SYLLABUS BREAK UP FOR CLASS XII CHEMISTRY

Indian School Al Wadi Al Kabir - Syllabus break up for August 2014

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| **Class** | **Week1** | **Week2** | **Week3** | **Week4** |
| XII | **4. CHEMICAL**  **KINETICS**  Order and molecularity of a reaction, rate law and specific rate  Constant | Factors affecting rate of reaction  Integrated rate equations Collision theory. Activation energy, Arrhenius equation.  **7. p BLOCK**  **ELEMENTS**  **Group -15** Elements: General introduction  **Nitrogen**- preparation properties and uses; compounds of Nitrogen  **Phosphorus** - allotropic forms, compounds of Phosphorus | **Group 16**  **Dioxygen**: Preparation, Properties and uses,compounds  **Sulphur** -allotropic forms; compounds of Sulphur  **Group 17**  Compounds of halogens, Preparation, properties and uses  Interhalogen compounds, Oxoacids of halogens  **Group 18 Elements:** General introduction, electronic configuration, occurrence, trends in physical  and chemical properties, uses | **8. d and f BLOCK**  **ELEMENTS**  General introduction, General trends in properties of the first row transition metals  Preparation and properties of K2Cr2O7and KMnO4. |

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| **Class** | **Week1** | **Week2** | **Week3** | **Week4** |
| XII | Lanthanoids - Electronic configuration, oxidation states, chemical reactivity and lanthanoid  contraction and its consequences.  Actinoids - Electronic configuration, oxidation states and comparison with lanthanoids.  **10. Haloalkanes and**  **Haloarenes** Nomenclature,  physical and chemical properties, mechanism of substitution reactions, optical rotation. | Haloarenes: Nature of C -X bond, substitution reactions  Uses and environmental effects of compounds of halogens  **11. Alcohols, Phenols**  **and Ethers**  **Alcohols:** Nomenclature, Preparation, physical and chemical properties  Identification of primary, secondary and tertiary alcohols,  Uses with special reference to methanol and ethanol. |  |  |

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| **Class** | **Week1** | **Week2** | **Week3** | **Week4** |
| XII | **Phenols**: Nomenclature, methods of preparation, physical and chemical properties  Uses of phenols.  **Ethers**: Nomenclature, methods of preparation, physical and chemical properties, uses  **12. Aldehydes, Ketones**  **and Carboxylic**  **Acids**  **Aldehydes and Ketones:**  Nomenclature, , Methods of preparation, | Physical  and chemical properties, mechanism of nucleophilic addition,  Uses  **Carboxylic Acids:** Nomenclature, acidic nature, methods of preparation, physical and chemical  properties; uses | **13. Organic**  **compounds**  **containing Nitrogen**  Amines: Nomenclature, classification, structure, methods of preparation, physical and chemical  properties, uses, identification of primary, secondary and tertiary amines.  Cyanides and Isocyanides - will be mentioned at relevant places in text.  Diazonium salts: Preparation, chemical reactions and importance in synthetic organic chemistry. | **5**. **Surface Chemistry**  Adsorption - physisorption and chemisorption, factors affecting adsorption of gases on solids,  Catalysis,  Activity and selectivity; enzyme catalysis colloidal state  Lyophilic, lyophobic multimolecular and  macromolecular colloids; properties of colloids;  Coagulation, emulsion - types of emulsions.  **6. General Principles and Processes of Isolation of Elements**  Principles and methods of extraction - concentration, oxidation, reduction - electrolytic method and  refining; occurrence and principles of extraction of aluminium, copper, zinc and iron |

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| XII | **9. Coordination**  **Compounds** Introduction, ligands, coordination number, colour, magnetic properties  and shapes,  IUPAC nomenclature of mononuclear coordination compounds. Bonding, Werner's  theory, VBT, and CFT; structure and stereoisomerism, importance of coordination compounds | **14. Biomolecules**  **Carbohydrates -** Classification, Monosaccahrides  Oligosaccharides (sucrose, lactose, maltose), polysaccharides (starch, cellulose,  glycogen).  **Proteins** -Elementary idea of - amino acids, peptide bond, polypeptides, proteins, structure of  proteins  **Vitamins** - Classification and functions.  Nucleic Acids: DNA and RNA. | **15. Polymers**  Classification - natural and synthetic, methods of polymerization (addition and condensation),  copolymerization, some important polymers: natural and synthetic like polythene, nylon polyesters,  bakelite, rubber. Biodegradable and non-biodegradable polymers. | **16. Chemistry in**  **Everyday life**  Chemicals in medicines - analgesics, tranquilizers antiseptics, disinfectants, antimicrobials,  antifertility drugs, antibiotics, antacids, antihistamines.  Chemicals in food - preservatives, artificial sweetening agents, elementary idea of antioxidants.  Cleansing agents- soaps and detergents, cleansing action. |

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|  | Revision and exams |  |  |  |