Aim & Scope of the Study
The aims and objectives of the study are:

- Preparation of ethanol and aqueous extracts of the three selected plants for antioxidant activity through various *in vitro* model test systems.

- Qualitative analysis of the secondary metabolites (alkaloids, flavonoids, saponins, carbohydrates, phenols, sterols and tannins) of the plant extracts.

- Potent plant extract selection, based on *in vitro* activity and phytochemical analysis.

- Analysis of flavonoids of the selected potent plant extract by HPLC.

- Assessment of *in vitro* DNA protective effect of the selected potent plant extract by agarose gel electrophoresis.

- Evaluation of the toxicity (acute and sub-acute) of the selected plant extract.

- Evaluation of the protective effect of selected potent plant extract against CCl₄ induced acute and chronic oxidative stress on antioxidant enzymes and non-enzymic antioxidants.

- Evaluation of liver markers and non-protein nitrogenous substances in serum.

- Estimation of oxidative stress markers – Lipid peroxidation, protein oxidation (protein carbonyls and total sulfhydryls) and xanthine oxidase.

- Evaluation of the protective effect of selected potent plant extract on lipid profiles.
Analysis of the isozyme pattern of antioxidant enzymes (SOD, CAT and GPx) in liver tissue by native-PAGE.

mRNA expression of the antioxidant enzymes (SOD, CAT and GPx) in liver tissue by RT-PCR during chronic treatment.

Effect of selected potent plant extract against DNA damage in blood by comet assay.

Histopathological examination of the liver, kidney brain and heart tissues.