|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Indian School Al Wadi Al Kabir - Syllabus break up for 2014-15** | | | | |
| Class 12  chemistry | Week1 | Week2 | Week3 | Week4 |
| **APRIL** | Classification of solids based on different binding forces: molecular, ionic, covalent and metallic solids, amorphous and crystalline solids (elementary idea). Unit cell in two dimensional and three dimensional lattices, calculation of density of unit cell | packing in solids, packing efficiency, voids, number of atoms per unit cell in a cubic unit cell, point defects, electrical and magnetic properties. Band theory of metals, conductors, semiconductors and insulators and n & p type semiconductors. | Types of solutions, expression of concentration of solutions of solids in liquids, solubility of gasesin liquids, solid solutions | colligative properties - relative lowering of vapour pressure, Raoult'slaw, elevation of boiling point |
| **MAY** | depression of freezing point, osmotic pressure, determination of molecular masses using colligative properties, abnormal molecular mass, van't Hoff factor | Redox reactions, conductance in electrolytic solutions, specific and molar conductivity, variations of conductivity with concentration, Kohlrausch's Law, electrolysis and law of electrolysis (elementary idea), dry cell -electrolytic cells and Galvanic cells, lead accumulator | EMF of a cell, standard electrode potential, Nernst equation and its application to chemical cells, Relation between Gibbs energy change and emf of a cell, fuel cells, corrosion. | Group -15 Elements: General introduction, electronic configuration, occurrence, oxidation states, trends in physical and chemical properties; nitrogen preparation properties & uses ; compounds of nitrogen, preparation and properties of ammonia and nitric acid, oxides of nitrogen(Structure only) ; Phosphorus - allotropic forms, compounds of phosphorus: preparation andproperties of phosphine, halides PCl3 , PCl5 and oxoacids (elementary idea only). |
| **JUNE** | Group 16 Elements:General introduction, electronic configuration, oxidation states, occurrence,trends in physical and chemical properties,dioxygen: Preparation, Properties and uses,classification of oxides, Ozone, Sulphure -allotropic forms; compounds of sulphure: Preparationproperties and uses of sulphur-dioxide, sulphuric acid: industrial process of manufacture,properties and uses; oxoacids of sulphur (Structures only). | Group 17 Elements:General introduction, electronic configuration, oxidation states, occurrence,trends in physical and chemical properties; compounds of halogens, Preparation properties and uses of chlorine and hydrochloric acid, interhalogen compounds, oxoacids of halogens (structures only). Group 18 Elements:General introduction, electronic configuration, occurrence, trends in physical and chemical properties, uses. | General introduction, electronic configuration, occurrence and characteristics of transition metals, general trends in properties of the first row transition metals - metallic character, ionization enthalpy,  oxidation states, ionic radii, colour, catalytic property, magnetic properties, interstitial compounds, alloy formation, preparation and properties of K2Cr2O7 and KMnO4. Lanthanoids -Electronic configuration, oxidation states, chemical reactvity and lanthanoid contraction and its consequences. Actinoids -Electronic configuration, oxidation states and comparison with lanthanoids. | Chemicals in medicines -analgesics, tranquilizers antiseptics, disinfectants, antimicrobials, antifertility drugs, antibiotics, antacids, antihistamines.  Chemicals in food -preservations, artificial sweetening agents, elementary idea of antioxidants.  Cleansing agents-soaps and detergents, cleansing action. |