

# Class XII

## Subject -Chemistry

### Lesson Plan (2024-25)

## CHAPTER 1- SOLUTIONS

Month: MAY APRIL , •

Class Transaction- 15 periods

**Objectives:** After studying this chapter, students will be able:

- To describe the formation of different types of solutions
- Express concentration of solution in different units
- State and explain Henry's law and Renault's law. •
- Distinguish between ideal and non ideal solution.
- Explain deviation of real solutions from Raoult's law.
- **Previous knowledge testing:** Students would be asked about following methods of finding concentration of solution
  - (i) Molarity (ii) molality (iii) mole fraction (iv) ppm (v) percentage method.

- **Vocabulary/Important spellings:**

Osmosis, diffusion, boiling point, vapor pressure, saturated and unsaturated solutions, Van't Hoff factor.

- **Innovative methods:**

[https://www.youtube.com/watch?reload=9&v=1VEICP7\\_GFI](https://www.youtube.com/watch?reload=9&v=1VEICP7_GFI), books

- **Procedure:**

Student would be taught about:

- Concentration and methods to express this by molarity, molality, mass percentage, volume percentage, ppm, mole fraction.

- Colligative properties such as relative lowering of vapor pressure, elevation in boiling point, depression in freezing point, osmotic pressure

- Numerical regarding these properties

- **Student's participation:** Student would be asked about

: • Solubility, factors affecting it • Vapor pressure • Osmosis examples • Reverse osmosis • Use of this in water filters

- **Recapitulation/Assignment:** from the above topics, following points would be clear to the students • Various properties of the solution • Application of Henry's Law and Raoult's law • Colligative properties • NCERT back exercise would be given as assignment

- **Integration with other domain:**

calculation for the numerical of this chapter can be correlated with mathematics.

- **Learning outcomes:**

Students will be able to know • Types of solution • Expressing concentration of solutions • Solubility • Vapor pressure of liquid solutions • Ideal and non ideal solutions • Colligative properties • Determination of molar mass

- **Resources:** NCERT book, Pradeep's publications

- **Co scholastic activities:** students will be shown virtual lab activities related to the topics done in this chapter. It will help in enhancing learning process of students. This will bring social skills, intellectual skills and moral values among students. This ensures that students get to learn effectively

- **Feedback and Remedial Teaching**

Remedial teaching methods would be adopted for students who have fallen behind in studies. Retests, assignments and practice questions would be given for preparation .

- **Inclusive Practices and Full Participation without Discrimination**

Lesson would be taught equally to all students without any discrimination. All students would be treated same irrespective of their social ,economic status.

- **Sustainable Development Goals**

By teaching this chapter, we may proceed towards achieving the SDG of "clean water and sanitation" because we will study about Reverse Osmosis in this chapter.

## Chapter 2- ELECTROCHEMISTRY

**MONTH: MAY**

**Class Transaction- 18 periods**

**Objective:** After studying this chapter student will be able to

- Describe an electrochemical cell and differentiate between galvanic and electrolytic cell • Apply Nernst equation to calculate EMF of cell
- Relation between standard potential and Gibb's free energy
- Method to measure the conductivity and molar conductivity and their relation with concentration

**Previous knowledge testing:**

Student would be asked about electrochemical cell, functions of salt bridge

**Vocabulary:** Electrolytic cell, conductivity, Kohlrausch law

Innovative method/ resources: NCERT Book, reference book and lecture method,  
<https://www.youtube.com/watch?v=paRg8Q9Y1t8>

**Procedure:** Student would be told about:

- Electrochemical cells • Galvanic cells • Nernst equation • Conductance of electrolytic solution • Electrolysis

**Student's participation:**

Students will be able to recall: • Electrochemical cell • Relation between resistivity, conductivity and cell constant • Methods to measure the conductivity • Quantitative concepts of electrolysis

**Recapitulation/ assignment:**

Student will recapitulate • Differences between electronic and ionic conductivity • NCERT back exercise would be given as assignment

**Integration with other domains:**

During the study of the chapter, students have to do calculation for numerical which can be correlated with mathematics Learning outcome: after learning this chapter student will be able to: • Tell about electrochemical cell • Justify the variation of conductivity and molar conductivity with change in concentration • Define resistivity, conductivity, Nernst equation

### **Co scholastic activities:**

Students will be shown virtual lab activities related to the topics done in this chapter. It will help in enhancing learning process of students. This will bring social skills, intellectual skills and moral values among students. This ensures that students get to learn effectively.

