


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

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

Dates	Unit	Sub unit	Teaching Method Aids
<b>B.Sc.-II</b>			
04/01/2024	<b>Unit 3: Chemistry of Elements of 3d Series Elements (6 hours)</b>	3.1 Position of elements in periodic table	Lecture
05/01/2024		3.2 Characteristics of d-block elements with special reference to i) Electronic structure	Lecture
06/01/2024		ii) Oxidation states, stability of oxidation states of Fe with respective to Latimer diagram	Lecture
11/01/2024		iii) Magnetic character	Lecture
12/01/2024		iv) Colored ions	Lecture
13/01/2024		v) Complex formation.	Lecture
18/01/2024	<b>Unit-4. Chemistry of 4f Elements (Lanthanides) (5 hours)</b>	4.1 Position of lanthanides in periodic table	Lecture
19/01/2024		4.2 Occurrence 4.3 Characteristics of 4f elements with special reference to	Lecture
20/01/2024		4.3.1 Electronic configuration 4.3.2 Oxidation states	Lecture
25/01/2024		4.3.3 Magnetic properties 4.3.4 Lanthanide contraction	
27/01/2024		4.4 Separation of lanthanides by ion exchange method.	

<b>B.Sc.-III</b>			
01/01/2024		1.13 Determination of Stability constant by Job variation, Mole ratio and Slope ratio method.	Lecture
02/01/2024	<b>Unit 2. Nuclear Chemistry [05]</b>	2.1 Nuclear reactions and energetic of nuclear reactions.	Lecture
03/01/2024		2.2 Types of nuclear reactions i. Artificial transmutation.	Lecture
08/01/2024		ii. Artificial radioactivity. iii. Nuclear fission and its application in heavy water nuclear reactor. iv. Nuclear fusion.	Lecture
09/01/2024		2.3 Use of Thorium, Uranium and Plutonium in atomic energy	Lecture
10/01/2024		2.4 Applications of radio-isotopes as tracers. i. Chemical investigation – Esterification	Lecture
15/01/2024		ii. Structural determination – Phosphorus pentachloride. iii. Analytical Chemistry – Isotopic dilution method for determination of volume of blood. iv. Age determination – Dating by C14.	Lecture
16/01/2024	<b>Unit 3. Chemistry of f-Block Elements [09] A ] Lanthanides</b>	3.1 Introduction. 3.2 Occurrence.	Lecture
17/01/2024		3.3 Electronic Configuration. 3.4 Oxidation State.	Lecture
22/01/2024		3.5 Lanthanide contraction. 3.6 Separation of Lanthanides by Ion exchange method.	Lecture
23/01/2024	<b>B] Actinides</b>	3.7 Position in periodic table. 3.8 Electronic configuration.	Lecture
24/01/2024		3.9 General methods of	Lecture

		preparation of transuranic elements. i. Neutron capture – followed by $\beta$ decay.	
29/01/2024		ii. Accelerated projectile bombardment.	Lecture
30/01/2024		iii. Heavy ion bombardment. 3.10 IUPAC nomenclature of the super heavy elements with atomic number (Z) greater than 100.	Lecture
31/01/2024	Unit 4. Iron and Steel. [07]	4.1 Occurrence and ores of iron. 4.2 Definition of the Terms- Ore , Mineral, Slag, Flux, Gangue , Matrix, Calcinations, Reduction, Roasting, Smelting and Leaching.	Lecture


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