

CH-901 Advanced Inorganic Chemistry

Credit Hours: 3-0

Prerequisite: Nil

Course Objectives:

Advanced Inorganic Chemistry course is designed for Ph.D. students for their understanding of the lanthanides and Actinides Chemistry and expanded ionic solids.

Course Outcomes:

The course will enable students to understand chemistry of the extended arrays of the solids, nature of the bonding, Chemistry of the Lanthanide and Actinide series compounds and Organometallic compounds.

Course Contents:

Ionic solid and other extended arrays; Nature of Chemical Bonding in Non-transition elements; Stereochemistry bonding in compounds of Non-Transition elements; Introduction to transition elements, Organometallic compounds of transition metals; Organometallic compounds in homogeneous catalytic reaction, The Lanthanides, also Scandium and Yttrium; The Actinide Elements.

Recommended Books:

1. P. Atkin, T. Overton, J. Rourke, M. Weller, F. Armstrong, *Inorganic Chemistry*, Oxford University Press; 5th or later Edition (January 1, 2010)
2. F. A. COTTON, SIR G. WILKINSON, C. A. MURILLO, M. BOCHMANN, *Advanced Inorganic Chemistry*, Wiley-Interscience; 6th edition (April 13, 1999)
3. E. ELLAN. J. E. Huheey, Ketter, *Inorganic Chemistry: Principles of Structure and Reactivity*, PEARSON INDIA; 4th edition (January 1, 2008).
4. *Inorganic Chemistry*, 7th Edition, by Mark Weller, Tina Overton, Jonathan Rourke, Oxford University Press (2018).