ACT 1 : To find the value of resistance and resistivity per cm. by using Ohm's law

ACT 2 : To verify the value of unknown resistance by Using meter bridge.

ACT 3 : To verify the combination of resistance connected in series and parallel

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 - Self designed MCQ sheets to be given to students so that the student would also become a critical Thinker.

A4 – to conduct class test at the end of the chapter which includes questions related to previous year CBSE board exam

DIGITAL CONTENT TO BE USED: (if applicable)

To explain the topic properly in a visualized manner.

EXPECTED LEARNING OUTCOME–

Students will be able to:

1. To get the complete understanding of the chapter.
2. Solve different typology of questions
3. Understanding Concepts: Students should grasp the fundamental concepts, of circuit designing, series and parallel combination of resistance
4. Application Skills: They should be able to apply their knowledge to real-world scenarios, such as understanding the concepts of kirchoffs law , wheatstone bridge etc

5. Experimental Skills: Proficiency in conducting experiments to find the value of resistance and resistivity per cm. by using Ohm's law, to find the value of unknown resistance by using meter bridge
6. Critical Thinking: Encouraging critical thinking by asking questions about the basic concepts of a conductor (copper) wire used in meter bridge instead of using nichrome wire and what changes will be done in the values of resistance when terminals of primary cells gets interchanged.

Placement of Objectives, Instructional Activities and Assessment Topic: CURRENT ELECTRICITY						
	KNOWLEDGE	UNDERSTANDING	APPLICATION	ANALYSIS	SYNTHESIS	EVALUATION
Objectives	B1	SP1	SP2	SP2	B2	B3
Activities	SP4	SP3	SP6	SP5		
Assessment			ACT 1 ,2,3			

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-

LESSON PLAN 2
SUBJECT : PHYSICS
CLASS: XII

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

TOPIC- MAGNETISM AND MATTER

BRIEF DESCRIPTION- Chapter–5: Magnetism and Matter- Bar magnet, bar magnet as an equivalent solenoid (qualitative treatment only), magnetic field intensity due to a magnetic dipole (bar magnet) along its axis and perpendicular to its axis (qualitative treatment only), torque on a magnetic dipole (bar magnet) in a uniform magnetic field (qualitative treatment only), magnetic field lines. Magnetic properties of materials- Para-, Dia- and ferro -magnetic substances with examples, Magnetization of materials, effect of temperature on magnetic properties.

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 magnetism and matter

OBJECTIVES:

I- Specific Objectives-

SP 1 To give more practice to students in form of different pattern of questions

SP 2 Proper Book Reading And points to Remember part is to be prepared for preparation of Assertion and reasoning type Questions.

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.

SP 4 To understand the properties of bar magnet along with various definition related to magnetic materials

SP 4 Understanding the relationship between ferro para and Di magnetic material including related graph along with Domain theo

SP5 to understand the concept related to bar magnet equivalent to solenoid and its related derivation to prove it

SP 6 Learning about the concept of critical Temperature T_c for paramagnetic and ferromagnetic material

SP 7 To make them understand the concept of Torque acting on magnetic dipole

SP 8 To give practice of numerical related to the Magnetism and matter

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 ferro para and diamagnetic substances

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 and see how bar magnet is equivalent to solenoid

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

B6 Application: Students should apply their understanding to solve problems related numerical of critical temperature and bar magnet

B7 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 the magnetic susceptibility and numerical related to solution of bar magnet in Axial and equatorial position
- (d) 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:

1. To get the complete understanding of the chapter.
2. Solve different typology of questions
3. Can connect the subject with their daily life examples
4. 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.
5. 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.
6. 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.
7. Experimental Skills: Proficiency in conducting experiments to observe and measure magnetic fields and using equipment such as compasses and iron filings.
8. Scientific Inquiry: Fostering curiosity and inquiry by prompting students to ask questions and explore magnetic phenomena in their environment.
9. Communication: Developing the ability to communicate their understanding of magnetism and matter clearly and effectively through written and oral presentations.

	Placement of Objectives, Instructional Activities and Assessment Topic: CURRENT ELECTRICITY					
	KNOWLEDGE	UNDERSTANDING	APPLICATION	ANALYSIS	SYNTHESIS	EVALUATION
Objectives	B1 /SP4	SP1	SP2	SP2	B2	B3
Activities	B4	SP3/ B5				
Assessment	SP7	B7	B6	B3	SP8	SP5/SP6

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-

LESSON PLAN 3
SUBJECT : PHYSICS
CLASS: XII

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

TOPIC- ELECTROMAGNETIC INDUCTION

BRIEF DESCRIPTION- Chapter–6: Electromagnetic induction; Faraday's laws, induced EMF and current; Lenz's Law, Self and mutual induction.

KPI DEFINATION

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

KPI 02 : Students face problems in solving numerical portion/ mathematical calculations of faraday's law of electromagnetic induction,

KPI 03 : Students Face problem in finding the direction of induced current in different cases

OBJECTIVES:

I- Specific Objectives-

- a) **SP1** To give more practice to students in form of different pattern of questions of previous year CBSE BOARD EXAM
- b) **SP2** To make them understand about all the basic concepts of the chapter to solve Assertion and reasoning type questions and case-based study type questions
- c) **SP3** To understand about the concepts of Eddy currents (Extra) and Lenz's law
- d) **SP4** To make them understand how to solve the numerical related to faradays law
- e) **SP5** To explain them the Applications related to self-inductance and Mutual inductance.

f) **SP6** To correlate the mutual induction with other pattern of question

II -Behavioural Objectives

To enable the students to-

B1 to understand the production of induced current in the closed loops by moving bar magnet inside the number of turns

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

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

B4 To understand the basic applications of Mutual induction such as transformer.

PROCESS /ACTIVITIES

ACT 1 : To Demonstrate the two coil Activity to show the concept of primary and secondary coil and to show the direction of induced current in Galvanometer

ASSESSMENT:

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

A2 – class test to be conducted for better practice of conceptual numerical related to above topic

A3 - Self designed MCQ sheets to be given to students so that the student would also become a critical Thinker.

DIGITAL CONTENT TO BE USED: (if applicable)

To explain the topic properly in a visualized manner.

EXPECTED LEARNING OUTCOME-

Students will be able to:

1. To get the complete understanding of the chapter.
2. Solve different typology of questions

3. The students will be able to solve application-based questions of the above related topic

Placement of Objectives, Instructional Activities and Assessment Topic: MOTION						
	KNOWLEDGE	UNDERSTANDING	APPLICATION	ANALYSIS	SYNTHESIS	EVALUATION
Objectives	B1	SP1	SP2	SP2	B2	B3
Activities		SP3				
Assessment			ACT 1	B4		

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-**