

DELHI PUBLIC SCHOOL GHAZIABAD
CLASS – XII
CONSOLIDATED LESSON PLAN
CHAPTER-3 electrochemistry

Unit	Electrochemistry
Class Transaction	Total: 5 periods
Pre-requisite for the course	This lesson requires 1. Knowledge of concentration of solutions 2. Knowledge of basic algebra
Assessment of qualifying knowledge	1. Written test 2. HW notebook
Objective	Students would be able to understand preparation properties and uses of P-Block element , structure of their important compound.
Learning Outcomes	<u>KNOWLEDGE</u>- describe an electrochemical cell and differentiate between galvanic and electrolytic cells; • apply Nernst equation for calculating the emf of galvanic cell and define standard potential of the cell; • derive relation between standard potential of the cell, Gibbs energy of cell reaction and its equilibrium constant; • <u>SKILLS</u>- <i>Students would be able to</i> define resistivity (ρ), conductivity (κ) and molar conductivity (Λ_m) of ionic solutions; • differentiate between ionic (electrolytic) and electronic conductivity; • describe the method for measurement of conductivity of electrolytic solutions and calculation of their molar conductivity; • justify the variation of conductivity and molar conductivity of solutions with change in their concentration and define Λ°_m (molar conductivity at zero concentration or infinite dilution); • enunciate Kohlrausch law and learn its applications; • understand quantitative aspects of electrolysis; • describe the construction of some primary and secondary batteries and fuel cells; • explain corrosion as an electrochemical process
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and	Transaction would proceed in the following manner- Brain Storming-The class would start with a discussion on what the students have already learnt in the previous classes and hence what is it that they would learn now. They would also be told the significance of the topic that they would be studying. Communication and brainstorming: <i>Students develop effective communication skills and learn to put across their views.</i>

can use any other too.)	Introduction of the topic- ppt and Digital Content would be made by students. Collaboration: <i>Students learn to work in collaboration to achieve a common goal. They learn to manage time and divide and delegate work and responsibilities.</i> Creativity and innovation <i>Students use the knowledge given in class and create projects and models and perform research to give innovative solutions to the problem studied.</i> Guided practice followed by Independent Practice- NCERT questions to be discussed in the classroom. : <i>Helps students to think critically and solve the given problem</i> <i>Guided practice followed by Independent Practice-</i> NCERT questions to be discussed in the classroom. Techniques to be used: Daily Practice Problem MCQ Peer Assessment Character and citizenship: <i>Group discussion helps to develop interpersonal skills, respecting and valuing views of others</i> HOTS Any Other								
Resources	Text Book: NCERT text book for Mathematics Reference Book 1. CBSE Exemplar 2. DPSG Spiral 3. Previous year questions								
Self Study, Home Work, Assignments	Independent Practice: Students would do the given questions in their H.W. notebooks as mentioned in the monthly planner. It is also advised that the students come to the class with proper background knowledge of the topic under discussion. They can refer to the resources stated above.								
Assessments	<table> <tr> <td>3 UNIT TESTS</td><td>30,35,35 marks respectively</td></tr> <tr> <td>MID TERM EXAMINATION</td><td>70 Marks</td></tr> <tr> <td>HALF YEARLY EXAMINATION</td><td>70 Marks</td></tr> <tr> <td>PRE BOARD EXAMINATION</td><td>70 Marks</td></tr> </table>	3 UNIT TESTS	30,35,35 marks respectively	MID TERM EXAMINATION	70 Marks	HALF YEARLY EXAMINATION	70 Marks	PRE BOARD EXAMINATION	70 Marks
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Addressing Classroom Diversity	Due to various social backgrounds and multiple intelligences, the classroom might be a diverse arena. The following techniques can be used for various groups: <i>For higher scoring students:</i> • Spiral Level 3 questions to be done • Encouragement for referring other resources <i>For lower scoring students:</i> • Spiral Level 1 to be completed • Peer help to be provided • Provide grade-up classes(PCC) <i>For differently abled students:</i> • Ignore spelling mistakes and formulae,if not written • Call parents at regular intervals • Provide grade-up classes • Encourage and motivate them at every level.
Marks	The weightage would be given by CBSE.

