3.0 OBJECTIVE OF RESEARCH WORK

In the present work, two different compression coated tablets (combination) formulation were developed. Formulation consists of DMD as a core tablet and NSAID as outer coat. Further compression coated system was coated with different coating system to provide the lag phase. Two combinations Aceclofenac + Diacerein and Aceclofenac + Leflunomide were developed in the form of pulsatile drug delivery system. Other formulation approach evaluated was Tablets in capsule (TIC), but due to process scale up issue not further investigated. Further herbal formulation containing Salai gugul was also developed as a once daily dosage for the treatment of Arthritis in form of pulsatile drug delivery. In summary, the objective was to develop novel combination treatment and herbal treatment for arthritis patient in form of pulsatile drug delivery system.

Further the specific research related objectives include

1. To carry out the API characterization and preformulation study.
2. To develop the analytical method for the proposed combination product.
   (i) ACE + DIA (ii) ACE+LEF
3. To develop the inner tablet of disease modifying drug and to compare the dissolution with available market formulations.
4. To formulate and design outer part of tab in tab formulation and comparing the dissolution with available formulation.
5. To develop, optimize & characterize the pH sensitive coating systems to provide the desired lag phase.
6. To develop, optimize & characterize the surface eroding polymer system to provide the pulsatile effect.
7. To develop pulsatile delivery with tablets in capsule approach.
8. To develop and characterize double pulse drug delivery system.
10. To carry out the comparative evaluation (Pharmacodynamic study) of developed multi-pulse formulations and to select the best formulation.
11. To carry out the kinetic study of final formulation.