CHAPTER - 3

PLAN OF WORK

- Literature survey regarding transdermal drug delivery, psychotropic drugs
- Preformulation studies including identification of drugs, solubility studies, partition coefficient determination, calibration plots, validation of analytical method selected, drug excipients interaction studies, development of dissolution media for risperidone and olanzapine
- Formulation and development of TDDS using risperidone and olanzapine
  - Determination of optimized conditions for preparation of TDDS
  - Fabrication of TDDS in various proportions of polymers and permeation enhancers
- Physicochemical characterization of developed TDDS by weight variation, thickness, drug content, flatness, folding endurance, tensile strength, % moisture content and uptake studies
- In vitro release studies using USP type II dissolution apparatus
- In vitro permeation studies using Franz diffusion cells through excised Wistar rat skin
- Scanning electron microscopy (SEM) studies of transdermal patch and skin before and after permeation studies
- In vivo studies
  - Skin irritation studies and histopathological studies using rabbits
  - Pharmacodynamic studies to assess neuroleptic activity of developed TDDS
    - Tranquilizing efficacy by rota-rod method
    - Sedative effect by grip method
    - Pharmacokinetic studies by using rabbits
- Stability studies as per ICH guidelines
- Statistical data analysis of in vitro and in vivo data