

Annual curriculum plan  
CLASS – XI  
Session (2020-21)  
Subject: chemistry

Education vision: To be a teacher that impacts the lives of many students in positive ways. A teacher must be willing to be vulnerable, to grow and increasing her capacity. I want have that burning desire to do the best for my students and this desire is the centre of my education vision.

I believe that by doing a great job with small things, great things happen. A teacher helps their students to know their potentials she assist them to have maximum outcome and utilization of their potential. To help them to realize that they have ability to be a great generation.

- To see each student as an individual unique learner.
- Students will be open minded critical thinker.
- Students will be balanced.
- To foster information gathering skills, analytical thinking.
- They will by reflective and will explore their surroundings and environment for achieving all their goals.
  
- April to September

Chapter No	Transaction strategy/pedagogy	Learning Objective/ Skills to be developed	CORE SKILLS/ ART INTEGRATION/ INTERDISCIPLINARY LINKAGES
<ul style="list-style-type: none"> <li>• Unit I</li> <li>• Some Basic Concepts of Chemistry</li> <li>• Atomic and molecular masses, mole concept and molar mass,</li> <li>• percentage composition, empirical and molecular formula,</li> <li>• chemical reactions, stoichiometry and calculations based on stoichiometry.</li> <li>Deleted portion</li> <li>Nature of matter, laws of chemical combination, Dalton's atomic theory: concept of elements, atoms and</li> </ul>	<p>Lecture cum discussion. . A short quiz. Concept mapping. Predict–observe–explain Pen-paper test Numerical practice Encouraging individual response. Bringing affective, psychomotor and cognitive development. Laying stress on the understanding the concept. Online Quizzes Assignment on Google class room Sharing video based on concept Olab activities</p>	<ul style="list-style-type: none"> <li>• Students will be able</li> <li>• To understand Importance and scope of chemistry.</li> <li>• Atomic and molecular masses,</li> <li>• To solve numerical based on mole concept and molar mass, percentage composition, empirical and molecular formula,</li> <li>• To do calculations based on stoichiometry.</li> </ul>	<ul style="list-style-type: none"> <li>• Core Skills: Observation skills, Awareness Analytical skills, and Problem solving skill.</li> <li>• Art Integration: List out the applications of chemistry in your day to daylife.</li> <li>• Interdisciplinary linkage: Mathematics.</li> </ul>

<p>molecules.</p>			
<ul style="list-style-type: none"> <li>• <b>Unit II: Structure of Atom</b></li> <li>• Subtopics</li> <li>• Bohr's model and its limitations, concept of shells and subshells,</li> <li>• dual nature of matter and light, de Broglie's relationship,</li> <li>• Heisenberg uncertainty principle, concept of orbitals, quantum numbers, shapes of s, p and d orbitals,</li> <li>• rules for filling electrons in orbitals –</li> <li>• Aufbau principle,</li> <li>• Pauli's exclusion principle and Hund's rule, electronic configuration of atoms,</li> <li>• stability of half-filled and completely filled orbitals.</li> <li>• Deleted portion Discovery of Electron, Proton and Neutron, atomic number, isotopes and isobars. Thomson's model and</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture cum discussion.</li> <li>• A short quiz.</li> <li>• Concept mapping. Predict–observe–explain</li> <li>• Oral test</li> <li>• Pen paper test</li> <li>• Regular practice of writing Electronic configuration.</li> <li>• Encouraging individual response.</li> <li>• Bringing affective, psychomotor and cognitive development.</li> <li>• Laying stress on understanding the concept.</li> <li>• Online Quizzes</li> <li>• Assignment on Google class room</li> <li>• Sharing video based on concept</li> </ul>	<ul style="list-style-type: none"> <li>• Students will be able</li> <li>• To understand the Bohr's model and its limitations,</li> <li>• To understand the concept of shells and subshells, To understand the dual nature of matter and light</li> <li>• de Broglie's relationship,</li> <li>• To solve numerical based on Heisenberg uncertainty principle,</li> <li>• To Understand the concept of orbitals, quantum numbers, shapes of s, p and d orbitals, rules for filling electrons in orbitals –</li> <li>• Aufbau principle, Pauli's exclusion principle and Hund's rule,</li> <li>• To write the electronic configuration of atoms,</li> <li>• To understand stability of half-filled and completely filled orbitals.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Core Skills:</b> Observation skills, Awareness Analytical skills and Problem solving skill.</li> <li>• <b>Art Integration:</b> Make a chart on various models of atoms. Draw a diagram to show effect of exchange energy on electronic configuration d</li> <li>• <b>Interdisciplinary linkage:</b> Mathematics</li> </ul>

