Semester Lecture Plan

Name of the college: Government College of Arts, Science & Commerce, Sanquelim-Goa		
Name of Faculty: Dr. Dattaprasad D Narulkar	**Subject:** Chemistry	
Paper code: CHC-106 (Inorganic Chemistry)	**Program/Course: T.Y. B.Sc.**	**Division: -**
Academic year: 2024 - 2025	**Semester: V**	**Total Lectures: 15 (Theory)**

Course Objectives:

1. **To define and explain the various periodic properties like atomic and ionic radii, electron affinity and electronegativity and determine the trends of the periodic properties in the groups and the periods of the periodic table.**
2. **To discuss the occurrence, general properties and use of some compounds of Noble gases.**

Course Learning Outcome:

1. **Student will able to define, explain and determine periodic trends of the properties of elements in periodic table.**
2. **Student will be able to explain the occurrence, general properties and use of some compounds of Noble gases.**

Month	Lectures From	Lectures To	No. of lectures allotted	Topic, Subtopic to be covered	Exercise/Assignment	ICT Tools	Reference books
July	1/07/2024	6/07/2024	01	**Periodicity of Elements** Atomic radii (van der Waals)		smart board	Ref 2,3
July	8/07/2024	13/07/2024	01	Ionic radii		Smart board	Ref 2,3
July	15/07/2024	20/07/2024	01	Covalent radii.		Smart board	Ref 2,3
July	22/07/2024	27/07/2024	01	Effective nuclear charge, shielding or screening effect, Slater rules.		Smart board	Ref 2,3
July-August	29/07/2024	03/08/2024	01	Ionization Energy, Successive ionization energies		Smart board	Ref 2,3
August	05/08/2024	10/08/2024	01	factors affecting ionization energy.		Smart board	Ref 2.3
August	12/08/2024	17/08/2024	01	Electron Affinity		Smart boar	Ref 2,3
August	19/08/2024	24/08/2024	01	f. Electronegativity, Pauling's/ Mulliken's/Alfred and Rochow's.		Smart board	Ref 2,3
August	26/08/2024	31/09/2024	01	Calculation of Electronegativity (Pauling's Method)		Smart board	Ref 2,3
September	02/09/2024	05/09/2024	01	Factors affecting Electronegativity		Smart board	Ref 2,3
September	06/09/2024	12/09/2024	01	Ganesh Chaturthi break		Smart board	Ref 2,3

September	13/09/2024	21/09/2024	01	**Noble Gases** Occurrence and uses, inertness of noble gases, Clathrates;		Smart board	Ref 5
September	23/09/2024	28/09/2024	01	preparation properties and structure (VSEPR) of XeF_2,		Smart board	Ref 5
October	30/10/2024	05/10/2024	01	preparation properties and structure (VSEPR) of XeF_4.		Smart board	Ref 5
October	07/10/2024	12/10/2024	01	preparation properties and structure (VSEPR) of XeF_6.		Smart board	Ref 5
October	14/10/2024	19/10/2024	01	Revision			
October	21/10/2024	22/20/2024	01	Revision			

Textbooks

1. J. D. Lee, *Concise Inorganic* Chemistry, 5th Edn. Wiley India.
2. B. R. Puri, L. R. Sharma, and K. C. Kalia, *Principles of Inorganic Chemistry,* 33rd Edn.

Reference books

1. F. Albert Cotton, Geoffrey Wilkinson, and Paul L. Gaus, *Basic inorganic chem.* 3rd Edn. Wiley India
2. James E. Huheey, Ellen A. Keiter, Richard L. Keiter and Okhil K. Medhi, *Inorganic Chemistry, Principles of Structure and Reactivity*. 4th Edn. Pearsons
3. K. V. S. Laxmi Devi, N. C. Patel, S.S. Dhume, A. Venkatachalam, S. P. Turakhia, Chhaya Dixit and R. A. Mirji, College Inorganic Chemistry for T.Y. B. Sc. 21st Edn, Himalaya Publishing House.
4. Solid State Chemistry, Third edition By- Lesley E. Smart, Elaine A. Moore, Pub- Taylor and Francis.
5. Shriver, P.W. Atkins and C.H. Langford, *Inorganic Chemistry*, Oxford.

6. G.D. Tuli, S. K. Basu and R.D. Madan, Advance inorganic chemistry, Satya Prakash, S. Chand Publication.
7. F. A. Cotton, Chemical Applications of Group Theory, Wiley India
8. P.K Bhattacharya, Group Theory and its Chemical Applications Himalaya Publications.

*** Assessment Rubrics**

Component	Max Marks
ISA 1	10
ISA 2	10
Practical	50
Project	-
Semester End Exam	80
Total	100