### **Feedback and Remedial teaching**

- **Step by step instructions would be given to slow learning students. Such students would be taken out of normal classroom and taught in a different environment. They would be provided with routine assessments and practice activities.**
- **Inclusive Practices and Full Participation without Discrimination**  
Lesson plan would be so designed so as to promote education of children belonging to all minority communities ,and particularly those communities that are educationally underrepresented.
- **Sustainable Development Goals**  
Through teaching this lesson ,we may prepare students to gain this goal of “Affordable and clean energy”

## **Chapter 3-Chemical Kinetics**

**Month- MAY**

**Class Transaction- 15 periods**

### **OBJECTIVES**

The objective to study this chapter is that chemical kinetics is the branch of chemistry which deals with the rates of chemical reactions and the factors which influence the mechanisms by which reaction proceeds.

### **PREVIOUS KNOWLEDGE TESTING-**

' Students are expected to know that feasibility of a reaction under the given experimental conditions can be predicted on the basis of decrease in Gibbs free energy

' Knowledge of thermodynamics is essential to predict the extent to which the reaction proceeds.

### **VOCABULARY /IMPORTANT SPELLINGS '**

Equilibrium constant, order, molecularity of a reaction, Arrhenius equation, pseudo molecular reactions, threshold energy, activation energy.

### **INNOVATIVE METHODS/RESOURCES-**

' Smart board, Green board, study of graphs, lecture method, demonstration method, NCERT book, reference book

' Video based on chemical kinetics would be shown to students.

<https://www.youtube.com/watch?v=602063c-qzU>

**PROCEDURE-**' Students would be told about ' rate of reaction '

For a reaction '  $a A + b B = c C + d D$  ' Rate =  $-1/a \frac{d[A]}{dt} = -1/b \frac{d[B]}{dt} = 1/c \frac{d[C]}{dt} = 1/d \frac{d[D]}{dt}$ '  
dependence of rate of reaction on concentration for a reaction.

' law of mass action,  $rate = k[A]^a [B]^b$  ' rate law expression,  $rate = k[A]^a [B]^b$  '

order of a reaction,  $order = a + b$ ' units of k, integrated rate equation, half-life period,

' Arrhenius equation.

**STUDENT PARTICIPATION-** ' Students would be able to calculate rate of a reaction.

' they will be able to calculate order of reaction. '

they will solve numerical problems based on rate of reaction. ' they will be able to calculate half-life period of a reaction. '

they will know about the role of a catalyst in a reaction.

**STUDENT RECAPITULATION/ASSIGNMENT-** ' Students would be able to calculate activation energy using Arrhenius equation.

' they can use integrated rate equation for solving numerical problems. '

they can plot various graphs of rate verses concentration

**INTEGRATION WITH OHER DOMAINS'** Chemical kinetics can be integrated with other domains such as mathematics as many numerical problems are to be calculated.

It can be integrated with geometrical designing as many graphs are made.

**LEARNING OUTCOMES-** ' After studying this chapter, students will learn that '

chemical kinetics tells us about rate of reaction ' order and molecularity are characteristics of a reaction. '

activation energy of a reaction can be calculated by Arrhenius equation '

rate, order, half-life period of a reaction can be calculated. ' catalyst lowers the activation energy of a reaction '

catalyst works according to adsorption theory.