<p>its limitations.</p> <p><b>Rutherford's model and its limitations</b></p>			
<ul style="list-style-type: none"> <li>• <b>Unit III: Classification of Elements and Periodicity in Properties</b></li> <li>• Modern periodic law and the present form of periodic table,</li> <li>• periodic trends in properties of elements - atomic radii, ionic radii, inert gas radii,</li> <li>• Ionization enthalpy, electron gain enthalpy,</li> <li>• electronegativity, valency.</li> <li>• Nomenclature of elements with atomic number greater than 100</li> <li>• Deleted portion</li> <li>• Significance of classification, brief history of the development of periodic table,</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture cum discussion.</li> <li>• A short quiz.</li> <li>• Concept mapping. Predict–observe–explain</li> <li>• Oral test</li> <li>• Pen paper test</li> <li>• Regular practice of reasoning based questions</li> <li>• Encouraging individual response.</li> <li>• Bringing affective, psychomotor and cognitive development.</li> <li>• Laying stress on understanding the concept.</li> <li>• . Online Quizzes</li> <li>• Assignment on Google class room</li> <li>• Sharing video based on concept</li> </ul>	<ul style="list-style-type: none"> <li>• Students will be able</li> <li>• To understand the Modern periodic law and the present form of periodic table,</li> <li>• To understand periodic trends in properties of elements -atomic radii, ionic radii, inert gas radii,</li> <li>• Ionization enthalpy, electron gain enthalpy,</li> <li>• electronegativity, valency.</li> <li>• Do the nomenclature of elements with atomic number greater than 100</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Core Skills:</b> Observation skills, Awareness Analytical skills, and Problem solving skill.</li> <li>• <b>Art Integration:</b> List out the contribution of various scientists in classification of elements. Plot a graph between energy and inter nuclear distance to show bond formation in hydrogen molecule.</li> <li>• <b>Interdisciplinary linkage:</b> Mathematics, History</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Unit IV: Chemical Bonding and Molecular structure</b></li> </ul>	<ul style="list-style-type: none"> <li>• Lecture cum discussion.</li> <li>• A short quiz.</li> <li>• Concept</li> </ul>	<ul style="list-style-type: none"> <li>• Students will be able</li> <li>• To find out the valence electrons of elements,</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Core Skills:</b> Observation skills, Awareness and Analytical skills</li> </ul>

