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 rateConstant | Factors affecting rate of reactionIntegrated 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 physicaland chemical properties, uses | **8. d and f BLOCK** **ELEMENTS**General introduction, General trends in properties of the first row transition metalsPreparation and properties of K2Cr2O7and KMnO4. |

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| **Class**  | **Week1**  | **Week2**  | **Week3**  | **Week4**  |
| XII | Lanthanoids - Electronic configuration, oxidation states, chemical reactivity and lanthanoidcontraction 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 propertiesUses 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,  | Physicaland chemical properties, mechanism of nucleophilic addition, Uses**Carboxylic Acids:** Nomenclature, acidic nature, methods of preparation, physical and chemicalproperties; uses | **13. Organic**  **compounds**  **containing Nitrogen** Amines: Nomenclature, classification, structure, methods of preparation, physical and chemicalproperties, 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 stateLyophilic, lyophobic multimolecular andmacromolecular 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 andrefining; 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 propertiesand shapes, IUPAC nomenclature of mononuclear coordination compounds. Bonding, Werner'stheory, VBT, and CFT; structure and stereoisomerism, importance of coordination compounds | **14. Biomolecules** **Carbohydrates -** Classification, MonosaccahridesOligosaccharides (sucrose, lactose, maltose), polysaccharides (starch, cellulose,glycogen).**Proteins** -Elementary idea of - amino acids, peptide bond, polypeptides, proteins, structure ofproteins **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 |  |  |  |