**CO-SCHOLISTIC ACTIVITIES-** ' Students will prepare graph on first order and zero order reactions and will discuss with each other. '

Students would be able to differentiate between slow and fast reactions and would be able to calculate the rate of reaction. '

They would know about half life period of a reaction and they would learn about radio carbon dating to estimate the age of fossils.

## **Feedback and Remedial Teaching**

- Remedial teaching is provided to those students who have fallen back in studies. They need short term learning assistance. They would be given step by step instructions so that the tough topics become clear to them.
- **Inclusive Practices and Full Participation without Discrimination**  
There will be enabling mechanisms for providing Children with Special Needs (CWSN) Or Divyang, the same opportunities of obtaining quality education as any other child.

# Chapter 4-D AND F BLOCK ELEMENTS

**MONTH: JULY**

**Class Transaction- 18 periods**

## **Objectives:**

After studying this chapter, students will be able to

: • Learn the position of d and f block elements in the periodic table.

• Know the electronic configuration of d and f block elements.

• General characteristics of d and f block elements.

## **Previous knowledge testing:**

Students would be asked about the configuration of d and f block elements, their general properties.

## **Vocabulary/Important spellings**

: Transition elements, interstitial compounds, lanthanoids.

## **Innovative methods:**

NCERT books, Reference books

, <https://www.youtube.com/watch?v=LzZWHsYaxw>

## **Procedure:**

Student would be taught about

• Position of d and f block elements in the periodic table.

• Electronic configuration

• General properties

• Important compounds of transition elements

• The lanthanoids

- Applications of d and f block elements

### **Student's participation:**

Student would be asked about:

- Group 3 to 12 elements
- Chemical reactivity of these elements
- Various properties of these elements

### **Recapitulation/Assignment:**

from the above topics, following points would be clear to the students

- Various properties of the transition and inner transition elements • Properties of lanthanoids • Uses of lanthanoids
- NCERT in text and back exercise questions would be given as assignment.

### **Integration with other domain:**

In this chapter various structures will be drawn, hence it can be correlated with drawing

### **. Learning outcomes:**

Students will be able to know

- Stability of various oxidation states of d and f block elements
- General characteristics of d and f block elements
- General horizontal and group trends in them
- Study of lanthanoids and their configuration, oxidation state and chemical behavior

**Resources:** NCERT book, Pradeep's publications

### **Co scholastic activities**

: Students will be shown virtual lab activities related to the topics done in this chapter.

It will help in enhancing learning process of students. This will bring social skills, intellectual skills and moral values among students. This ensures that students get to learn effectively.

### **Feedback and Remedial Teaching**



- Feedback from the students would be taken and such students would be identified whose preparation of the topics is not upto the mark. They would be explained the topic again and simple tests from the concerned topic would be taken up.
- **Inclusive Practices and Full Participation without Discrimination**  
To develop respect for diversity, the lesson plan would include ,early on, material on human values such as respect for all persons ,empathy, tolerance ,human rights,gender equality,non violence etc.

## Chapter 5-COORDINATION COMPOUNDS

### MONTH- JULY

### Class Transaction-18 periods

#### OBJECTIVES:

Students would be able to understand:

The postulates of Werner's theory of co-ordination compounds

. Write the formulas and names of mononuclear coordination compounds.

The rules of nomenclature of coordination compounds.

#### PREVIOUS KNOWLEDGE:

Students would be asked about why the transition metal form a large number of complex compounds in which the metal atoms are bound to a number of anions or neutral molecules

. Meaning of oxidation number, central atoms, ligand

#### VOCABULARY:

Werner's theory, coordination sphere, coordination polyhedron, homoleptic and heterolytic, ambient nucleophile.

#### CO-SCHOLASTIC ACTIVITIES –

Students would draw the isomerism in coordination

Geometric isomerism Optical isomerism

. Students develop scientific attitude how to use the techniques

. Students learn team work.

## **ASSESSMENT**

: Written tests will be taken.

MCQ tests would be carried out.

## **EXPLANATION WITH INNOVATIVE METHODS:**

Smart class Blackboard.