<ul style="list-style-type: none"> <li>• Valence electrons, ionic bond,</li> <li>• covalent bond, bond parameters</li> <li>• , Lewis structure,</li> <li>• polar character of covalent bond,</li> <li>• covalent character of ionic bond,</li> <li>• valence bond theory, resonance,</li> <li>• geometry of covalent molecules,</li> <li>• VSEPR theory,</li> <li>• concept of hybridization, involving s, p and d orbitals and shapes of some simple molecules,</li> <li>• molecular orbital theory of homo nuclear diatomic molecules</li> <li>• hydrogen bond.</li> </ul>	<p>mapping. Predict–observe–explain</p> <ul style="list-style-type: none"> <li>• Oral test</li> <li>• Pen paper test</li> <li>• Encouraging individual response.</li> <li>• Bringing affective, psychomotor and cognitive development.</li> <li>• Laying stress on understanding the concept.</li> <li>• Online Quizzes</li> <li>• Assignment on Google class room</li> <li>• Sharing video based on concept</li> </ul>	<ul style="list-style-type: none"> <li>• To understand the concept of ionic bond, covalent bond, bond parameters, Lewis structure, polar character of covalent bond, covalent character of ionic bond, valence bond theory,</li> <li>• To understand and draw resonate structures,</li> <li>• To understand the geometry of covalent molecules, VSEPR theory</li> <li>• To understand the concept of hybridization, involving s, p and d orbitals and shapes of some simple molecules,</li> <li>• To understand the molecular orbital theory of homo nuclear diatomic molecules,</li> <li>• hydrogen bond.</li> <li>• To understand the application of Hydrogen bonding</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Art Integration:</b> Make models of molecules , Make charts to show various types of hybridization</li> <li>• <b>Interdisciplinary linkage:</b> Mathematics</li> </ul>
<ul style="list-style-type: none"> <li>• <b>Unit V: States of Matter: Gases and Liquids</b></li> <li>• Three states of matter,</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture cum discussion.</li> <li>• A short quiz.</li> <li>• Concept mapping. Predict–observe–explain</li> </ul>	<ul style="list-style-type: none"> <li>• Students will be able .</li> <li>• To understand the three states of matter, intermolecular</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Core Skills:</b> Observation skills, Awareness Analytical skills, and Problem solving skill.</li> <li>• <b>Art Integration:</b> Draw a flow chart to show gas laws.</li> </ul>

<p>intermolecular interactions, types of bonding, melting and boiling points, role of gas laws in elucidating the concept of the molecule,</p> <ul style="list-style-type: none"> <li>Boyle's law,</li> <li>Charles law,</li> <li>Gay Lussac's law,</li> <li>Avogadro's law,</li> <li>ideal behaviour,</li> <li>empirical derivation of gas equation,</li> <li>Avogadro's number, ideal gas equation.</li> <li>Deviation from ideal behaviour,</li> <li>surface tension</li> <li>Deleted Portion</li> <li>liquefaction of gases, critical temperature, kinetic energy and</li> <li>molecular speeds (elementary idea),</li> <li>Liquid State- vapour pressure, viscosity and surface tension (qualitative idea only, no mathematical derivation)</li> </ul>	<ul style="list-style-type: none"> <li>Oral test</li> <li>OLab activities</li> <li>Pen paper test</li> <li>Regular practice of numerical from the chapter.</li> <li>Concept explanation by students.</li> <li>Giving opportunities to ask questions.</li> <li>Encouraging individual response.</li> <li>Bringing affective, psychomotor and cognitive development.</li> <li>Laying stress on understanding the concept. Online Quizzes</li> <li>Assignment on Google class room</li> <li>Sharing video based on concept</li> </ul>	<p>interactions, types of bonding, melting and boiling points,</p> <ul style="list-style-type: none"> <li>To understand the role of gas laws in elucidating the concept of the molecule,</li> <li>Boyle's law,</li> <li>Charles law,</li> <li>Gay Lussac's law,</li> <li>Avogadro's law, ideal behaviour,</li> <li>To understand the derivation of gas equation,</li> <li>To understand deviation from ideal behaviour, 1</li> </ul>	<p>List out the applications of surface tension in daily life</p> <ul style="list-style-type: none"> <li>Interdisciplinary linkage: Mathematics. Physics</li> </ul>
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- **Unit VI: Chemical Thermodynamics**
- Concepts of System and types of systems, surroundings, work, heat, energy,
- extensive and intensive properties,
- state functions.
- First law of thermodynamics –
- internal energy and enthalpy, measurement of  $\Delta U$  and  $\Delta H$ ,
- Hess's law of constant heat summation,
- enthalpy of bond dissociation, combustion, formation, atomization, sublimation, phase transition, ionization, solution and dilution. S
- econd law of Thermodynamics (brief introduction).
- Introduction of entropy as a state function,
- Gibb's energy change for spontaneous and non- spontaneous processes, criteria for equilibrium.

