4. PLAN OF WORK

The plan of work was given below

I. Preformulation Studies

   i) Analysis of Lansoprazole
      - UV Spectroscopy
      - IR Spectroscopy
      - Melting point
      - Loss on drying
      - Angle of repose
      - Bulk density and tapped density
      - Compressibility index
      - Hausner’s ratio

   ii) Drug-Excipient compatibility studies
       - IR Spectroscopy
       - DSC technique

   iii) Preparation of standard graph of lansoprazole

II. Formulation of lansoprazole polymeric nanoparticles

   - Preparation of capsule of modified solubility- protect drug from degradation for 2hr
   - Preparation of lansoprazole nanoparticles using chitosan (CNP1 – CNP10)
   - Preparation of lansoprazole nanoparticles using PLGA (PNP1 – PNP10)
   - Filling chitosan nanoparticles & PLGA nanoparticles into prepared capsules
III. Evaluation of lansoprazole loaded Chitosan nanoparticles & PLGA nanoparticles

- Drug content
- Entrapment efficiency
- Particle size and surface charge
- Transmission electron microscopy (TEM)
- In vitro release

III. Pharmacological Studies

- Anti-ulcer studies

IV. Stability Studies:

- Stability studies of best formulation (Nanoparticles – PNP7)