CHAPTER 5

CONCLUSIONS

Many medicinal plants have been found effective in the cure of bacterial disease. Petroleum ether, benzene, chloroform, ethyl acetate, ethanol and distilled water extracts of certain Indian Medicinal Plants *Wrightia tinctoria* (Roxb.) R.Br. (leaf, stem, Fruit) and *Dyerophytum* (Leaf, stem, and root) were examined for their anti-microbial, potentials against selected bacteria and fungi. The purpose of screening is to justify, authenticate and validate the use of Indian Medicinal Plants in ethno-medicinal or folklore as traditional treasure to cure various ailments and disease caused by Environmental pollution. The various extracts from traditional medicinal plants with folklore reputation have been examined to identify the source of therapeutic drugs, were tested against selected test bacteria and fungi as antimicrobial assay through disc diffusion assay where standard tetracycline is used. Indian Medicinal Plants have a traditional background that they have potentials to use as antimicrobial agents. The results showed that all the extracts possess good antimicrobial activity against selected test bacteria and intermediate against fungus, therefore offer a scientific basis for traditional use of petroleum ether, benzene, chloroform, ethyl acetate, ethanol and distilled water extracts of *Wrightia tinctoria* (Roxb.) R.Br. (leaf, stem, Fruit) and *Dyerophytum* (Leaf, stem, root) it justifies their use in our traditional system of medicine to cure various diseases.

Antioxidant activity of *Wrightia tinctoria* (Roxb.) R.Br. and *Dyerophytum* Methanol extract were screened. These plants showed very good antioxidant activity and in future references’ these plants can be used as effective antioxidant agents due to the presence of anti oxidant activity.

*Wrightia tinctoria* (Roxb.) R.Br. and *Dyerophytum* Plants exhibited the tremendous anti tumor activity against *Agro bacterium tumefactions* these plants can be implanted in the anti tumors drugs to cure the cancer.

Various bioactive compounds which were isolated from progressive research of various extracts
of *Wrightia tinctoria* (Roxb.) R.Br. and *Dyerophytum* have vast antibiotic activity and in future these plant extract can be employed in drug recovery against incurable diseases. Protein isolated from *Wrightia tinctoria* (Roxb.) R.Br. and *Dyerophytum* have very good anti microbial activity against selected microorganism’s. these proteins can play an important role as anti microbial agent to heal the different type infection and ailments.

In the screening of Anti HIV activity of *Wrightia tinctoria* (Roxb.) R.Br. Pet. Ether extract fraction had pink wells during supernatant harvesting indicating they may be toxic. The extract and active compounds showed moderate activity against HIV-1/LA1 (EC$_{50}$ < 10 µM or < 10 µg/mL). The HIV drug susceptibility assay was done as described and cytotoxicity assays in PBM, CEM and Vero cells were done. Our data suggest that investigating traditional *Wrightia tinctoria* (Roxb.) R.Br. medicinal plants may yield promising new leads. The degree of concordance between traditional use and observed antibacterial properties suggest that there may be some truth to these remedies. In particular, our results suggest that *W. tinctoria* warrant further study. And in future *Wrightia tinctoria* (Roxb.) R.Br. can be used as Anti-HIV molecule to cure the HIV disease.

In the process of isolation of pure bioactive compounds which were isolated from progressive research and sophisticated techniques like HPLC, TLC, and NMR etc. The *Wrightia tinctoria* (Roxb.) R.Br. plants possess the three pure bioactive compounds Lupeol, β-sito-sterol, Stigma-Sterol. *Dyerophytum* also possess these three bioactive compounds among them Lupeol possess Anti-Viral and Anti-HIV activity.

In our present investigation plants with ethno-medicinal background and therapeutic potentials were screened for their various antagonistic properties, like Antimicrobial, Antitumor, and Anti-HIV, properties. Simultaneously these plant species were also evaluated for their antioxidant activity. Thus quantification of lead molecules of two medicinal plants use in herbal preparation lead to standardization of poly herbal formulation has therefore, been presented in the volume with respect to the active principles of medicinal plants used.