- Lecture cum discussion.
- OLab activities .
- A short quiz.
- Concept mapping. Predict–observe–explain
- Pen paper test.
- Oral test
- Practice numerical regularly
- Olab activities
- Giving opportunities to share their ideas.
- Concept explanation by students.
- Encouraging individual response.
- Bringing affective, psychomotor and cognitive development.
- Laying stress on understanding the concept. Online Quizzes
- Assignment on Google class room
- Sharing video based on concept

- Students will be able
- To understand Concepts of System and types of systems, surroundings, work, heat, energy, extensive and intensive properties, state functions.
- To understand first law of thermodynamics - internal energy and enthalpy,
- To understand the measurement of  $\Delta U$  and  $\Delta H$
- To understand Hess's law , enthalpy of bond dissociation, combustion, formation, atomization, sublimation, phase transition, ionization, solution and dilution.
- To understand the Second law of Thermodynamics To understand the Gibb's energy change for spontaneous and non-spontaneous processes,
- To understand criteria for equilibrium. Third law of thermodynamics .

- **Core Skills:** Observation skills, Awareness and Analytical skills
- **Art Integration:** List out the spontaneous reactions you observe in daily life.
- **Interdisciplinary linkage:** Mathematics.

<ul style="list-style-type: none"> <li>• <b>Third law of thermodynamics (brief introduction).</b></li> <li>• <b>Deleted portion</b></li> <li>• <b>Heat capacity and specific heat capacity, Criteria for equilibrium</b></li> </ul>			
<ul style="list-style-type: none"> <li>• <b>October to February</b></li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>	
<ul style="list-style-type: none"> <li>• <b>Unit VII: Equilibrium</b></li> <li>• <b>Equilibrium in physical and chemical processes, dynamic nature of equilibrium,</b></li> <li>• <b>law of mass action, equilibrium constant, factors affecting equilibrium-</b></li> <li>• <b>Le Chatelier's principle, ionic equilibrium- ionization of acids and bases, strong and weak electrolytes, degree of ionization,</b></li> <li>• <b>ionization of poly basic acids, acid strength,</b></li> <li>• <b>concept of pH,</b></li> <li>• <b>buffer solution, solubility product,</b></li> <li>• <b>common ion effect Deleted Portion</b></li> <li>• <b>hydrolysis of salts (elementary idea), Henderson Equation</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Lecture cum discussion.</b></li> <li>• <b>OLab activities.</b></li> <li>• <b>A short quiz.</b></li> <li>• <b>Concept mapping. Predict–observe–explain</b></li> <li>• <b>Pen paper test.</b></li> <li>• <b>Oral test</b></li> <li>• <b>Practice numerical regularly</b></li> <li>• <b>Giving opportunities to share their ideas.</b></li> <li>• <b>Concept explanation by students.</b></li> <li>• <b>Encouraging individual response.</b></li> <li>• <b>Bringing affective, psychomotor and cognitive development.</b></li> <li>• <b>Laying stress on understanding the concept. Online Quizzes</b></li> <li>• <b>Assignment on Google class room</b></li> <li>• <b>Sharing video based on concept</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Students will be able .</b></li> <li>• <b>To understand the Equilibrium in physical and chemical processes,</b></li> <li>• <b>To understand dynamic nature of equilibrium, law of mass action, equilibrium constant, factors affecting equilibrium-</b></li> <li>• <b>To understandLe Chatelier's principle, ionic equilibrium- ionization of acids and bases, strong and weak electrolytes, degree of ionization, ionization of poly basic acids, acid strength, concept of pH,</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Core Skills:</b> Observation skills, Awareness Analytical skills, and Problem solving skill.</li> <li>• <b>Art Integration:</b> List out the applications of acids, bases and buffer solutions.</li> <li>• <b>Interdisciplinary linkage:</b> Mathematics.</li> </ul>

