2. **Aim of the work**

The present work was undertaken with an aim to develop and validate analytical methods for simultaneous analysis of anti-emetic and anti-ulcer drugs in bulk and in formulations.

The project work is also aimed at comparing the suitability of UV spectrophotometric, HPLC and HPTLC methods for the determination of various APIs.

**Plan of work,**

- Detailed literature survey of these drugs.
- Procurement of pure standard drug samples.
- Trial of proposed methods on pure drug samples which include following steps,
  - **For UV Spectrophotometry**- Detection and selection of wavelengths, Study of Beer-Lambert’s law and determination of absorptivity values (A) at selected wavelengths.
  - **For High Performance Liquid Chromatography**- Selection of the column, selection and optimization of mobile phase, selection of chromatographic conditions and study of system suitability parameters.
  - **For High Performance Thin Layer Chromatography**- Selection and optimization of mobile phase, selection of chromatographic conditions and study of system suitability parameters.
- Validation of all developed methods.
- Application of the developed methods for estimation of drugs in dosage forms available in the market with suitable modifications, if required.
- Analysis of validation data will be performed by using statistical tests.
- All the developed methods will be compared by using statistical tests.
The specific objectives of the present research were,

- To develop simple, reliable and validated UV Spectrophotometric, HPLC and HPTLC methods for simultaneous quantification of Esomeprazole and Domperidone.
- To develop a simple, reliable and validated UV Spectrophotometric, HPLC, HPTLC methods for the simultaneous estimation of Rabeprazole and Levosulpiride.
- To develop a simple, reliable and validated UV Spectrophotometric, HPLC, HPTLC methods for the estimation of Granisetron.
- To validate the developed methods as per ICH guideline Q2B.
- To apply Tukey’s multiple comparison test one way ANOVA on developed methods.