WORK PLAN AND METHODOLOGY

- Literature review.
  Literature survey will be carried out by referring the books, related journals. Also by using Internet Access various national as well as international journals will be followed for referencing.

- Procurement of drugs and excipients:
  For this study model drug and different kind of excipients and polymers to be procured from suppliers as a gratis sample.

- Preformulation study:
  Drug excipients compatibility study is necessary perquisite to development of dosage form are stable and good quality.

- Formulation And Development:
  Formulate hydrogel based mucoadhesive sustained release drug delivery system of Econazole Nitrate and Nystatin based on the decided and set independents variables and dependent variables.
  
  **Independent variables**
  1. Drug: Polymer ratio
  2. Influence of various diluents.
  3. Ex- vivo mucoadhesive strength (gm),
  4. t50- h and t80- h

  **Dependent variables**
  1. Similarity factor (f2)
  2. swelling index (%S.I)

- Decide and set independent variables and their degrees and dependent variables as per the $3^2$ full factorial design.

- Optimization of best formulation by using $3^2$ full factorial designs with Response Surface Methodology (RSM) in each category of the formulation for both drugs by using four dependent variable concerned to the drug release study.
• Evaluation of optimized formulation for Physical, chemical and Physicochemical properties of all the MHFs under optimization.

**Physical Properties**
1. Weight variation
2. Content uniformity
3. Thickness
4. Hardness
5. Surface pH

**Chemical properties**
1. Drug release studies
2. Antifungal activity on Candida Albicans

**Physicochemical Properties**
1. Swelling index
2. in-vitro drug release
3. Ex- vivo mucoadhesion strength.
4. Perform accelerated stability study.
   Stability study to be carried out on optimized formulations as per the ICH guidelines.
5. Data collection and Statistical analysis:
   In this Statistical analysis to be carried using suitable softwares for the in vitro drug release.
6. Result and discussion