<ul style="list-style-type: none"> <li>• <b>Unit VIII: Redox Reactions</b></li> <li>• <b>Concept of oxidation and reduction, redox reactions, oxidation number,</b></li> <li>• <b>balancing redox reactions, in terms of loss and gain of electrons and change in oxidation number,</b></li> <li>• Deleted</li> <li>• <b>applications of redox reactions</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Lecture cum discussion.</b></li> <li>• <b>OLab activities.</b></li> <li>• <b>A short quiz.</b></li> <li>• <b>Concept mapping. Predict–observe–explain</b></li> <li>• <b>Pen paper test.</b></li> <li>• <b>Oral test</b></li> <li>• <b>Practice numerical regularly</b></li> <li>• <b>Giving opportunities to share their ideas.</b></li> <li>• <b>Concept explanation by students.</b></li> <li>• <b>Encouraging individual response.</b></li> <li>• <b>Bringing affective, psychomotor and cognitive development.</b></li> <li>• <b>Laying stress on understanding the concept. Online Quizzes</b></li> <li>• <b>Assignment on Google class room</b></li> <li>• <b>Sharing video based on concept</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Students will be able .</b></li> <li>• <b>To understand the concept of oxidation and reduction, redox reactions,</b></li> <li>• <b>To find out the oxidation number,</b></li> <li>• <b>Balance redox reactions, and solve the numerical based on the concept.</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Core Skills:</b> <b>Observation skills, Awareness and Analytical skills</b></li> <li>• <b>Art Integration:</b> <b>List out various redox reactions taking place in daily life.</b></li> <li>• <b>Interdisciplinary linkage:</b> <b>Mathematics</b></li> </ul>
<ul style="list-style-type: none"> <li>• <b>Unit IX: Hydrogen</b></li> <li>• <b>Position of hydrogen in periodic table,</b></li> <li>• <b>occurrence, isotopes,</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Lecture cum discussion.</b></li> <li>• <b>A short quiz.</b></li> <li>• <b>Concept mapping. Predict–</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Students will be able</b></li> <li>• <b>To understand the occurrence, isotopes,</b></li> <li>• <b>To understand the</b></li> </ul>	<ul style="list-style-type: none"> <li>• <b>Core Skills:</b> <b>Observation skills, Awareness Analytical skills, and Problem solving skill.</b></li> <li>• <b>Art Integration:</b> <b>Write applications of hydrogen.</b></li> <li>• <b>Interdisciplinary linkage:</b></li> </ul>



