Lecture Plan

Name of the college: Govt. college of Arts Sci. and Com. Sanquelim

Name of Faculty: Ms. Varsha K. Sail	**Subject:**Chemistry	
Paper code: **CHC-100 Fundamentals of Chemistry**	**Program: FY BSc**	**Division: A**
Academic year: 2024 - 2025	**Semester: I**	**Total Lectures: 15**

Course Objectives: *At the end of the course the st*
able to understand

-different theories proposed for progres
understanding of Atomic structure

-The theories of bonding in ionic and cov
compounds

Expected Course Outcome: Students attain though understanding about the progression in atomic structure

Student Learning Outcome: Students are swept through different theorier of Atomic structure, with detail understanding fact in of quantum theory

Month	Lecture From	Lecture To	No. of lectures allotted	Topic, Subtopic to be covered	Exercise/ Assignment	ICT Tools	Reference books
June	28/06/24	06/07/24	15	**Fundamentals of Inorganic Chemistry** **Atomic Structure:** Introduction to Different theory, significance of Rutherford model		Smart board, PPT and chalk and black board	Lee, J.D. *Concise Inorganic Chemistry* ELBS, 1991. 2. Cotton, F.A., Wilkinson, G. & Gaus, P.L. *Basic Inorganic Chemistry*, 3rd ed., Wiley. 3. Douglas, B.E., McDaniel, D.H. & Alexander, J.J. *Concepts and Models in Inorganic Chemistry*, John Wiley & Sons. 4. Huheey, J.E., Keiter, E.A., Keiter, R.L. & Medhi, O.K. *Inorganic Chemistry: Principles of Structure and Reactivity*, Pearson Education India, 2006.
July	8/07/24	13/07/24		Review of: Bohr's theory and its limitations			

	15/07/24	20/7/24		dual behaviour of matter and radiation, de Broglie's relation,		Smart board, PPT and chalk and black board	Lee, J.D. *Concise Inorganic Chemistry* ELBS, 1991. 2. Cotton, F.A., Wilkinson, G. & Gaus, P.L. *Basic Inorganic Chemistry*, 3rd ed., Wiley. 3. Douglas, B.E., McDaniel, D.H. & Alexander, J.J. *Concepts and Models in Inorganic Chemistry*, John Wiley & Sons. 4. Huheey, J.E., Keiter, E.A., Keiter, R.L. & Medhi, O.K. *Inorganic Chemistry: Principles of Structure and Reactivity*, Pearson Education India, 2006.
	22/07/24	27/07/24		Heisenberg Uncertainty principle.			
	28/07/24	3/08/24		Hydrogen atom spectra. Need of a new approach to atomic structure.			
August	5/08/24	10/08/24		Introduction to Schrodinger equation (**equation not to be derived**) and wave function.			
	12/08/24	17/08/24		Radial and angular parts of the hydrogenic			

				wave functions (atomic orbitals) and their variations for 1s, 2s, 2p, 3s, 3p and 3d orbitals (Only graphical representation)			
	19/08/24	24/08/24		. Radial and angular nodes and their significance.			
	26/08/24	31/08/24		Radial distribution functions and the concept of the most Probable distance with special reference to 1s and 2s atomic orbitals.			
Septem ber	2/09/24	14/09/24		Quantum numbers and their significance, Discovery of spin, spin quantum number (s)			
	16/09/24	21/09/24		and magnetic spin quantum number (ms)..			
	23/09/24	28/09/24			Draw diagram of all orbital – radial and angular		
	30/09/24	05/10/24		Shapes of s, p and d atomic			

				orbitals, nodal planes.			
October	07/10/24	12/10/24		Rules for filling electrons in various orbitals, electronic configurations of the atoms.			
	14/10/24	19/10/24		Stability of half-filled and completely filled orbitals, concept of exchange energy. Relative energies of atomic orbitals, Anomalous electronic configurations	Write electronic configuration of all elements from H to Zn		
	21/10/24	22/10/24		Problems, Revision			

*** Assessment Rubrics**

Component	Max Marks
ISA 1	2.5
ISA 2	2.5
ISA	2.5

Practical	
Project	
Semester End Exam	20