

# PROGRAM STRUCTURE

## Nanopharmaceuticals and Its Efficacy in Drug Delivery Program

### Module 1: Overview of Nanopharmaceuticals

- Understanding Nanopharmaceuticals
- Nano based Drug Discovery
- Nano based Drug Delivery Concepts
  1. Importance of Nanosize in Drug Delivery
  2. Routes of Delivery
  3. Targeted Drug Delivery
  4. Delivery Profiles
  5. Advantages of Nanostructure Delivery Systems
  6. Activation and Targeting of Nanotechnology-based Drug Delivery Systems
  7. Drug Release Mechanisms
  8. Drug Targeting with Nanoparticles
  9. Genetic Vaccines
  10. Pulmonary Drug Delivery by Nanoparticles

### Module 2 : Nanoparticles Used in Drug Delivery

- Gold Nanoparticles
- Silver Nanoparticles
- Calcium Phosphate Nanoparticles
- Chitosan Nanoparticles
- Cyclodextrin Nanoparticles
- Lecithin Nanoparticle

### Module 3: Nanostructures Used in Drug Delivery

- Nanospheres
- Nanotubes
- Nanocochleates
- Dendrimers
- Nanocapsules
- Nanoviruses
- Nanofibers
- Nanoshells
- Nanoliposomes
- Nanobubbles
- Micelles
- Nanodiamonds
- Nanocrystals
- Nanopolymer

#### **Module 4: Nanobiopharmaceuticals based Drug Delivery**

- Cell Targeting & Cell Penetrating Peptides for Delivery of Drug
- Lipid-Based Colloidal Nanodrug-Delivery Systems
- Delivery of Nanostructure Drugs through Transdermal Patches
- Bionanotech based drug delivery in Cancer