

## ADVANCED R&D CHEMISTRY (20 Days)

- ❖ Introduction of chemical labs & instruments
- ❖ Safety aspects of personal & chemistry lab
- ❖ Lab safety guidelines and GMP, GLP & GDP
- ❖ Handling & cleaning of Glassware
- ❖ Basic calculations & preparation of solutions and reagents
- ❖ Distillation of solvents
- ❖ Lecture on types of organic reactions
- ❖ Organic synthesis reaction scheme
- ❖ Solubility testing
- ❖ Qualitative analysis of organic compounds
- ❖ Preparation of derivatives of organic compounds
- ❖ Hands-on training on chemical instruments
- ❖ Literature search (patent) on USP, BP, EP & WO
- ❖ Chem sketch & Chem draw
- ❖ Reaction setup for organic synthesis
- ❖ Monitoring of reactions by Thin layer chromatography (TLC)
- ❖ Extraction of desired product
- ❖ Purification of compound by column chromatography & preparative TLC
- ❖ Concentration and recrystallization of final compound
- ❖ Analysis of compounds & report writing purity checking by HPLC
- ❖ Interpretation of results
- ❖ Storage of products
- ❖ COA of final product