NCERT Text book and exemplar

Videos explaining the chapter would be shown to the students

<https://www.youtube.com/watch?v=53z1EiflKNI&t=68s>

## **PROCEDURE:**

Students will be explained

1. Werner's theory of coordination compounds
- . 2. The meaning of the terms: coordination entity, centralization legand, coordination number, oxidation number , hololiptic and heteroleptic.
3. Learn the tules of nomenclature of coordination compounds.
4. Isomerism in coordination compounds.
5. Understand the nature of bonding in coordination compounds in terms of the valency bonds and crystal field.
5. Importance and application of coordination compounds in our day to day life

## **. STUDENTS PARTICIPATION:**

Students would be able to tell:

1. Names of coordination compounds
- . 2. Magnetic properties of hybridization of coordination compounds.
3. Importance and applications pf coordination compounds in our day to day life

## . Recapitulation

Students would be able to explain

- : a. Names of the coordination compounds.
- b. Meaning of terms related to coordination compounds
- . c. Nature of bonding and magnetic properties based on VBT and CFT theories.
- d. NCERT intext and back exercises will be given as an assignment.

## ART INTEGRATION WITH OTHER DOMAINS:

This chapter is related with the following domains:

English language Art (drawing isomers of coordination compounds)

## LEARNING OUTCOMES:

Students would be able to explain

: The importance and application of coordination compounds.

Define different types of isomerism in coordination compounds.

Write the formula and names of mononuclear coordination compound

## Feedback and Remedial Teaching

- Students who would have fallen back in studies ,they would be given extra attention,MCQ exercises would be given to them for practice. Comprehension passages would also be discussed.

- **Inclusive Practices and Full Participation without Discrimination**

The lesson plan would also include emphasis on global citizenship,inclusion, and equity,detailed knowledge of various cultures ,religions, languages,genderidentities,etc to sensitize and develop respect for diversity.

# Chapter 6-HALOALKANES AND HALOARENES

Month: AUGUST

Class Transaction-15 periods

## Objective:

After studying this chapter student will be able to

- Name haloalkanes and haloarenes
- Describe the reaction involved in their preparation
- Correlate the structures of haloalkanes and haloarenes with various types of reaction
  - Stereochemistry
- Application of organ metallic compounds

## Previous knowledge testing:

Student would be asked about halogens, reactivity series, Wurtz reaction, nomenclature of simple compounds.

## Vocabulary

: allylic halides, vinyl halide, benzylic halide, nucleophilic substitution, geminal and vicinal dihalides

. Innovative method/ resources: NCERT Book, reference book and lecture method,

<https://www.youtube.com/watch?v=ztt0teVJtIY>

## Procedure

Student would be told about:

- Classification of haloalkanes and haloarenes
  - Nomenclature
  - Nature of C-X bond
  - Methods of preparation
- Physical properties, chemical reaction

## Student's participation:

Students will be able to recall:

- Nucleophilic substitution
- SN1, SN2 mechanisms
- Elimination reaction
- Chiral and achiral carbon atom

## Recapitulation/ assignment:

Student will recapitulate

- the reactivity series according to SN1 and SN2 mechanism
- Properties of haloalkanes and haloarenes
- Elimination reactions
- NCERT back exercise would be given as assignment.

### **Integration with other domains:**

during the study of the chapter, students have to make aromatic structures this could be integrated with geometrical pattern design. Hence it is a mathematical concept of comparison.

### **Learning outcome:**

After learning this chapter student will be able to:

- Compare the reactivities of two compounds
- Know the methods of preparation, physical and chemical properties of haloalkanes and haloarenes.

### **Co scholastic activities**

: Students will be shown virtual lab activities related to the topics done in this chapter. It will help in enhancing learning process of students. This will bring social skills, intellectual skills and moral values among students. This ensures that students get to learn effectively.