<p>hydrides-ionic covalent and interstitial; physical and chemical properties of water, heavy water,</p> <ul style="list-style-type: none"> <li>• use; hydrogen as a fuel.</li> <li>• Deleted</li> <li>• Preparation, properties and uses of hydrogen, hydrogen peroxide -</li> <li>• preparation, reactions and structure and use;</li> <li>• <b>Unit X: s-Block Elements (Alkali and Alkaline Earth Metals)</b></li> <li>• <b>Group 1 and Group 2 Elements</b> General introduction, electronic configuration, occurrence, anomalous properties of the first element of each group,</li> <li>• diagonal relationship, trends in the variation of properties (such as ionization enthalpy, atomic and ionic radii),</li> <li>• trends in chemical reactivity with oxygen, water, hydrogen and halogens, uses.</li> </ul>	<p>observe–explain Pen paper test.</p> <ul style="list-style-type: none"> <li>• Oral test</li> <li>• Practice numerical regularly</li> <li>• Giving opportunities to share their ideas.</li> <li>• Concept explanation by students. Encouraging individual response.</li> <li>• Bringing affective, psychomotor and cognitive development.</li> <li>• Laying stress on understanding the concept.</li> <li>• Online Quizzes</li> <li>• Assignment on Google class room</li> <li>• Sharing video based on concept</li> </ul>	<p>preparation, properties and uses of hydrogen, hydrides-ionic covalent and interstitial;</p> <ul style="list-style-type: none"> <li>• To illustrate physical and chemical properties of water, heavy water, hydrogen peroxide -</li> <li>• Students will be able</li> <li>• To understand Group 1 and Group 2 Elements General introduction,</li> <li>• To Write electronic configuration,</li> <li>• To explain the anomalous properties of the first element of each group, diagonal relationship,</li> <li>• To correlate trends in the variation of properties (such as ionization enthalpy, atomic and ionic radii),</li> <li>• To understand trends in chemical reactivity with oxygen, water, hydrogen and halogens, uses.</li> </ul>	<p>Physics, Mathematics</p> <p>Core Skills: Observation skills, Awareness and Analytical skills</p> <ul style="list-style-type: none"> <li>• <b>Art Integration:</b> Make a power point presentation on application of s-block elements.</li> <li>• <b>Interdisciplinary linkage:</b> Mathematics. Biology.</li> </ul>
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<ul style="list-style-type: none"> <li>Deleted</li> <li>Preparation and Properties of Some Important Compounds:</li> <li>Sodium Carbonate, Sodium Chloride, Sodium Hydroxide and</li> <li>Sodium Hydrogen carbonate, Biological importance of Sodium and</li> <li>Potassium. Calcium Oxide and Calcium Carbonate and their</li> <li>industrial uses, biological importance of Magnesium and Calcium.</li> </ul>			
<ul style="list-style-type: none"> <li>Unit XI: p -Block Elements</li> <li>General Introduction to p -Block Elements</li> <li>Group 13 Elements: General introduction, electronic configuration, occurrence, variation of properties, oxidation states</li> <li>, trends in chemical reactivity,</li> </ul>	<ul style="list-style-type: none"> <li>Lecture cum discussion.</li> <li>. Pen paper test.</li> <li>Oral test</li> <li>Practice numerical regularly</li> <li>Olab activities</li> <li>Giving opportunities to share their ideas.</li> <li>Concept explanation by students.</li> <li>A short quiz.</li> <li>Concept mapping. Predict–</li> </ul>	<ul style="list-style-type: none"> <li>Students will be able.</li> <li>To identify Group 13 Elements,;</li> <li>To Write electronic configuration,</li> <li>To understand variation of properties, oxidation states, trends in chemical reactivity, anomalous properties of first element of the group, Boron</li> <li>To illustrate physical</li> </ul>	<ul style="list-style-type: none"> <li><b>Core Skills:</b> Observation skills, Awareness Analytical skills, and Problem solving skill.</li> <li><b>Art Integration:</b> Make a power point presentation on application of p-block elements.</li> <li><b>Interdisciplinary linkage:</b> Mathematics. Biology</li> </ul>

- anomalous properties of first element of the group, Boron - physical and chemical properties,
- DeletedPortion
- Some important compounds: Borax, Boric acid, Boron Hydrides,
- Aluminium: Reactions with acids and alkalis, uses.
- Carbon: uses of some important compounds: oxides. Important compounds of Silicon and a few uses: Silicon Tetrachloride,
- Silicones, Silicates and Zeolites, their uses.
- Group 14 Elements: General introduction, electronic configuration, occurrence, v
- ariation of properties, oxidation states, trends in chemical reactivity,
- anomalous behaviour of first elements.
- Carbon-catenation, allotropic forms,

observe–explain

- Encouraging individual response.
- Bringing affective, psychomotor and cognitive development.
- Laying stress on understanding the concept.
- Online Quizzes
- Assignment on Google class room
- Sharing video based on concept

and chemical

- properties, some important compounds, Borax, Boric acid, Boron Hydrides, Aluminium: Reactions with acids and alkalis, uses.
- To identify Group 14 Elements:
- To write electronic configuration,
- To understand the variation of properties, oxidation states,
- To illustrate the trends in chemical reactivity.
- To explain anomalous behavior of first elements. Carbon-catenation, allotropic forms,

