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**	Students will be able to: • Know about the changes occuring in our surroundings • Understand thecharacteristics of physical and chemical changes. • Learn the methodto 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 .	TOOLS: Lecture method, brainstorming, Chalk and board, Questioning. 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.	https://youtu.be/wU-scVoYv68?si=c95sWH4QKgxKBU54	Students have learnt • 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. SKILLS: *Scientific attitude and temper *Observation *Experimentation *Analysis *Conclusion
MAY	**CH-2 ACIDS, BASES AND SALTS**	Students will be able to: · 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	TOOLS: Lecture method, brainstorming, Chalk and board, Questioning, Demonstration method. ACTIVITY- To test whether the given solution is acid or a base using various indicators like litmus, phenolphthalein, methyl orange etc.	https://www.youtube.com/live/qTE65j9pqJ4?si=szOuMPAAsScgidrK	Students have learnt about *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. SKILLS: *Scientific attitude and temper *Observation *Analysis *Conclusion"
JUNE	**SUMMER VACATIONS**				

JULY	**CH-3 METALS AND NON METALS**	Students will be able to : *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	TOOLS: Chalk and board method, Explanation and discussion, demonstration method, concept mappings and flow charts ACTIVITY : To identify the product formed when a metal reacts with a metal salt, in order to list metals in order of their reactivity.	https://www.youtube.com/live/_2iuiuQ89gM?si=aFYJPvu0CQs1QeNC	Students have learnt about *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 SKILLS: *Critical thinking *Interpretation
AUGUST	**CH-3 METALS AND NON METALS**	Students will be able to : *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	TOOLS: Chalk and board method, Explanation and discussion, demonstration method, concept mappings and flow charts , brainstorming.	https://www.youtube.com/live/GefEQl5FJ8g?si=_QwROmL5TYHmw4J0	Students have learnt about: *all steps of metallurgy ,roasting and calcination *communicating the ways to prevent corrosion of iron hence strengthening nation's economy. SKILLS: *Communication *Scientific temper *Critical thinking
SEPTEMBER	**TERM-1 EXAMINATION**				
OCTOBER	**CH-4 CARBON AND ITS COMPOUNDS**	Students will be able to : *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	TOOLS: Explanation and discussion, lecture method, chalk and board , flowcharts.	https://youtu.be/juOtm3KZlIg?si=9yyBNW44z1ezgY2I	Students have learnt about: *Carbon and its tetravalency, catenation, covalent bond,homologous series, IUPAC system of nomenclature . *structures of various carbon compounds SKILLS: *Scientific attitude *Critical thinking *Collaboration
NOVEMBER	**CH-4 CARBON AND ITS COMPOUNDS**	Students will be able to : * *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	TOOLS: Explanation and discussion, lecture method, chalk and board . ACTIVITY: Outline physical and chemical properties of ethanol to ethanoic acid, in order to detect their presence given an unknown compound.	https://youtu.be/fg2WWLnQX8I?si=bJ1jPEaq0m90mwLQ	Students have learnt about: *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. SKILLS: *Experimentation *Observation *Analysis *Conclusion
DECEMBER	**REVISION**				