CHAPTER - 6

CONCLUSION

- The ethanolic extracts of the leaves of *Alangium salvifolium* (ASEE), whole plant of *Evolvulus alsinoides* (EAEE) and methanolic extract of whole plant of *Gardenia gummifera* (GGME) were found to be safe and no toxicity was exhibited in mice up to 2 g/kg b.w.p.o. for ASEE, 1500 mg/kg b.w.p.o. for EAEE and 2 g/kg b.w.p.o. for GGME.

- ASEE and GGME at a dose of 300 mg/kg b.w, EAEE 150 mg/kg b.w. exhibited significant hepatoprotective and antihepatotoxic effects against CCl₄ induced toxicity in rats.

- The hepatoprotective effects of the extracts were supported by their effect in shortening the pentobarbitone sleeping time.

- BLF-ASEE, BNF-EAEE, BLF-EAEE, BNF-GGME and BLF-GGME were found to have potential protective effects at a dose of 50 and 100 mg/kg; b.wt. against CCl₄ induced acute hepatotoxicity in rats.

- The five fractions (BLF-ASEE, BNF-EAEE, BLF-EAEE, BNF-GGME and BLF-GGME) also exhibited a significant protective effect against paracetamol, ethanol and chronic CCl₄ induced hepatotoxicity.

- The hepatoprotective effect of extracts/some fractions was well comparable to that of a known phytogenic hepatoprotective drug, silymarin (50 mg/kg).
The three active fractions were found to possess antioxidant activity, which support their hepatoprotective effect. The activity of the fractions were attributed to the different classes of compounds present in them such as steroids/triterpenoids, flavonoids and phenolic compounds confirmed in phytochemical screening. The studies substantiate the use of *Alangium salvifolium*, *Evolvulus alsinoides* and *Gardenia gummifera* in traditional medicine for the treatment of liver disorders. The PHE at 100 mg/kg b.w. made from the three active fractions, exhibited significant antihepatotoxic effects against CCl₄ induced toxicity in rats, was comparable to that of a herbal hepatoprotective drug, Silymarin (50 mg/kg). Finally it is concluded that *Alangium salvifolium*, *Evolvulus alsinoides* and *Gardenia gummifera* have showed hepatoprotective properties. Since the polyherbal extracts of the three plants possess promising protective effect against various liver toxicants, it needs a comprehensive investigation for developing it as a safe and effective herbal hepatoprotective drug.