

	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-101 Fundamentals of Chemistry-I	Program: FY BSc	Division: A
	Academic year: 2026- 2027	Semester: I	Total Lectures: 15
	Course Objectives: At the end of the course the student will be able to understand -different theories proposed for progressive understanding of Atomic structure, theories of atomic structure. And introduction to quantum theory		
	Expected Course Outcome: Students attain though understanding about the progression in atomic structure, different theories and basics of Quantum theory.		
	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	19th	27th	1	Fundamentals of Inorganic Chemistry Atomic Structure: Historical background: Dalton, Thomson, Rutherford model,		Smart board, PPT and chalk and black board	Lee, J.D. <i>Concise Inorganic Chemistry</i> ELBS, 1991. 2. Cotton, F.A., Wilkinson, G. & Gaus, P.L. <i>Basic Inorganic Chemistry</i> , 3rd ed., Wiley. 3. Douglas, B.E., McDaniel, D.H. & Alexander, J.J. <i>Concepts and Models in Inorganic Chemistry</i> , John Wiley & Sons. 4. Huheey, J.E., Keiter, E.A., Keiter, R.L. & Medhi, O.K. <i>Inorganic Chemistry: Principles of Structure and Reactivity</i> , Pearson Education India, 2006.	
	July	29 th June	4 th July	1	Photocatalytic effect, Hydrogen atom spectra-Bohr's theory (equation for radius and energy of electron) and its limitations				

		6th	11th	1	limitations (Zeeman and Stark effect), dual behaviour of matter and radiation,		Smart board, PPT and chalk and black board	Lee, J.D. <i>Concise Inorganic Chemistry</i> ELBS, 1991. 2. Cotton, F.A., Wilkinson, G. & Gaus, P.L. <i>Basic Inorganic Chemistry</i>, 3rd ed., Wiley. 3. Douglas, B.E., McDaniel, D.H. & Alexander, J.J. <i>Concepts and Models in Inorganic Chemistry</i>, John Wiley & Sons. 4. Huheey, J.E., Keiter, E.A., Keiter, R.L. & Medhi, O.K. <i>Inorganic Chemistry: Principles of Structure and Reactivity</i>, Pearson Education India, 2006.	
		13th	18th	1	de Broglie's relation, Heisenberg Uncertainty principle..				
		20 th	25 th	1	Hydrogen atom spectra. Need of a new approach to atomic structure.				
		27th	1 st Aug	1	Quantum Mechanics: Introduction to Schrodinger equation- Time independent (equation not to be derived) and wave function.				

	August	3 rd	8 th	1	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)				
		10 th	14 th 15 th Holiday	1	. and most probable distance (with reference 1s and 2s orbitals),				
		17 th	22 nd	1	Angular part of hydrogenic wave functions and total wave functions (with reference to 1s, 2p and 3d orbitals).				
		24 th 26 th holiday	29 th	1	Rules for filling electrons in various orbitals (Aufbau principle, Pauli's exclusion principle and Hund's rule),,				
	September	31 st Aug	5 th	1	Relative orbitals (Aufbau principle, Pauli's exclusion				

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	* Assessment Rubrics								
		Component	Max Marks						
		ISA 1	2.5						
		ISA 2	2.5						
		ISA	2.5						
		Practical							
		Project							
		Semester End Exam	20						