Koyana Education Society's

Balasaheb Desai College,Patan

Department of Chemistry

Monthly Teaching Plan-Year-2023-2024

August – 2023 Semester – I & V

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

Dates	Unit	Sub unit	Teaching Method Aids
B.Sc.-I			
02/08/2023		5. iv) Trigonal bipyramidal geometry- PCl5 (sp^3d hybridization)	Lecture
03/08/2023		6.v) Octahedral geometry- SF_6 (sp^3d^2 hybridization) vi) Pentagonal bipyramidal geometry –IF_7 (sp^3d^3 hybridization).	Lecture
09/08/2023	**Unit IV: Acids and Bases (4 hours)**	1. Theories of Acids and Bases – Arrhenius concept, Bronsted – Lowry concept, Lewis concept, Lux-Flood concept. (Definition and examples only).	Lecture
10/08/2023		2. i. Hard and Soft Acids and Bases (HSAB concept). ii. Classification of Acids and Bases as hard soft and borderline.	Lecture
17/08/2023		3. Pearson's HSAB concept.	Lecture
23/08/2023		4. Acid –Base strength and hardness-softness.	Lecture
24/08/2023		5. Application and limitations of HSAB concept.	Lecture
30/08/2023	**Unit V: P-Block Elements (Group 13, 14, 15)**	1. Position of elements in periodic table.	Lecture
31/08/2023		2. Characteristics of group 13^{th}, 14^{th} and 15^{th} elements with special reference to electronic configuration and periodic properties.	Lecture
B.Sc.-III			

01/08/2023	**Unit 1. Acids, Bases and Non aqueous Solvents**	1. Introduction to theories of Acids and Bases-Arrhenius concept, Bronsted-Lowry	Lecture
02/08/2023		2. concept, Lewis Concept, Lux-Flood Concept (definition and examples)	Lecture
07/08/2023		3. Hard and Soft Acids and Bases. (HSAB Concept)	Lecture
08/08/2023		4. Classification of acids and bases as hard, soft and borderline. Pearson's HSAB concept.	Lecture
09/08/2023		5. Acid–Base strength and hardness-softness. Applications and limitations of HSAB principle.	Lecture
14/08/2023		6. Chemistry of Non aqueous Solvents.	Lecture
21/08/2023		7. Introduction, definition and characteristics of solvents.	Lecture
22/08/2023		8. Classification of solvents.	Lecture
23/08/2023		9. Physical properties and Acid-Base reactions in Liquid Ammonia (NH_3) and Liquid Sulphur Dioxide (SO_2).	Lecture
28/08/2023	**Unit 2. Metal Ligand bonding in Transition Metal Complexes**	1.Crystal field theory (CFT) Introduction: Shapes of d-orbitals, Basic assumptions of CFT.	Lecture
29/08/2023		2. Crystal field splitting of d-orbitals of metal ion in octahedral, tetrahedral, square planar complexes	Lecture
30/08/2023		3. John-Teller distortion.	Lecture

(Dr. S. D. Pawar)
Principal
Balasaheb Desai College, Patan
Tal.- Patan, Dist.- Satara