Work Plan and Methodology:-

1. **Literature survey**
   - Extensive literature survey is to be carried out by referring national and international journals

2. **Selection of model drug**
   - Drug will be on the basis of BCS system of class II and IV

3. **Selection of excipients**
   - Main emphasis of the study will be on stabilizers, surfactants, lipids

4. **Preformulation studies of selected drug and excipients**

5. **Preparation of Nanosuspensions**
   - Emulsion-diffusion (solvent exchange) method
   - High-pressure homogenization,
   - Precipitation and ultrasonication,
   - Ultra Turrax, High speed magnetic stirrer.

6. **Optimization nanosuspension formulation**
   - To select the appropriate stabilizer, organic solvents,
   - Surfactants, lipids homogenization procedure.

7. **Spray drying and lyophilization of nanosuspensions**

8. **Characterization of nanoparticles.**
   - Particle size analysis and zeta potential determination,
   - Drying yield, loss on drying, FTIR, SEM, TEM, XRD, DSC and reconstituted powders etc.
   - Stability testing study.
   - In vitro and in vivo studies of optimized batch formulation