

**Programme: Master of Science Chemistry (MSCCH20)**

**Year / Semester: Ist semester**

**Paper Code: MCH 501**

**Paper Name: Inorganic Chemistry- I**

**Syllabus**

**BLOCK I: SYMMETRY OF MOLECULES**

Unit 1: Symmetry Operations and Symmetry Elements

Unit 2: Mathematical Rules of Groups – Abelian and Non-Abelian

Unit 3: Molecular Point Groups

Unit 4: Group Multiplication Tables

Unit 5: Symmetry and Properties of Molecules – Molecular Polarity, Chirality and Optical Activity

**BLOCK II: THEORIES OF BONDING AND ELECTRONIC SPECTRA OF METAL COMPLEXES**

Unit 6: Crystal Field Theory – Splitting of Metal d-Orbital's in Different Geometries

Unit 7: Ligand Field Parameters

Unit 8: Molecular Orbital Theory

Unit 9: Free Ion Terms and Energy Levels Unit

10: Orgel Diagrams