Work plan and Methodology:

The aim of the present research work will be to develop new analytical methods using different techniques for modern drugs and to study their applications in pharmaceutical analysis. The present research work is divided in various phases.

**Phase I** – Selection of drug molecule and collection of information on it, through literature search. To perform physical and chemical characterization of drug molecules as well as pharmaceutical dosage form consisting that drug molecule.

**Phase II** – A Reverse phase high performance liquid chromatographic method will be developed for simultaneous determination & quantification of drugs in Drug release test of pharmaceutical dosage form. Method will be validated & statistically evaluated to prove that the method is accurate, linear, specific, precise & robust.

Effect of pH of medium and concentration and type of surfactant on the solubility of drug will be evaluated. Dissolution profile of pharmaceutical dosage form in dissolution medium of various pH (Multimedia dissolution) will be performed to check the effect of pH on the drug release pattern of pharmaceutical dosage form which will mimic the release profile of drug in gastro intestinal tract in patient.

Method will be validated & statistically evaluated for linearity, accuracy, precision, solution stability & robustness.

**Phase III** - A stability indicating reverse phase high performance liquid chromatographic method will be developed for the estimation of the drug from its bulk drug and its pharmaceutical preparations. The detection will be carried out using an UV-detector set at the wavelength of maximum absorption of the drug. The forced degradation study will be performed on drug & its pharmaceutical preparation to evaluate stability indicating power of method. Method will be validated & statistically evaluated for linearity, accuracy, precision, solution stability & robustness.

**Phase IV** - A reverse phase high performance liquid chromatographic method will be developed for the estimation of the related substances (Impurities) of drug from its bulk drug and its pharmaceutical preparations. The detection will be carried out using an UV-detector set at the wavelength of maximum absorption of the drug. The forced degradation study will be performed on drug & its pharmaceutical preparation to evaluate stability indicating power of method. Method validation study will be performed
to check linearity, sensitivity, accuracy, precision, solution stability & robustness of method and to prove that method is suitable for its intended purpose.

**Work plan for above mentioned research work is as follows,**

**Phase I** – First six months,

**Phase II** – Second six months,

**Phase III** – Third six months,

**Phase IV** – fourth six months.