Lesson Plan

B.Sc. Ist Year (IInd Semester)

Paper-IV (CH-104) Inorganic Chemistry

Teacher name: Dr. Neha Aggarwal

April 2021

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| Hydrogen Bonding and Van der Waals forces Hydrogen Bonding – Definition, types, effects of hydrogen bonding on properties of substances, application Brief discussion of various types of Van der Waals forces. Metallic Bond and semiconductors Metallic bond – Qualitative idea of valence bond and Band theories of metallic bond (conductors, semiconductors, insulators). Semiconductors – Introduction, types and applications. s-Block elements Comparative study of the elements including diagonal relationship, Anomalous behaviour of Lithium and Beryllium compared to other elements in the same group, salient features of hydrides, oxides, halides, hydroxides ( methods of preparation excluded), behaviour of solution in liquid NH3.  |

May 2021

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| Chemistry of Noble Gases General physical properties, low chemical reactivity, chemistry of xenon, structure and bonding in fluorides, oxides and oxyfluorides of xenon. p-Block elements: Electronic configuration, atomic and ionic size, metallic character, melting point, ionization energy, electron affinity, electronegativity, inert pair effect and diagonal relationship |

June 2021

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| 9 Boron family ( 13th group): Diborane: Preparation, properties and structure ( as an example of electron deficient compound and multicenter bonding), Borazine chemical properties and structure, relative strength of Trihalide of Boron as lewis acids, structure of aluminium(III) chloride. Carbon family and Nitrogen family ( 14th and 15th group): Catenation, Carbides, fluoro carbons, silicates (structural aspects). Oxides: Structure of oxides of nitrogen and phosphorus, Oxyacids : Structure and relative acid strength of oxy acids of nitrogen and phosphorus, structure of white and Red phosphorus. Oxygen family ( 16th group): Oxy acids of sulphur – structure and acidic strength, |

July 2021

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| Hydrogen Peroxide – properties and uses. Halogen family ( 17th group): Interhalogen compounds (their properties and structures), Hydra and oxy acids of chlorine – structure and comparison of acid strength, cationic nature of Iodine. |