1. CONCLUSION

*Nardostachys jatamansi* and *Smilax zeylanica* are the widely known medicinal plants in Indian system of medicine have reported to have a number of uses. But the role of ethanol, hydroalcohol, aqueous extracts of *Nardostachys Jatamansi* roots and ethanol extract of *Smilax zeylanica* roots in the treatment of some CNS ailments have not been evaluated. Hence this dissertation is emphasized to explore the effects of the ethanol, hydroalcohol, aqueous extracts of *Nardostachys Jatamansi* roots and ethanol extract of *Smilax zeylanica* roots on haloperidol induced catalepsy in rats.

1. In the present study the effect of EENJ, AENJ, HAENJ and EESZ on extrapyramidal symptoms such as rigidity, bradykinesia, motor coordination and depressions are the key parameters found in Parkinson’s disease was studied.

2. In haloperidol induced catalepsy EENJ, AENJ, HAENJ and EESZ at doses of 100, 250 and 500 mg/kg exhibited significant anticataleptic activity.

3. EENJ, AENJ, HAENJ and EESZ at doses of 100, 250 and 500 mg/kg significantly reversed the haloperidol inhibited locomotor activity. The standard drugs L-dopa+carbidopa combination also significantly reversed the haloperidol inhibited motor activity.

4. EENJ, AENJ, HAENJ and EESZ at doses of 100, 250 and 500 mg/kg significantly reduced the FST induced immobility. The standard drugs Fluoxetine, Venlaflaxine also significantly reversed the FST induced immobility.

5. EENJ, AENJ, HAENJ and EESZ at doses of 100, 250 and 500 mg/kg reduced the haloperidol induced rigidity. The standard drugs L-dopa+carbidopa combination also significantly reversed the haloperidol inhibited rigidity.

6. EENJ, AENJ, HAENJ and EESZ at doses of 100, 250 and 500 mg/kg reduced significantly restored the changes in behavioral assessment like akinesia,
immobility in haloperidol administered rats. The standard drugs L-dopa+carbidopa combination also significantly increased the exploratory behaviour in haloperidol administered rats.

7. EENJ, AENJ, HAENJ and EESZ at doses of 100, 250 and 500 mg/kg along with haloperidol administration significantly restored the peroxides and antioxidant levels to near normal in the brains of the test animals. The standard drugs L-dopa+carbidopa combination also significantly restored the peroxides and antioxidant levels to near normal.

8. EENJ, AENJ, HAENJ and EESZ at doses of 100, 250 and 500 mg/kg along with haloperidol administration significantly restored the dopamine levels to near normal in the brain of the test animals. The standard drugs L-dopa+carbidopa combination also significantly restored the dopamine levels to near normal.

Such evidence supports our study and indicates that the EENJ, AENJ, HAENJ and EESZ inhibit the symptoms of haloperidol-induced catalepsy in rats. The action by which the amelioration takes place may be attributed to one (or) more pharmacological/biochemical mechanisms. To conclude, the brain exhibits numerous morphological and functional alterations during oxidative stress, a factor implicated in the pathogenesis of many CNS disorders. Treatment of such neuronal disorders with *Nardostachys jatamansi* and *Smilax zeylanica* plant extracts significantly decreases lipid peroxidation and significantly increases the antioxidants in the brain. The findings of this study suggest the possible antioxidant role of *Nardostachys jatamansi* and *Smilax zeylanica* in overcoming behavioral and neurochemical changes during Oxidative stress. Since the catalepsy test has predictive value regarding extra pyramidal effects, the possibility of pharmacological interactions between haloperidol and EENJ, AENJ, HAENJ and EESZ should be further investigated in clinical studies.
Further studies have to be performed on different extracts of *Nardostachys jatamansi*, *Smilax zeylanica* for its effects on other CNS disorders, the effect of the roots on neurotransmitters and neuronal messengers like NA, 5-HT, GABA, glysin, glutamate and nitric oxide have to be estimated to figure out the therapeutic potential of plant extracts in the treatment of CNS disorders. This ensures an understanding of the mechanisms involved in the treatment of these disorders.