**Govt. College Barota, Gohana**

**LESSON PLAN**

**( From Oct.12, 2023 to Nov 25, 2023)**

**NAME:-** Devender Singh **Designation** :- Assistant Professor in Chemistry

**CLASS:-** B.Sc. III (Inorganic Chemistry) **Sem-5, SECTION:-** Non-Medical

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| Dates | Contents |
| 12th -14th Oct., 2023 | **Unit- 1**  **Metal-Ligand Bonding in Transition Metal Complexes :**  Limitations of Valence Bond Theory  An elementary idea of Crystal field theory. |
| 16th - 21st Oct. , 2023 | Crystal field splitting in octahedral , Tetrahedral and square planar Complexes. |
|  | Factors affecting the crystal-field parameters. |
| 23rd - 28th Oct., 2023 | **Unit -2 : Thermodynamic and Kinetic Aspects of Metal Complexes**  A brief outline of Thermodynamic stability of metal complexes |
|  | Factors affecting the stability , Irving William Series |
| 30th Oct. – 4th Nov., 2023 | Substitution reactions of Square planar complexes of Pt(II)  Trans Effect. Assignment and Tests and quizzes |
|  | **Unit – 3 : Magnetic Properties of Transition Metal Complexes :-**  Types of magnetic materials , magnetic susceptibility |
| 6th - 11th Nov., 2023 | Methods of determinations of magnetic susceptibility |
|  | Spin only Formula , L-S coupling , Correlation of spin only and effective magnetic moments |
| 20th - 25th Nov. , 2023 | Orbital contribution to magnetic moment, application of magnetic moments data for 3d – metal complexes |
|  | Unit- 4 :- Electronic Spectra of Transition Metal Complexes:  Selection Rule for d-d transitions , Spectroscopic ground states |
| Extra Class 23rd - 28th Oct. | Spectrochemical Series , Orgel- energy diagram for d1 and d9 states |
| Extra Class  30th Oct. - 4th Nov. , 2023 | Discussion of electronic spectrum of [Ti(H2O)6]3+ complex ion |
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