### **Feedback and Remedial Teaching**

- Some students find organic chemistry difficult. Their basics would be cleared and they would be familiarized with simplest organic molecules and their structures.
- **Inclusive Practices and Full Participation without Discrimination**  
To develop respect for diversity, the lesson plan would include, early on, material on human values such as respect for all persons, empathy, tolerance, human rights, gender equality, non violence etc.

## **Chapter 7-ALCOHOL, PHENOL, ETHERS**

**Month: AUGUST**

**Class Transaction-14 periods**

**Objective**

: After studying this chapter student will be able to

- Name alcohols, phenols and ethers
- Describe the reaction involved in their preparation
- Correlate the physical properties of alcohols, phenols and ethers with their structure
- Discuss chemical reactions of three classes of compounds on the basis of their functional group

### **. Previous knowledge testing**

: Student would be asked about nomenclature of alcohols, phenols and ethers, their properties.

### **Vocabulary:**

allylic alcohol, vinyl alcohol, benzylic alcohol, alkoxy alkane, phenol

### **. Innovative method/ resources:**

NCERT Book, reference book and lecture method,

<https://www.youtube.com/watch?v=qbYXVztdJJs>

### **Procedure**

: Student would be told about:

- Classification of alcohols, phenols and ethers
- Nomenclature
- Structure of functional groups
- Methods of preparation
- Physical properties, chemical reaction
- Some commercially important alcohols

### **Student's participation:**

Students will be able to recall:

- Some name reactions of alcohol, phenol and ethers
- Mechanism of dehydration, esterification of alcohols
- Electrophilic substitution reactions

### **Recapitulation/ assignment:**

Student will recapitulate

- The various mechanisms
- Properties of alcohol, phenol and ethers
- Electrophilic substitution reactions
- Some important alcohols
- NCERT back exercise would be given as assignment

### **. Integration with other domains:**

During the study of the chapter, students have to make aromatic structure this could be integrated with geometrical pattern design. Hence it is related with mathematical concept of comparison.

Learning outcome

: After learning this chapter student will be able to:

- Compare the acidic character of alcohols and phenols
- Tell the methods of preparation, physical and chemical properties of alcohols, phenols and ethers

### **Co scholastic activities:**

Students will be shown virtual lab activities related to the topics done in this chapter. It will help in enhancing learning process of students. This will bring social skills, intellectual skills and moral values among students. This ensures that students get to learn effectively.

### **Feedback and Remedial Teaching**

- Feedback of the students in the form of class tests would be taken and students weak in studies would be identified. Extra practice would be given to such students through tests, comprehension paragraphs, MCQs etc.
- **Inclusive Practices and Full Participation without Discrimination**  
Equitable quality education would be provided to all girls as well as transgender students .  
Children in vulnerable situations

## **Chapter 8-Aldehydes, Ketones and Carboxylic Acids**

**Month- OCTOBER**

**Class Transaction-15 periods**

### **Objectives**

Students will understand that: - ' Aldehydes, ketones and carboxylic acids have functional group  $>C=O$ , known as carbonyl group.

' Majority of biologically important compounds contain carbonyl group. \* they play major role in many biochemical processes of life

### **. Previous knowledge testing- '**

Students are expected to know the basic carbon covalent structure of organic compounds.

They would be asked about sp,sp<sup>2</sup>,sp<sup>3</sup> hybridised carbon atom.  
They would also be asked about various functional groups and their structures

### **. Vocabulary used/Important spellings- '**

Carbonyl group, esters, anhydrides, inductive effect, nucleophilic substitution, acetylation, decarboxylation, aldol condensation.

### **'Innovative Methods '**

Smart class ' Green Board ' NCERT book, Reference book ' lecture method

' video lectures would be shown to the students

<https://www.youtube.com/watch?v=UmbmTSj73K4>

### **Procedure-**

' Students would be told about compounds containing carbonyl group i.e., aldehydes, ketones and carboxylic acids.

' various methods of preparation of aldehydes, ketones and carboxylic acids would be discussed. '

physical and chemical properties of these compounds would be discussed.