<p>physical and chemical properties; uses of some important compounds: oxides.</p> <ul style="list-style-type: none"> <li>• Important compounds of Silicon and a few uses: Silicon Tetrachloride, Silicones, Silicates and Zeolites, their uses.</li> </ul>			
<ul style="list-style-type: none"> <li>• <b>Unit XII: Organic Chemistry - Some Basic Principles and Techniques</b></li> <li>• classification and IUPAC nomenclature of organic compounds.</li> <li>• Electronic displacements in a covalent bond:</li> <li>• inductive effect,</li> <li>• electromeric effect, resonance and hyper conjugation.</li> <li>• Homolytic and heterolytic fission of a covalent bond:</li> <li>• free radicals, carbocations, carbanions, electrophiles and</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture cum discussion.</li> <li>• Pen paper test.</li> <li>• Oral test</li> <li>• Practice numerical regularly</li> <li>• Giving opportunities to share their ideas.</li> <li>• Olab activities</li> <li>• Concept explanation by students..</li> <li>• A short quiz.</li> <li>• Concept mapping. Predict–observe–explain .</li> <li>• Encouraging individual response.</li> <li>• Bringing affective, psychomotor and cognitive development.</li> <li>• Laying stress on understanding the concept.</li> <li>• Regular practice of writing structures, and reactions. Online</li> </ul>	<ul style="list-style-type: none"> <li>• Students will be able</li> <li>• To understand the classification and IUPAC nomenclature of organic compounds.</li> <li>• To show electronic displacements in a covalent bond.</li> <li>• To understand inductive effect, electromeric effect, resonance and hyper conjugation.</li> <li>• Homolytic and heterolytic fission of a covalent bond:</li> <li>• To identify free radicals, carbocations, carbanions, electrophiles and nucleophiles</li> <li>• To understand types of</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Core Skills:</b> Observation skills, Awareness and Analytical skills</li> <li>• <b>Art Integration:</b> Make a chart to show inductive , electromeric effect</li> <li>• <b>Interdisciplinary linkage:</b> Mathematics</li> </ul>

<p>nucleophiles,</p> <ul style="list-style-type: none"> <li>Deleted portion</li> <li>methods of purification, qualitative and quantitative analysis</li> </ul>	<p>Quizzes</p> <ul style="list-style-type: none"> <li>Assignment on Google class room</li> <li>Sharing video based on concept</li> </ul>	<p>organic reactions.</p>	
<ul style="list-style-type: none"> <li><b>Unit XIII:</b> <b>Hydrocarbons</b></li> <li>Classification of Hydrocarbons</li> <li>Aliphatic Hydrocarbons:</li> <li>Alkanes - Nomenclature, isomerism, conformation (ethane only), physical properties, Alkenes - Nomenclature, structure of double bond (ethene), geometrical isomerism, physical properties, methods of preparation,</li> <li>chemical reactions: addition of hydrogen, halogen, water, hydrogen halides</li> <li>(Markownikov's addition and peroxide effect), ozonolysis,</li> </ul>	<ul style="list-style-type: none"> <li>Lecture cum discussion.</li> <li>Pen paper test.</li> <li>Oral test</li> <li>Practice numerical regularly</li> <li>Giving opportunities to share their ideas.</li> <li>Concept explanation by students.</li> <li>A short quiz.</li> <li>Concept mapping. Predict–observe–explain Encouraging individual response.</li> <li>Bringing affective, psychomotor and cognitive development.</li> <li>Olab activities</li> <li>Laying stress on understanding the concept.</li> <li>Online Quizzes</li> <li>Assignment on Google class room</li> <li>Sharing video based on concept</li> </ul>	<ul style="list-style-type: none"> <li>Students will be able</li> <li>To understand Classification of Hydrocarbons</li> <li>To do nomenclature of alkane , alkenes and alkynes</li> <li>To understand isomerism, conformation (ethane only),</li> <li>To show the mechanism of halogenation,</li> <li>.</li> <li>To write the structures of isomers,</li> <li>To Write equation involved in chemical reactions: addition of hydrogen, halogen, water, hydrogen halides .</li> <li>To understand Markownikov's addition and peroxide effect, ozonolysis, oxidation,</li> <li>To understand the</li> </ul>	<ul style="list-style-type: none"> <li><b>Core Skills:</b> Observation skills, Awareness and Analytical skills</li> <li><b>Art Integration:</b> Make a chart to show mechanism of electrophilic substitution reaction.</li> <li><b>Interdisciplinary linkage:</b> Mathematics Biology</li> </ul>