DELHI PUBLIC SCHOOL GHAZIABAD
CLASS XII
LESSON PLAN
Unit-03
electrochemistry
(Based on DOL)

Anticipatory Set: Facilitator introduces the topic electrochemistry

Objective:

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- Given questions based on the topic. learners will be able to define the carbohydrates, proteins and nucleic acid.
 - To make students able to solve questions based on the topics to be discussed
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Techniques to be used:

- Peer Assessment
- Quiz
- Case Study
- PPT

Materials required and Teaching Aids: Smart Class Modules, blackboard, chalk, duster, NCERT book

Strategy

Student – teacher interaction, collaborative learning, independent practice

DAY 1

- describe an electrochemical cell and differentiate between galvanic and electrolytic cells;
- apply Nernst equation for calculating the emf of galvanic cell and define standard potential of the cell;
- derive relation between standard potential of the cell, Gibbs energy of cell reaction and its equilibrium constant;

GUIDED PRACTICE

The students will solve selected questions from NCERT book in their notebook in the class with the help of their teacher.

(CRITICAL THINKING)

SUMMARIZE AND CHECK FOR UNDERSTANDING

Some questions will be asked based on the day's teaching and doubts will be cleared.

Students will prepare voltaic cell in group (COLLABORATION)

INDEPENDENT PRACTICE – Students will do the leftover questions of ex. in assignment copy

DAY 2

- define resistivity (r), conductivity(k) and molar conductivity (Lm) of ionic solutions;
- differentiate between ionic (electrolytic) and electronic conductivity;
- describe the method for measurement of conductivity of electrolytic solutions and calculation of their molar conductivity;

GUIDED PRACTICE

The students will solve selected questions from NCERT book of exercise in their notebook in the class with the help of their teacher.

(CRITICAL THINKING)

SUMMARIZE AND CHECK FOR UNDERSTANDING

Some questions will be asked based on the day's teaching and doubts will be cleared.

(COMMUNICATION)

INDEPENDENT PRACTICE – Students will do the leftover questions of ex in their Assignment notebook

DAY 3

• justify the variation of conductivity and molar conductivity of solutions with change in their concentration and define Λ°_m L (molar conductivity at zero concentration or infinite dilution);

• enunciate Kohlrausch law and learn its applications;

GUIDED PRACTICE

The students will solve selected questions from NCERT book of exercise in their notebook in the class with the help of their teacher.

Students will do brain storming questions (CRITICAL THINKING)

SUMMARIZE AND CHECK FOR UNDERSTANDING

Some questions will be asked based on the day's teaching and doubts will be cleared. Group discussion on the topic taught

(COMMUNICATION)

INDEPENDENT PRACTICE – Students will do the left over questions of exercise in their assignment notebook.

PEER LEARNING: Student will help weak student to do problem solving questions (CITIZENSHIP)

DAY 4

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• understand quantitative aspects of electrolysis;

• faradays law application on quantitative application on electrolysis

GUIDED PRACTICE

The students will solve selected questions from NCERT book of exercise in their notebook in the class with the help of their teacher.

Students will do brain storming questions (CRITICAL THINKING)

SUMMARIZE AND CHECK FOR UNDERSTANDING

Some conceptual questions will be asked based on the day's teaching and doubts will be cleared.

Group discussion on the topic taught (COMMUNICATION)

INDEPENDENT PRACTICE – Students will do the leftover questions of exercise in their assignment notebook.

PEER LEARNING: Student will help weak student to do problem solving questions (CITIZENSHIP)

DAY 5

• describe the construction of some primary and secondary batteries and fuel cells;

• explain corrosion as an electrochemical process.

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- The exercise would be undertaken, questions from NCERT will be discussed along with the discussion of solved examples given.

GUIDED PRACTICE

The students will solve selected questions from NCERT book of exercise in their notebook in the class with the help of their teacher.

(CRITICAL THINKING)

SUMMARIZE AND CHECK FOR UNDERSTANDING

Some conceptual questions will be asked based on the day's teaching and doubts will be cleared.
Oral question answer session (COMMUNICATION)

INDEPENDENT PRACTICE – Students will do the leftover questions of exercise in their assignment notebook.

PEER LEARNING: Student will help weak student to do problem solving questions
(CITIZENSHIP)