**INDIAN SCHOOL AL WADI AL KABIR**

**DEPARTMENT OF SCIENCE 2016-17**

**WEEKLY PLAN- CLASS-11 - CHEMISTRY**

Indian School Al Wadi Al Kabir - Syllabus break up for AUGUST 2016

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| **CLASS 11** | WEEK 1 | WEEK 2 | WEEK 3 | WEEK 4 | WEEK 5 |
| **CHEMISTRY** | * **Chemical Bonding and Molecular structure**   Valence electrons, ionic bond, covalent bond, bond parameters, Lewis structure.  PRACTICAL: SALT IV | * Polar character of covalent bond, covalent character of ionic bond, VSEPR theory   UNIT TEST 2 | * Resonance, geometry of covalent molecules.   PRACTICAL: SALT V | * Valence bond theory, concept of hybridization, involving s, p and d orbitals and shapes of some simple molecules | * Molecular orbital theory of homonuclear diatomic molecules(qualitative idea only), hydrogen bond.   PRACTICAL: SALT VI |

Indian School Al Wadi Al Kabir - Syllabus break up for SEPTEMBER 2016

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| **CLASS 11** | WEEKS 1and 2 | WEEK 3 | WEEK 4 | WEEK 5 |
| **CHEMISTRY** | * **Organic Chemistry -Some Basic Principles and Technique**   General introduction, Structural representations  of organic compounds  Classification and IUPAC nomenclature of organic compounds. | * **Organic Chemistry -Some Basic Principles and Technique**   General introduction, Structural representations  of organic compounds  Classification and IUPAC nomenclature of organic compounds   * ASSESSMENT 1 | * ASSESSMENT 1 | * ASSESSMENT 1 |

Indian School Al Wadi Al Kabir - Syllabus break up for OCTOBER 2016

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| **CLASS 11** | WEEK 1 | WEEK 2 | WEEK 3 | WEEK 4 |
| **CHEMISTRY** | * Electronic displacements in a covalent bond inductive effect, electromeric effect * Resonance and hyper conjugation. * Homolytic and heterolytic fission of a covalent bond * Free radicals, carbocations, carbanions, electrophiles and nucleophiles,   PRACTICAL: SALT VII | * Types of organic reactions * Methods of purification, * Qualitative and quantitative analysis | **Hydrocarbons**   * ***Alkanes***- Nomenclature, isomerism, conformation, physical properties * Chemical reactions including free radical mechanism of halogenation, combustion and pyrolysis.   PRACTICAL: SALT VIII | * ***Alkenes*** - Nomenclature, structure of double bond (ethene), geometrical isomerism * Physicalproperties, methods of preparation * Chemical reactions: addition of hydrogen, halogen, water,   hydrogen halides (Markonikov's addition and peroxide effect). |

Indian School Al Wadi Al Kabir - Syllabus break up for NOVEMBER 2016

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| **CLASS 11** | WEEKS 1 and 2 | WEEK 3 | WEEK 4 | WEEK 5 |
| **CHEMISTRY** | * Ozonolysis, mechanism of electrophilic addition. * ***Alkynes*** – Nomenclature, Structure of triple bond, * Preparation, Chemical reactions: * ***Aromatic Hydrocarbons***: IUPAC nomenclature, Resonance, Aromaticity, * Chemical properties * Carcinogenicity and toxicity.   VOLUMETRIC ANALYSIS - I | **States of Matter: Gases and Liquids**   * Three states of matter, Intermolecular interactions, Melting and boiling points, * Boyle's law, Charles law, Gay Lussac'slaw, Avogadro's law * Ideal behaviour, Empirical derivation of gas equation, * Ideal gas equation. Liquefaction of gases, | * Critical temperature * Kinetic energy, Viscosity * Surface tension   **Chemical Thermodynamics**   * System Surroundings, Work, Heat, Energy, * State functions. * First law of thermodynamics -internal energy and enthalpy, Heat capacity and specific heat.   VOLUMETRIC ANALYSIS - II | * Measurement of ΔU and ΔH * Hess's law, * Enthalpy of bond dissociation, * Combustion, Formation, Atomization, Sublimation * Second law of Thermodynamics, * Gibb's energy change for spontaneous and non-spontaneousprocesses, Criteria for equilibrium, * Third law of thermodynamics |

Indian School Al Wadi Al Kabir - Syllabus break up for DECEMBER 2016

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| **CLASS 11** | WEEKS 1 and 2 | WEEK 3 | WEEK 4 |
| **CHEMISTRY** | **Equilibrium**   * Dynamic equilibrium, Law of mass action, * Equilibrium constant, Factors affecting equilibrium, * Ionizationof acids and bases, Ionization of polybasic acids, * Acid strength   VOLUMETRIC ANALYSIS - III | * Concept of pH, Henderson Equation, Hydrolysis of salts * Buffer solution, Solubility product, Common ion effect.   **Redox Reactions**   * Concept of oxidation and reduction, Redox reactions. * Oxidation number, balancing redox reactionsin terms of loss and gain of electrons. | * Redox reactions as the basis for titrations * Applications of redox reactions * Daniell cell * Standard electrode potential   ASSESSMENT 2  **WINTER HOLIDAYS** |

Indian School Al Wadi Al Kabir - Syllabus break up for JANUARY 2017

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| **CLASS 11** | WEEKS 2 AND 3 | WEEK 4 | WEEK 5 |
| **CHEMISTRY** | **s-Block elements**  *Group 1 and Group 2 Elements*   * General introduction, * Diagonal relationship, * Trends in the variation of properties, * Trends in chemical reactivity * Biological importance of Sodium, Potassium, Magnesium and Calcium.   PRACTICAL – SALT ANALYSIS - PRACTICE | **Some p –BlockElements**   * General *Introduction to Group 13 Elements:*General introduction, * Trends in chemical reactivity, * Boron, Aluminium - physical and chemical properties, important compounds * Uses   PRACTICAL – VOLUMETRIC ANALYSIS - PRACTICE | * *Group 14 Elements:*Introduction, * Trends in chemical reactivity, * Carbon-catenation, allotropic forms, physical and chemical properties; Compounds of Silicon, Uses: Silicon Tetrachloride, Silicones, * Silicates and Zeolites, their uses.   . |

Indian School Al Wadi Al Kabir - Syllabus break up for FEBRUARY 2017

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| **CLASS 11** | WEEK 1 and 2 | WEEK 3 and 4 |
| **CHEMISTRY** | **REVISION** | ASSESSMENT 3 |