' addition reactions of carbonyl group would be explained to students.

' oxidation, reduction reactions would be discussed. '

reactions of carboxylic acids and its derivatives would be told.

### **Student participation- '**

Students would be able to recall various methods of preparation of aldehydes ,ketones and acids. '

they would be able to differentiate between them based on their properties. '

they would be able to name them according to IUPAC nomenclature.

' they would be able to write reactions of preparation/ chemical properties taking other examples also

### **. Recapitulation/Assignment-**

' Students will recapitulate the various chemical properties of these compounds and complete the reactions. '

they will recapitulate various reaction conditions and catalysts used in the reactions.

they would be able to tell the effect of various substituents on acidic strength of acids.

\*NCERT back exercise questions and intext questions would be given as assignment.

### **Integration with other domains- '**

Since during studying this chapter,students have to make many aromatic structures ,this domain could be integrated with geometrical pattern designing.Moreover comparing various compounds integrates with mathematical concept of comparison.



**Learning outcomes-** ' After learning this chapter, students will be able to ' various carbonyl compounds ' know their methods of preparation and chemical properties ' importance of these compounds ' know various named reactions

**Co-scholastic activities- '**

Students will develop the skill of differentiating between aldehydes, ketones and carboxylic acids based on chemical reactions in lab. ' they will be able to critically analyse various chemical reactions shown by these compounds. ' they will know the uses of these compounds by discussing with another and thus show teamwork.

**Feedback and Remedial Teachings**

- Some students are slow learners and cannot retain information. Such students would be given extra attention and if need arises , they would be taught the whole topic again. One to one personel attention would be given to such students
- **.Inclusive Practices and Full Participation without Discrimination**  
All students would be given equitable and inclusive education .like students having disabilities(including learning disabilities),and socio-economic conditions such as migrant communities,low income households,orphans etc.

## **Chapter 9-ORGANIC COMOUNDS CONTAINING NITROGEN**

**Month-OCTOBER**

**Class Transaction-14 periods**

**Objective:**

To study nomenclature, structure, preparation, properties and uses of amines and diazonium salts.

**Previous Knowledge Testing**

: Children will be asked about: ' General formula for 1, 2, 3 degree amines.

' Structured formulae of some common amines and nitro compounds to introduce nomenclature. '  
Cause of basic nature of amines

### **. Vocabulary/important spellings**

: Tertiary, quaternary, Hoffmann's ammonolysis, Gabriel phthalimide, steric, salvation, steric, inductive, Schiff's base, acylation, benzylation, cachylamine, diazotisation, 2 witter ion, Heinsberg test.

### **Explanation with innovative methods/aids:**

Smart class, ball and stick models of shapes of molecules, diagrams, chemical formulae, chemical equations

, tables of basic strength of amines.

Group activity: children will be divided in three groups assigned as 1,2, 3 degree amines to represent preparation and properties of respective titles.

### **Procedure:**

' First of all, structure of  $\text{NH}_3$  and amines will be introduced. '

Classification into 1,2, 3, 4-degree salts will be taken up.

' 1-degree amines of  $\text{RNH}_2$ .

' 2-degree amines of  $\text{R}_2\text{NH}$ . '

3-degree amines of  $\text{R}_3\text{N}$ .

' 4-degree salts of  $\text{R}_4\text{N}^+\text{X}^-$ . '

Methods of preparation e.g. From alkyl halides, alcohols, cyanides, oximes, amides and carbonyls will be discussed with suitable chemical equations. '

Basic nature of amines and effect of substitution on its basic nature will be elaborated.

' Physical and chemical properties e.g. Alkylation, acylation, benzylation, carbylamines reaction, oxidation, halogenations, nitration and sulphonation etc. will be explained.

' Preparation and properties of diazonic compounds will be taken up with respect to benzene diazonium chloride

### **. Participation of children:**

' After this topic students will be able to identify and draw examples of 1, 2, 3-degree amines, they will be able to determine basicity, order of amines by applying concept of steric factor and salvation factors. '

They will be able to classify EWG and ERG.

