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

a. *On the completion of this course the students will be able to understand the basic concepts of inorganic chemistry*

b. *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
Department of Biotechnology
Invertis University, Bareilly (U.P.)

Dean
Faculty of Science
Invertis University, Bareilly (U.P.)

Registrar
Invertis University
Bareilly