

B.Sc. Forensic Science: Semester-I	
FST103: Chemistry-I	
Teaching Scheme	Examination Scheme
Lectures: 3 hrs/Week	Class Test -12 Marks
Tutorials: 1 hr/Week	Teachers Assessment – 6 Marks
Credits: 4	Attendance – 12 Marks
	End Semester Exam – 70 marks

Course Objective

- On the completion of this course the students will be able to understand the basic concepts of inorganic chemistry
- The student will be able to describe and understand the characteristics of the periodic table, concepts of acids and bases, hybridization, and coordination chemistry.

Unit 1: Periodic trends and properties

Size, Ionization Energy, Electron Affinity, Electronegativity, Use of redox potential and reaction feasibility

Chemistry of s and p-block elements: Alkali and alkaline earth metals: Hydrides and Complexation tendencies. Structural features of hydrides, halides, oxides and oxyacids.

Chemistry of d-block elements: Salient features, characteristic properties of 3d-elements with reference to oxidation states, colour, magnetic behavior, and complex formation tendency.

Unit 2: Acids and bases

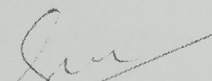
Bronsted-Lowry, Lux-Flood, Solvent System and Lewis concepts of acids and bases. Factors affecting strengths of Lewis acids and bases. HSAB theory and applications

Unit 3:

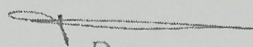
Hybridization: sp , sp^2 , sp^3 , sp^3d , & sp^3d^2 .

Coordination compounds: Nomenclature, Werner's theory. Isomerism. Valence Bond Theory. Stereochemistry of coordination compounds with coordination no. 4 and 6.


Lanthanides: Comparative study of lanthanide elements with respect to electronic configuration atomic and ionic radii, oxidation state and complex formation, lanthanide contraction. Separation of lanthanides. Application of lanthanide complexes.


Head

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