Aim

&

Scope of the Study
The main aim of this present study is to evaluate the antioxidant and DNA protective potential of *Ammannia baccifera* Linn. against CCl₄ induced oxidative stress.

Specific aims:

- Preparation of ethanol and aqueous extracts of selected medicinal plants for *in vitro* antioxidant activity.
- Potent plant extract selection, based on *in vitro* activity and phytochemical analysis.
- Analysis of flavonoids of the selected potent plant extract by HPLC and TLC.
- Assessment of *in vitro* DNA protective effect by agarose gel electrophoresis.
- Evaluation of the toxicity (acute and sub-acute) of the selected plant extract.
- Evaluation of the *in vivo* antioxidant activity of the selected potent plant extract against CCl₄ induced acute and chronic oxidative stress in rats by assessing the levels of marker enzymes, non-protein nitrogenous substances; lipid profiles antioxidant enzymes and non-enzymic antioxidants.
- Estimation of the levels of lipid peroxidation and protein oxidation (protein carbonyls and sulfhydryls).
- Analysis of the isoenzyme pattern of the 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.

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

Histopathological studies of liver, kidney, brain and heart tissues.