PLAN OF WORK AND METHODOLOGY

1. **Extensive literature survey** - Literature review for undertaking the study was done by referring to various national and international journals, published articles in various official standard books and referring to various websites on the internet.

2. **Collection of plant material** – The collection of plant material will be done from Maharashtra local area.

3. **Authentication of plant material** – The authentication of the plant material will be getting done from botanical survey of India, Pune.

4. **Pharmacognostic study of the plant material** – The parts of the plant will be subjected for the Pharmacognostic study like their evaluation of physical standards including ash values, extractive values, moisture content, morphological description, histological and powdered drug studies, and micro chemical tests as well as evaluation of leaf constants. \(^{(55, 56)}\)

5. **Extraction of plant material** - Successive solvent extraction using soxhlet extractors will be followed for the dried plant material. The extraction would involve the use of various solvents of increasing polarity and isolation of active constituents by using suitable method. \(^{(57)}\)

6. **Phytochemical tests of extracts** - The extracts collected from the above step will be studied for various preliminary phytochemical tests as per standard biochemical evaluation of herbal extracts. For various secondary metabolites to confirm nature of compounds present. \(^{(17)}\)

7. **Phytochemical investigation and separation of constituents from active extracts** - The active extracts will be subjected for column chromatography, TLC and preparative TLC, HPLC for separation and identification of the phytoconstituents. \(^{(55, 56, 17)}\)

8. **Spectroscopic studies** - To establish the structure of pure phytoconstituents, various spectroscopic studies viz. UV, FTIR, NMR, and GCMS will be carried out. HPTLC will be done for quantitative analysis of constituents. \(^{(16)}\)
9. **Toxicological study**: The successive extracts of herbal plant (s) subjected to toxicological study as per OECD guidelines. \(^{58}\)

10. **Pharmacological screening of extracts**: The pharmacological screening of the successive extracts of herbal plant (S) will be done for preclinical evaluation. \(^{59}\)