They will be told to write name of reactants and products themselves by applying rules of IUPAC.

### **Recapitulation**

: Chemical properties will be revised and summarised in the form of flow chart presentation for ease of learning

. Short oral and written test will be conducted to help in memorizing the equations

### **. Integration with other domains:**

' To explain 1, 2, 3- and 4-degree amines and their order of basicity and for balancing; mathematical skill will be integrated.

' Drawing will be integrated to prepare flow sheet representation

### **. Resource:**

NCERT Chemistry for XII. New course chemistry (XII) Pardeep publication. YouTube: CBSE India

<https://www.youtube.com/watch?v=ztnPnackibs>

### **Learning outcome:**

After doing this topic, students will be able to: ' Name amines. '

Classify and identify them into 1, 2, 3-degree amines.

' Know their physical and chemical properties. ' Predict and compare basic nature of amines. '

Appreciate chemical characteristics of diazonium chloride.

Co-scholastic '

They will develop skill and competence. '

They will be able to realise importance and application of this topic in various fields of life. '

Critical thinking will be developed by analysing different cases. '

Team work and collaboration will be developed.

' NCERT exercise with practise problems will be given.

' MCQ, SA, VSA, assertion reasoning type questions will be covered

### **. Assignment:**

NCERT exercise, presentation of chemical properties of amines and benzene diazonium chloride, comparison of basic nature of amines.

MCQ, quiz, reasoning type questions, conversions, fill ups, SA type question.

### **Feedback and Remedial Teachings.**

- Students who will be lagging behind in studies, would be paid extra attention. They would be given simple tests for practice. They would be taught again in a simpler and easier way'
- **Inclusive Practices and Full Participation without Discrimination**  
Students with different geographical identities ,such as students from village ,small towns ,and aspirational districts would be given equal opportunities for receiving quality education.

# Chapter 10-BIOMOLECULES

Month November:

**Class Transaction- 18 periods**

## **Objective:**

After studying this chapter student will be able to:

- Define the biomolecules like carbohydrates, proteins and nucleic acid
- Classify carbohydrates, proteins and nucleic acid on the basis of their structures
- Explain the difference between RNA and DNA
- Appreciate the role of biomolecules in biosystems

## **Previous knowledge testing**

: Student would be asked about various biomolecules, DNA /RNA and their general function.

## **Vocabulary**

: Monosaccharides, tollens reagent, Fehling solution, peptides

## **Innovative method/ resources:**

NCERT Book, reference book and lecture method,  
<https://www.youtube.com/watch?v=lkoDv6ggRjE>

## **Procedure:**

Student would be told about:

- carbohydrates, proteins and nucleic acid
- their structure and their function Student's participation: Students will be able to recall:
- Structure and reaction of glucose
- Structure and properties of various types of proteins
- DNA, RNA

## **Recapitulation/ assignment:**

Student will recapitulate

- Carbohydrates and its types
- Structure of proteins • DNA, RNA and their function
- NCERT back exercise would be given as assignment.

## **Integration with other domains:**

During the study of the chapter, students have to draw various structures of biomolecules; this can be integrated with drawing.

**Learning outcome:** After learning this chapter student will be able to:

- Tell about the structure and functions of various biomolecules

**Co scholastic activities:**

Students will be shown virtual lab activities related to the topics done in this chapter.

It will help in enhancing learning process of students.

This will bring social skills, intellectual skills and moral values among students.

This ensures that students get to learn effectively.

**Feedback and Remedial Teachings.**

- There are always some students in the class who might find it difficult to understand and learn the structures of biomolecules. For such students, topic would be discussed again in such a manner so that they may also follow the chapter. Practice tests would also be given to such students.
- **Inclusive Practices and Full Participation without Discrimination**  
Focus would be laid to achieve an inclusive and equitable society. Bridging the social category gaps would be one of the major goals of imparting education.