



# The Camford International School

## ANNUAL LESSON PLAN [2025-2026]

GRADE : 12

SUBJECT : CHEMISTRY

| MONTH                   | CHAPTER NO. AND NAME                             | DETAIL CONCEPTS TO BE COVERED   | PRACTICALS                         |
|-------------------------|--|---|------------------------------------|
| <b>MARCH</b><br>24 days | SOLUTIONS<br><br>HALOALKANES<br>AND HALO ARENES. | <p>Types of solutions, Methods of expressing concentration of solution. solubility of solid in liquid, Gas in liquid, Vapour pressure of liquid-liquid solutions, Ideal and non Ideal solution, Azeotrope, Colligative properties (elevation in boiling point, depression in freezing point, osmotic pressure), Abnormal molecular mass.</p> <p>Nomenclature of haloalkanes and haloarenes, classification, nature of bond, reactions involved in the preparation of haloalkanes and haloarenes and different types of reactions, <math>S_N^1</math>, <math>S_N^2</math> mechanism, stereo chemistry to understand the reaction mechanism, applications of organo-metallic compounds, the environmental effects of polyhalogen compounds and distinction of halo compounds.</p> | Preparation of inorganic crystals. |

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| <b>APRIL</b><br><b>18 days</b> | ELECTROCHEMISTRY | <p>Description of electrochemical cell, difference between galvanic and electrolytic cells, standard hydrogen electrode, Nernst equation, applying Nernst equation for calculating the emf of galvanic cell and standard potential of the cell, deriving the relation between standard potential of the cell, Gibbs energy of the cell reaction and equilibrium constant, resistivity, conductivity and molar conductivity of ionic solutions, difference between ionic and electronic conductivity, method for the measurement of conductivity of electrolytic solutions and calculation of their molar conductivity, variation of conductivity and molar conductivity of solutions with change in their concentration and meaning of limiting molar conductivity, Kohlrausch law and its applications, quantitative aspect of electrolysis,</p> <p>IUPAC system of nomenclature; the reactions involved in the preparation of alcohols from (i) alkenes (ii) aldehydes, ketones and carboxylic acids; the reactions involved in the preparation of phenols from (i) haloarenes (ii) benzene sulphonic acids (iii) diazonium salts and (iv) cumene; the reactions for preparation of ethers from (i) alcohols and (ii) alkyl halides and sodium alkoxides/aryloxides; physical properties of alcohols, phenols and ethers with their structures; chemical reactions of the three classes of compounds on the basis of their functional groups.</p> | Preparation of organic crystals. |
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| <p><b>JULY</b><br/>25 days</p>      | <p>ALDEHYDES, KETONES<br/>AND CARBOXYLIC<br/>ACIDS</p> | <p>The common and IUPAC names of aldehydes, ketones and carboxylic acids; the structures of the compounds containing functional groups namely carbonyl and carboxyl groups; the important methods of preparation and reactions of these classes of compounds; correlating physical properties and chemical reactions of aldehydes, ketones and carboxylic acids, with their structures; the mechanism of a few selected reactions of aldehydes and ketones; various factors affecting the acidity of carboxylic acids and their reactions; the uses of aldehydes, ketones and carboxylic acids. The positions of the <i>d</i>- and <i>f</i>-block elements in the periodic table; the electronic configurations of the transition (<i>d</i>-block) and the inner transition (<i>f</i>-block) elements; the relative stability of various oxidation states in terms of electrode potential values; the general characteristics of the <i>d</i>- and <i>f</i>-block elements and the general horizontal and group trends in them; the properties of the <i>f</i>-block elements and give a comparative account of the lanthanoids and actinoids with respect to their electronic configurations, oxidation states and chemical behaviour,</p> | <p>CHROMATOGRAPHY</p> <p>Effect of temperature on rate of reaction</p> |
| <p><b>AUGUST</b><br/>22 days</p>    | <p>d AND f BLOCK<br/>ELEMENTS</p>                      | <p>Amines as derivatives of ammonia having a pyramidal structure; classification of amines as primary, secondary and tertiary; name amines by common names and IUPAC system; some of the important methods of preparation of amines; the properties of amines; distinguish between primary, secondary and tertiary amines; the method of preparation of diazonium salts and their importance in the synthesis of a series of aromatic compounds including azo dyes</p>  | <p>SALT ANALYSIS</p> <p>Functional group analysis</p>                  |
| <p><b>SEPTEMBER</b><br/>21 days</p> | <p>AMINES</p>  |   |  |

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| <b>OCTOBER</b><br>21 days  |  | <b>Revision</b>                          |  |
| <b>NOVEMBER</b><br>22 days |  | <b>Pre-Board Examination- I</b>          |  |
| <b>DECEMBER</b><br>23days  |  | <b>Pre-Board Examination-II</b>          |  |
| <b>JANUARY</b><br>19 days  |  | <b>CBSE Board practical examinations</b> |  |