Curriculum and Credit Framework (CCF) - 2022, University of Calcutta
Proposed distribution of syllabus and Class load
Course: Chemistry Major, Semester-2
Paper: CHEM-H-CC2-2-Th, Module-II, Inorganic Chemistry

Serial number	Number of lectures	Topic of the prescribed syllabus	Teaching faculty
1.	1	General characteristics, types of ions, size effects	Dr. A. K. Barik
2.	2	radius ratio rule and its application and limitations	Dr. A. K. Barik
3.	2	Packing of ions in crystals. Born-Lande equation with derivation and importance of Kapustinskii expression for lattice energy. Madelung constant	Dr. A. K. Barik
4.	1	Born-Haber cycle and its application, Solvation energy	Dr. A. K. Barik
5.	1	Defects in solids (elementary idea). Solubility energetics of dissolution process.	Dr. A. K. Barik
6.	1	Polarizing power and polarizabilty, ionic potential, Fajan's rules	Dr. A. K. Barik
7.	1	Lewis structures, formal charge, Valence Bond Theory, The hydrogen molecule (Heitler – London approach)	Dr. J. Gangopadhyay
8.	1	hybridizations, equivalent and non-equivalent hybrid orbitals, Bent's rules, dipole moments	Dr. J. Gangopadhyay
9.	2	VSEPR theory, shapes of molecules and ions containing lone pairs (examples from main group chemistry) and multiple bonding (σ and π bond approach)..	Dr. J. Gangopadhyay
10.	1	Basic principles involved in analysis of cations and anions and solubility products, common ion effect.	Dr. J. Gangopadhyay
11.	1	Principle involved in separation of cations into groups and choice of group reagents.	Dr. J. Gangopadhyay
12.	1	Interfering anions (fluoride, borate, oxalate and phosphate) and need to remove them after Group II.	Dr. J. Gangopadhyay