

BHARTIYA VIDYA MANDIR SENIOR SECONDARY SCHOOL
SECTOR-39, CHANDIGARH ROAD, LUDHIANA
SYLLABUS OF CLASS X

BOOK: NCERT		SUBJECT : SCIENCE		SESSION : 2024-25	
CHEMISTRY					
Month	Unit/Chapter/Topic	Learning Objectives	Resources/Art-integarted pedagogy tools used E-Resources	Learning Outcomes/ Skills learnt by students	
APRIL	CH-1 CHEMICAL REACTIONS AND EQUATIONS	<p>Students will be able to:</p> <ul style="list-style-type: none"> Know about the changes occurring in our surroundings Understand the characteristics of physical and chemical changes. Learn the method to balance a chemical reaction and need of balancing it. Understand various types of reactions and their symbolic representation. Understand phenomenon of corrosion, rancidity and its effect. 	<p>TOOLS: Lecture method, brainstorming, Chalk and board, Questioning.</p> <p>ACTIVITY- Demonstration of a set of reactions including - burning of magnesium wire, reaction of barium chloride and magnesium sulphate solution, reaction of iron nail and copper sulphate solution, heating of lead nitrate and -identify their type and characteristics of reactions accompanied with chemical change.</p>	<p>https://youtu.be/wU-scVoYv68?si=c95sWH4OKgxKBU54</p>	<p>Students have learnt</p> <ul style="list-style-type: none"> Characteristics of physical and chemical change Balancing of chemical equations and need of balancing. To distinguish combination and decomposition reaction, displacement and double displacement reaction, exothermic and endothermic reaction To identify the substance reduced, oxidized, oxidizing agent and reducing agent in a redox reaction. The effects of oxidation of oils and fats resulting in to bad smell and bad taste and methods to prevent rancidity. About corrosion of metals, rusting of iron, favourable conditions for corrosion and common methods to prevent it. <p>SKILLS: *Scientific attitude and temper *Observation *Experimentation *Analysis *Conclusion</p>
MAY	CH-2 ACIDS, BASES AND SALTS	<p>Students will be able to:</p> <ul style="list-style-type: none"> Know indicators and their types. Identify acids and bases with the help of indicators. Understand chemical properties of acids and bases. Compare, contrast and classify properties of acids and bases. Illustrate chemical reactions of acids with metal, metallic oxide and bases. Express the chemical reaction of bases with metal, non metallic oxides and acids. Explain the use of PH scale in comparing the strength of acids and bases. Describe use of PH in day to day life. List the properties & explain the preparation/ manufacture some important compounds of Sodium. (bleaching powder, baking soda and washing soda) in order to explain their manufacture using common salt 	<p>TOOLS: Lecture method, brainstorming, Chalk and board, Questioning, Demonstration method.</p> <p>ACTIVITY- To test whether the given solution is acid or a base using various indicators like litmus, phenolphthalein, methyl orange etc.</p>	<p>https://www.youtube.com/live/qTE65j9pqJ4?si=szOuMPAAsSegidrK</p>	<p>Students have learnt about</p> <ul style="list-style-type: none"> indicators and their types. Chemical properties of acids and bases. Chemical reactions of acids with metal, metallic oxide and bases, reaction of bases with metal, non metallic oxides and acids. The use of pH scale in comparing the strength of acids and bases and appreciate the importance of pH in day to day life. <p>SKILLS: *Scientific attitude and temper *Observation *Analysis *Conclusion"</p>
JUNE	SUMMER VACATIONS				

