

DELHI PUBLIC SCHOOL GHAZIABAD
CLASS – XI
CONSOLIDATED LESSON PLAN

CHAPTER-4 : CHEMICAL BONDING AND MOLECULAR STRUCTURE

Unit	CHEMICAL BONDING AND MOLECULAR STRUCTURE
Class Transaction	Total: 10 periods
Pre-requisite for the course	This lesson requires Basic knowledge of atomic number and electronic configuration of elements; Knowledge of ionization enthalpy and electron gain enthalpy;
Assessment of qualifying knowledge	1. Written test 2. HW notebook
Objective	Students would be able to understand * Appreciate KÖssel-Lewis approach to chemical bonding; • explain the octet rule and its limitations, draw Lewis structures of simple molecules
Learning Outcomes	<u>KNOWLEDGE-</u> <i>Students will know and understand</i> 1. Explain the formation of different types of bonds; 2. Describe the VSEPR theory and predict the geometry of simple molecules; 3.Explain the valence bond approach for the formation of covalent bonds; 4.Predict the directional properties of covalent bonds; <u>SKILLS-</u> <i>Students would be able to</i> 1. Explain the different types of hybridisation involving <i>s</i> , <i>p</i> and <i>d</i> orbitals and draw shapes of simple covalent molecules; 2.Describe the molecular orbital theory of homonuclear diatomic molecules; 3. Explain the concept of hydrogen bond.
Transaction Methodology (The teacher can use the mentioned techniques, wherever applicable, and can use any other too.)	Transaction would proceed in the following manner- <i>Brain Storming-</i> 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. <i>Communication and brainstorming:</i> <i>Students develop effective communication skills and learn to put across their views.</i> <i>Introduction of the topic-</i> ppt and Digital Content would be shared be made by students. <i>Collaboration:</i> <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> <i>Creativity and innovation</i>

	<i>Students use the knowledge given in class and create projects and models and perform research to give innovative solutions to the problem studied. Guided practice followed by Independent Practice- NCERT questions to be discussed in the classroom. : Helps students to think critically and solve the given problem</i> <i>Guided practice followed by Independent Practice- NCERT questions to be discussed in the classroom.</i> Techniques to be used: Daily Practice Problem MCQ Peer Assessment <i>Character and citizenship:</i> Group discussion helps to develop interpersonal skills, respecting and valuing views of others 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>3UNIT TESTS</td> <td>30,35,35 Marks</td> </tr> <tr> <td>HALF YEARLY EXAMINATION</td> <td>70 Marks</td> </tr> <tr> <td>ANNUAL EXAMINATION</td> <td>70 Marks</td> </tr> </table>	3UNIT TESTS	30,35,35 Marks	HALF YEARLY EXAMINATION	70 Marks	ANNUAL 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 lowering 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 XI
LESSON PLAN
CHAPTER – 4
CHEMICAL BONDING
(Based on DOL)

Anticipatory Set: Facilitator introduces the topic **Chemical bonding**

Objective:

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- Given questions based on the topic. learners will be able to draw the structures ,shape and type of hybridisation
 - 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

- The students will be shown a PPT and will be made aware of **covalent bond and octet rule and its limitations**
- The students will be told about the **Ionic bond** and **factors governing its formation**

GUIDED PRACTICE

The students will solve selected questions from NCERT book of ex. 4.4 to 4.6 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.
Group discussion on the topic taught (COMMUNICATION)

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

DAY 2

- **Bond parameters , polarity of bond**
- 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.

SUMMARIZE AND CHECK FOR UNDERSTANDING

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

INDEPENDENT PRACTICE – Students will do the leftover questions of ex 4.11 to 4.13 in assignment copy

DAY 3

- **VSEPR Theory postulates and shape (geometry) of molecules with central atom have without lone pairs of electrons**
- 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 questions will be asked based on the day's teaching and doubts will be cleared.

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

DAY 4

- **VSEPR Theory based shape (geometry) of molecules with central atom have with lone pairs of electrons**

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.(COMMUNICATION)

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

DAY 5

Valence Bond Theory postulates , Orbital overlap concept, Directional properties of Bonds and Overlapping of Atomic Orbitals

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.

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

DAY 6

- **Hybridisation and its types**
- 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 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.

DAY 7

- **Molecular Orbital Theory postulates, LCAO, conditions for combination of Atomic Orbitals and Types of Molecular Orbitals.**
- 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.

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.

DAY 8

- **Molecular Orbital Theory based energy level diagram for molecular orbitals, electronic configuration and molecular behaviour**

- **Molecular Orbital Theory based bonding in Hydrogen molecule , Helium and Lithium molecule**
- 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.

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.

DAY 9

- **Molecular Orbital Theory based bonding in Carbon molecule, Nitrogen and Oxygen molecule**
- 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 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.

DAY 10

- **Hydrogen Bonding cause of formation and types of Hydrogen Bonding**
- 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 questions will be asked based on the day's teaching and doubts will be cleared.

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