## SPLIT OF SYLLABUS CHEMISTRY CLASS XII 2023-24

| MONTH  | No. of<br>worki<br>ng<br>day | CHAPTER/<br>No. of period | TOPIC  | Activities   |
|--------|------------------------------|---------------------------|--|--|
| April- | 17                           | SOLUTION/                 | Types of solutions, expression of concentration of solutions<br>of solids in liquids, solubility of gases in liquids, solid<br>solutions, Raoult's law, colligative properties - relative<br>lowering of vapour pressure, elevation of boiling point,<br>depression of freezing point, osmotic pressure,<br>determination of molecular masses using colligative<br>properties, abnormal molecular mass, Van't Hoff factor. | Preparation of solution of M/10.KMnO4<br>and M/40 F.A.S. Numerical problems<br>related to colligative properties.<br>Solve MCQ in class room.                        |
|        | 01                           | ELECTRO                   | Redox reactions, EMF of a cell, standard electrode   | Demonstrate working of Daniel cell .   |
| Мау    | 08                           | -CHEMISTRY                | potential, Nernst equation and its application to chemical<br>cells, Relation between Gibbs energy change and EMF of a<br>cell, conductance in electrolytic solutions, specific and<br>molar conductivity, variations of conductivity with   | ppt / video on various batteries and their.<br>practice of numerical with worksheets   |
| June   |                              |                           | concentration, Kohlrausch's Law, electrolysis and law of electrolysis (elementary idea), dry cell-electrolytic cells and Galvanic cells, lead accumulator, fuel cells, corrosion.  |  |
|        |                              | CHEMICAL<br>KINETICS      | Rate of a reaction (Average and instantaneous), factors<br>affecting rate of reaction: concentration, temperature,<br>catalyst; order and molecularity of a reaction, rate law and<br>specific rate constant, integrated rate equations and half-  | Study of reaction rates of reaction<br>between Potassium lodate, (KIO3) and<br>Sodium Sulphite: (Na2SO3) using starch<br>solution as indicator.practice of numerical |
|        |                              |                           | life (only for zero and first order reactions), concept of collision theory (elementary idea, no mathematical treatment), activation energy, Arrhenius equation.   | on first order and half-life of r/c  |
|        |                              | d & f BLOCK               | General introduction, electronic configuration, occurrence   | Showing different color comp. in class   |
| July   | 24                           | ELEMENT                   | and characteristics of transition metals, general trends in<br>properties of the first row transition metals – metallic<br>character, ionization enthalpy, oxidation states, ionic radii,<br>colour, catalytic property, magnetic properties, interstitial<br>compounds, alloy formation, preparation and properties of<br>K2Cr2O7 and KMnO4.  | room. Effect of pH on KMnO <sub>4</sub> & K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub><br>Quiz/card activity on reasoning questions.                                |
|        |                              | COORDINATION              | Coordination compounds - Introduction, ligands,  | Ppt on complex compound. Preparation of  |
|        |                              | CHEMISTRY                 | coordination number, colour, magnetic properties and<br>shapes, IUPAC nomenclature of mononuclear coordination<br>compounds. Bonding, Werner's theory, VBT, and CFT;<br>structure and stereoisomerism, importance of coordination  | double salt of Ferrous Ammonium<br>Sulphate or Potash Alum.  |

|               |    | 1  |   |  |
|---------------|----|--|---|--|
|               |    |  | compounds (in qualitative analysis, extraction of metals and biological system).  |  |
| August        | 23 | HALOALKANES<br>AND<br>HALOARENES               | Haloalkanes: Nomenclature, nature of C–X bond, physical<br>and chemical properties, optical rotation mechanism of<br>substitution reactions. Haloarenes: Nature of C–X bond,<br>substitution reactions (Directive influence of halogen in<br>monosubstituted compounds only). Uses and<br>environmental effects of - dichloromethane,<br>trichloromethane, tetrachloromethane, iodoform, freons,<br>DDT.  | Ppt / video on distinguish between SN1<br>and SN2 mechanism and optical rotation<br>quiz on reasoning based on physical and<br>chemical properties   |
|               |    | ALCOHOL<br>PHENOLS<br>AND ETHERS               | Nomenclature, methods of preparation, physical and<br>chemical properties (of primary alcohols only), identification<br>of primary, secondary and tertiary alcohols, mechanism of<br>dehydration, uses with special reference to methanol and<br>ethanol. Phenols: Nomenclature, methods of preparation,<br>physical and chemical properties, acidic nature of phenol,<br>electrophillic substitution reactions, uses of phenols.<br>Ethers: Nomenclature, methods of preparation, physical<br>and chemical properties, uses. | Nomenclature of alcohol, phenols and<br>ether<br>Test to distinguish primary, secondary<br>and tertiary alcohol in lab. •<br>Test to confirm the presence of alcohol in<br>A given organic substance. •<br>Test to distinguish phenols from another<br>organic compound. • Solubility test<br>Chemical nature using litmus • M.P and<br>B.P test in the lab using common<br>reagents |
| Septembe<br>r | 23 | ALDEHYDE,<br>KETONES AND<br>CARBOXYLIC<br>ACID | Aldehydes and Ketones: Nomenclature, nature of carbonyl<br>group, methods of preparation, physical and chemical<br>properties, mechanism of nucleophilic addition, reactivity of<br>alpha hydrogen in aldehydes, uses. Carboxylic Acids:<br>Nomenclature, acidic nature, methods of preparation,<br>physical and chemical properties; uses.<br>Carboxylic Acids: Nomenclature, acidic nature, methods of<br>preparation, physical and chemical properties; uses.  | Demonstration of chemical reactions:<br>Tollen' s test Esterification 2 -4 DNP •<br>Test to distinguish aldehydes and ketones<br>from other functional group • Test to<br>distinguish carboxylic acids. • Solubility<br>test   |
| October       | 16 | AMINES   | Amines: Nomenclature, classification, structure, methods of<br>preparation, physical and chemical properties, uses,<br>identification of primary, secondary and tertiary amines.<br>Diazonium salts: Preparation, chemical reactions and<br>importance in synthetic organic chemistry.  | Practice for IUPAC nomenclature in<br>amines. • Identification of primary,<br>secondary and tertiary amines • Quiz<br>activity   |
| November      | 23 | BIOMOLECULES                                   | Carbohydrates - Classification (aldoses and ketoses),<br>mono saccahrides (glucose and fructose), D-L<br>configuration oligosaccharides (sucrose, lactose, maltose),<br>polysaccharides (starch, cellulose, glycogen); Importance<br>of carbohydrates. Proteins -Elementary idea of - amino<br>acids, peptide bond, polypeptides, proteins, structure of  | Reactions to show properties of glucose/<br>fructose and structure. Tests for<br>carbohydrate, fats and proteins   |

|          |    | proteins - primary, secondary, tertiary structure and<br>quaternary structures (qualitative idea only), denaturation of<br>proteins; enzymes. Hormones - Elementary idea excluding<br>structure. Vitamins - Classification and functions. Nucleic<br>Acids: DNA and RNA<br><b>REVISION AND PRE-BOARD 1</b> |
|----------|----|--|
| December | 19 | REVISION   |
| January  | 22 | REVISION AND PRE-BOARD 2<br>Practice and practical Exam  |
| Feb      | 24 | FINAL EXAM – AISSCE CBSE   |