JULY	CH-3 METALS AND NON METALS	<p>Students will be able to :</p> <ul style="list-style-type: none"> *Observe various substances and their physical properties in order to classify them as metals or non-metals *Predict the products when metals & non-metals react with oxygen, water, dilute acids in order to write a balanced chemical equation. *Identify the product formed when a metal reacts with a metal salt, in order to list the metals in order of their reactivity *Discuss the process of how metals react with non-metals, in order to explain formation & properties of ionic compounds 	<p>TOOLS: Chalk and board method, Explanation and discussion, demonstration method, concept mappings and flow charts</p> <p>ACTIVITY : To identify the product formed when a metal reacts with a metal salt, in order to list metals in order of their reactivity.</p>	<p>https://www.youtube.com/live/_2juuQ89gM?si=aFYJJPvu0COs1QeNC</p>	<p>Students have learnt about</p> <ul style="list-style-type: none"> *Physical and chemical properties of metals and non-metals * the varying degree of reactivity that metals display towards air water and acids through description and equations *properties shown by ionic compounds <p>SKILLS: *Critical thinking *Interpretation</p>
AUGUST	CH-3 METALS AND NON METALS	<p>Students will be able to :</p> <ul style="list-style-type: none"> *Analyse the process of getting metals from their oxides, sulphides, carbonates in order to extract them from their ores * Explain the process of electrolytic refining in order to assess how to obtain pure metals from impure samples *Observe corrosion in metal articles & its process in order to develop ways to prevent corrosion by forming alloys, painting, galvanising 	<p>TOOLS: Chalk and board method, Explanation and discussion, demonstration method, concept mappings and flow charts , brainstorming.</p>	<p>https://www.youtube.com/live/GefEQl5FJ8g?si=_QwROmL5TYHmw4J0</p>	<p>Students have learnt about:</p> <ul style="list-style-type: none"> *all steps of metallurgy ,roasting and calcination *communicating the ways to prevent corrosion of iron hence strengthening nation's economy. <p>SKILLS: *Communication *Scientific temper *Critical thinking</p>
SEPTEMBER	TERM-1 EXAMINATION				
OCTOBER	CH-4 CARBON AND ITS COMPOUNDS	<p>Students will be able to :</p> <ul style="list-style-type: none"> *Write down electron shell configuration of carbon in order to predict formulae of carbon compounds and illustrate the structure of molecules of carbon compounds with chain, branched & ring structure. *Draw structures of carbon compounds in order to classify them as saturated or unsaturated *Draw structures of carbon compounds and show types of bonds (single/ double/ triple) in order to classify them as alkanes/ alkenes/ alkynes *Draw structures of carbon compounds with functional groups, in order to predict their properties due to functional groups and type of bonding *Classify carbon compounds in homologous series in order to predict their properties 	<p>TOOLS: Explanation and discussion, lecture method, chalk and board , flowcharts.</p>	<p>https://youtu.be/juOtm3KZlIg?si=9yyBNW44z1ezgY2I</p>	<p>Students have learnt about:</p> <ul style="list-style-type: none"> *Carbon and its tetravalency, catenation, covalent bond, homologous series, IUPAC system of nomenclature . *structures of various carbon compounds <p>SKILLS: *Scientific attitude *Critical thinking *Collaboration</p>
NOVEMBER	CH-4 CARBON AND ITS COMPOUNDS	<p>Students will be able to :</p> <ul style="list-style-type: none"> *Identify the functional group, type of bonding, number of C atoms present in a carbon compound, in order to correctly name them *Observe how carbon compounds burn in oxygen, in order to classify them as saturated or unsaturated *Illustrate the chemical properties of carbon compounds (like combustion, oxidation, addition & substitution) along with balanced chemical reaction. *Understand physical and chemical tests in order to distinguish between Ethanol & Ethanoic acid based on their properties *Understand cleansing action of soaps and detergents 	<p>TOOLS: Explanation and discussion, lecture method, chalk and board .</p> <p>ACTIVITY: Outline physical and chemical properties of ethanol to ethanoic acid, in order to detect their presence given an unknown compound.</p>	<p>https://youtu.be/fg2WWLnQX8I?si=bJ1jPEaq0m90mwLQ</p>	<p>Students have learnt about:</p> <ul style="list-style-type: none"> *chemical properties of ethanol and ethanoic acid. *cleansing action of soaps and detergents *importance of carbon compounds in day to day life and appreciate it. <p>SKILLS: *Experimentation *Observation *Analysis *Conclusion</p>
DECEMBER	REVISION				