

Koyana Education Society's  
Balasaheb Desai College, Patan  
Department of Chemistry  
Monthly Teaching Plan- Year-2023-2024  
December – 2023 Semester – IV & VI

**Name of the Teacher- Prof.Dr. P.D.Kamble**

Dates	Unit	Sub unit	Teaching Method Aids
<b>B.Sc.-II</b>			
07/12/2023	<b>Unit 1: Co-ordination Chemistry (8 hours)</b>	1.1 Introduction-Definition and formation of co-ordinate covalent bond in $\text{BF}_3-\text{NH}_3$ , $[\text{NH}_4]^+$ and $\text{H}_2\text{O}$	Lecture
08/12/2023		1.2 Terminology- Description of the terms- ligand, co-ordination number, co-ordination sphere	Lecture
09/12/2023		1.3 Effective atomic number rule.	Lecture
14/12/2023		1.4 Distinguish between double salt and complex salt.	Lecture
15/12/2023		1.5 Werner's theory 1.5.1 Postulates.	Lecture
16/12/2023		1.5.2 The theory as applied to cobalt amines viz. $\text{CoCl}_3.6\text{NH}_3$ , $\text{CoCl}_3.5\text{NH}_3$ , $\text{CoCl}_3.4\text{NH}_3$ , $\text{CoCl}_3.3\text{NH}_3$	Lecture
21/12/2023		1.6 IUPAC nomenclature of coordination compounds.	Lecture
22/12/2023		1.7 Isomerism in complexes with C.N. 4 and 6 1.7.1 Geometrical Isomerism, 1.7.2 Optical Isomerism	Lecture
23/12/2023		1.7.3 Structural Isomerism- Ionization Isomerism, Hydrate Isomerism, Coordination Isomerism, Linkage Isomerism and Co-ordination position Isomerism	Lecture
28/12/2023		1.8 Valence bond theory of transition metal complexes with respect to, C.N. = 4, complexes of Cu and Ni, C.N. = 6 complexes of Fe and Co	Lecture

29/12/2023		1.8 Valence bond theory of transition metal complexes with respect to, C.N. = 4, complexes of Cu and Ni, C.N. = 6 complexes of Fe and Co	Lecture
30/12/2023		1.8 Valence bond theory of transition metal complexes with respect to, C.N. = 4, complexes of Cu and Ni, C.N. = 6 complexes of Fe and Co	Lecture
<b>B.Sc.-III</b>			
04/12/2023	<b>Unit 1. Coordination Chemistry</b>  <b>A. Inorganic Reaction mechanism</b>	A. Inorganic Reaction mechanism 1.1 Introduction.	Lecture
05/12/2023		1.2 Classification of Mechanism: Association, dissociation, interchange and the rate determining steps.	Lecture
06/12/2023		1.3 $SN^1$ and $SN^2$ reactions for inert and labile complexes.	Lecture
11/12/2023		1.4 Mechanism of substitution in cobalt (III) octahedral complexes.	Lecture
12/12/2023		1.5 Trans effect and its theories.	Lecture
13/12/2023		1.6 Applications of trans effect in synthesis of Pt (II) complexes.	Lecture
18/12/2023	B. Thermodynamic and Kinetic aspects of metal complexes.	B. Thermodynamic and Kinetic aspects of metal complexes. 1.7 Introduction.	Lecture
19/12/2023		1.8 Thermodynamic stability.  1.9 Kinetic Stability.	Lecture
20/12/2023		1.10 Relation between thermodynamic and kinetic stability.	Lecture
26/12/2023		1.11 Stepwise stability constant.	Lecture
27/12/2023		1.12 Factor affecting the stability of complexes.	Lecture

**(Dr. S. D. Pawar)**  
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