

**4.1 AIM:**

The aim of the research work is to develop an Antidiabetic polyherbal formulation and to evaluate the pharmacognostic, phytochemical, HPTLC fingerprinting, and pharmacological aspects of antidiabetic activity.

**4.2 OBJECTIVES:**

The present research plan covers the following objectives:

- Selection of the appropriate plants that are useful in the treatment of diabetes mellitus, can assure easy availability of raw materials, and are cheap, through a literature survey of these plants, viz., *Beta Vulgaris* and *Sesbania Grandiflora*
- To obtain authentic standard raw material for selected drugs. Proper collection, identification of plants, and authentication.
- Evaluation of preliminary standardization parameters of crude drugs.
- Compatibility study and qualitative estimation of herbal extracts w.r.t. HPTLC
- Optimization of extract combination by performing OGTT test.
- *In vivo* antidiabetic activity of optimized combination.
- To design, develop, and formulate safe, efficient polyherbal formulations.
- Evaluation of Various Batches of Polyherbal Formulation
- Stability Study of Polyherbal Formulation

**4.3 PLAN OF WORK:**

1. Literature Survey
2. Procurement and authentication of the crude drugs
3. Standardization and Evaluation of crude drugs
  - Macroscopic examination
  - Microscopic examination

- Micromeretic parameters
4. Extraction of Phytoconstituents
    - Physicochemical evaluation
    - HPTLC Fingerprinting
  5. Compatibility study
  6. Optimization of combination of extract by OGTT
  7. Acute toxicity study.
  8. *Invivo* study of Polyherbal formulation
  9. Development and Evaluation of suitable Polyherbal formulation
  10. Stability studies.