oxidation, mechanism of electrophilic addition.

- Alkynes - Nomenclature, structure of triple bond (ethyne),
- physical properties, methods of preparation, chemical reactions:
- acidic character of alkynes, addition reaction of - hydrogen, halogens, hydrogen halides and water.
- Aromatic Hydrocarbons: Introduction,
- IUPAC nomenclature, benzene: resonance, aromaticity,
- chemical properties:
- mechanism of electrophilic substitution.
- Nitration, sulphonation, halogenation,
- Friedel Craft's alkylation and acylation,
- directive influence of functional group in

mechanism of electrophilic addition.

- To draw the structure of benzene.
- To show resonance,
- To understand aromaticity,
- To show mechanisms of electrophilic substitution. Nitration, sulphonation, halogenation, Friedel Craft's alkylation and acylation, directive influence of functional group in monosubstituted benzene.

<p>monosubstituted benzene.</p> <ul style="list-style-type: none"> <li>• Carcinogenicity and toxicity.</li> <li>• Deleted Portion</li> <li>• free radical mechanism of halogenation, combustion</li> <li>•</li> <li>• and pyrolysis.</li> </ul>			
<ul style="list-style-type: none"> <li>• Deleted</li> <li>• Unit XIV: Environmental Chemistry</li> <li>• Environmental pollution - air, water and soil pollution, chemical reactions in atmosphere,</li> <li>• smog, major atmospheric pollutants, acid rain, ozone and its reactions, effects of depletion of ozone layer,</li> <li>• greenhouse effect and global warming-pollution due to industrial wastes,</li> <li>• Green chemistry as an alternative tool for</li> </ul>	<ul style="list-style-type: none"> <li>• Lecture cum discussion.</li> <li>• Pen paper test.</li> <li>• Oral test</li> <li>• Practice numerical regularly</li> <li>• Giving opportunities to share their ideas.</li> <li>• Concept explanation by students.</li> <li>• A short quiz.</li> <li>• Concept mapping. Predict–observe–explain</li> <li>• Encouraging individual response.</li> <li>• Bringing affective, psychomotor and cognitive development.</li> <li>• Laying stress on understanding the concept.</li> </ul>	<ul style="list-style-type: none"> <li>• Students will be able</li> <li>• To classify Environmental pollution in to - air, water and soil pollution,</li> <li>• To understand the chemical reactions in atmosphere, smog, major</li> <li>• To tabulate various atmospheric pollutants,</li> <li>• To understand the cause acid rain,</li> <li>• To analyze the effects of depletion of ozone layer, greenhouse effect and global warming-</li> <li>• Suggest various Ways to control of environmental pollution.</li> </ul>	<ul style="list-style-type: none"> <li>• Core Skills: Observation skills, Awareness and Analytical skills</li> <li>• Art Integration:</li> <li>• Make a project on Environmental pollution</li> <li>• Interdisciplinary linkage: Environmental Sciences Biology.</li> </ul>

<b>reducing pollution, strategies for control of environmental pollution.</b>			
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