# F.Y.J.C CHEMISTRY WEEKLY LECTURE PLAN (2018-19)

| | **8th Aug – 11th Aug [L-1]** | **13th Aug – 18th Aug[L-2 ]** | **20th Aug – 25th Aug [L-3 ]** | **27th Aug – 1st Sep [L-4 ]** | **3rd Sep – 8th Sep [L-5]** | **10th Sep – 15th Sep [L-6]** | **17th Sep – 22nd Sep [L-7]** | **24th Sep – 29th Sep [ L-8]** |
|---|---|---|---|---|---|---|---|---|
| SECTION I UNIT I | **Some Basic Cncpt in Chem** Intro to Nature of matter, elements, Mols, Compds ,Mixs ; Phys. qnty & SI unit | Laws of Chemical combinations ( all 5 laws) | Laws of Chem.combinations (with Numericals) | Mole Concept with Numericals | Mole Concept | Atomic Mass with Numericals Molar mass with Numerical | **States of matter** Intermolecular interactions | Intermolecular interactions |
| SECTION I UNIT II | **Structure of Atom** Electrical nature of matterDisc.of elec, e/m ratio, charge on elec, Disc.of pro& neu | Concpt of Atmic no. Isotopes and Isobars, Atomic models, Rutherford's model and its drawbacks | Electromag radns r Quantum theory of radiation, Atmc spectra of$H_2$,Bohr's modelforHydrogen | Drwbck of Bohr's model, features of Bohr's model&the & Atmic spctraof$H_2$ Rydbergconstant | Dual nature of matter & light, Wave theory, wave motion Planks Qun theory | Photoelec. eff. De-Broglie eqn wavelength of elec.Heisenberg's principle | Quantam Num Aufbau prin,Hunds rule,pauli exclu principle | **Redox Rcn :** Concept of oxidation &reduction , oxd.number, |
| SECTION II UNIT I | **Basic principles & tchnqes:** Intrdctn & Classifn acc to structure. | Classification according to Functional Group | Nomenclature of Organic Compounds | Electronic Displacement in covalent bond | Hyperconjugtn | Homolytic fission, Bond formation | Heterolytic Bond Fission, | Types of reagents, reactions |
| SECTION II UNIT II | **Alkanes:** Intro,Strc formula,Classification, Types of Carbon atom. | Isomerism,Confrmatn, Nomenclature | Nomenclature Preparatn-1mthd | Preparation-2 mthds,Halogenatn Rcn. | Reactions and uses | **Nature of chemical bond** Type of bonding, lewis str., formal charge | Bond paramet., | **VBT** |

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| | **1st Oct – 6th Oct [ L -9]** | **8th Oct – 13th Oct [ L-10]** | **15th Oct – 20th Oct [L-11]** | **21st Nov – 24th Nov [L-12]** | **26th Nov – 1st Dec [L-13]** | **3rd Dec- 8th Dec [L-14]** | **10th Dec – 15th Dec [L-15]** | **17th Dec - 22nd Dec [L-16]** |
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| SECTION I UNIT I | Intermolecular interactions | Gas laws | Ideal gas equation & deviation from ideal behavior | Liquefaction of gases | Liquid state | **Alkenes :** Introduction, | Alkenes: Electro Structure/ isomerism | Alkenes Nomenclature |
| SECTION I UNIT II | Oxidation number numericals | Redox rcn, balancing MethodI | Balancing redox rea Method I | redox reaction balancing of equations MethodII | Balancing of redox reacII | Application of redox reaction | **Alkynes:** Intro,Elec. Struc. of ethyne, Nomenclature | Preparation of alkynes Acidic nature of alkynes |
| SECTION II UNIT I | **Periodic table** Introduction | **Periodic table** Modern periodictable | **Periodic table** Properties | Periodic properties | Periodic trends | Atomic radii, ionic radii, IE, EGE | Eiectronegativity, Vaiency,oxidationstate , | **Hydrogen**:Intro Posn in P.Table |
| SECTION II UNIT II | Molecular orbital theory , H-bonding | Hybridisation $SP^3$ | Hybridisation $SP^2$ | Hybridisation SP | Geometry of compounds | **Aromatic Cmpds** Character, S.F. Elec S.F. | **Aromatic Cmpds** Reso, Nomencl. | Benzene – Introduction |

| | **2nd Jan – 5th Jan [L-17]** | **7th Jan - 12th Feb [L-18]** | **14th Jan – 19th Jan [L-19]** | **21st Jan – 26th Jan [L-20]** | **28th Jan – 2nd Feb [L-21]** | **4th Feb – 9th Feb [L-22]** |
|---|---|---|---|---|---|---|
| **SECTION I UNIT I** | Reactions of alkenes | Uses and imp of alkenes | **Chem. Equl.** Equl. In phy.&chem.. process | **$K_P$ & $K_c$** Lechaterliers prin | Ionic equl. Acids, bases, | PH, POH Numerrriiicalsss |

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| | | | | | | Sait hydrolysis numericals |
| **SECTION I UNIT II** | Reactions of Alkynes | **Surface Chem: Adsorp**<br><br>**Factors affecting adsorption** | Catalysis | colloids | | |
| **SECTION II UNIT I** | Occurance<br>Isotopes | Hydrides: Ionic,Covalent,Metal | Water Structure<br>Amphoteric nature | $H_2O_2$:Lab mthd,Strngth, Struc,Hydrogn<br>As Fuel | | |
| **SECTION II UNIT II** | Benzene prooerties &reactions | Mechanism of Electr.Substnrcns | Activating & Deactivating grps | | | |