

## 1.1 INTRODUCTION TO PHARMACEUTICAL CHEMISTRY

### Pharmaceutical chemistry

The pharmaceutical chemistry is designed to impart basic knowledge on the chemical, structure, storage conditions and medicinal uses of organic and inorganic chemical substances used as drugs and pharmaceuticals. Also, the pharmaceutical chemistry discusses the impurities, quality control aspects of chemical substances used in pharmaceuticals.

Practically speaking, it involves chemical aspects of identification, and then systematic, thorough synthetic alteration of new chemical entities to make them suitable for therapeutic use. Pharmaceutical chemistry is focused on quality aspects of medicines and aims to assure fitness for purpose of medicinal products by analyzing & evaluating them as per the quality control standards.

### Objectives of Pharmaceutical Chemistry:

- To improve the knowledge base required for synthesis, isolation, purification and characterization of various pharmaceuticals.
- The pharmaceutical chemistry will discuss the following aspects of the chemical substances used as drugs and pharmaceuticals for various disease conditions.
  1. Chemical classification, chemical name, chemical structure
  2. Pharmacological uses, doses, stability and storage conditions
  3. Different types of formulations / dosage form available and their brand names
  4. Impurity testing and basic quality control tests
- To improve skills for effective handling of chemicals, glasswares and analytical instruments.
- To equip students with the appropriate qualities & skills required to fulfill job responsibilities as chemists in pharmaceutical, chemical and biomedical industries.
- To provide enduring atmosphere and encourage students & faculty for research activity.
- To train faculty & students in safe handling of chemicals & creating awareness about hazardous effects of chemicals