The thesis with the title “Phytochemical studies and biological activities of selected members of family Asclepiadaceae” is a comprehensive evaluation of seven medicinal plants of the family. It incorporates identification and authentication of the plants, study of the pollinial morphology, physicochemical and chromatographic analysis, phytochemical estimation and biological activities. The specimens selected are *Asclepias curassavica* L., *Calotropis gigantea* (L.) R.Br., *Gymnema sylvestre* (Retz.) R.Br., *Holostemma ada-kodien* Schult., *Pergularia daemia* (Forssk.) Chiov., *Tylophora indica* (Burm.f.) Merr. and *Wattakaka volubilis* (L.f.) Stapf.

In the present global scenario, natural medicines are gaining prominence as they are economical, easily available and relatively free from side effects. A serious limitation encountered in the use and research of plant based remedies is the lack of standardization and quality control of raw materials forming the drug.

All the parameters studied in the present work, would help to identify and authenticate the plants at source and to check the purity and quality of the plant drug. The fingerprint profile would help to investigate the substitutes and adulterants. The present investigation revealed that collection of the plants for therapeutic use should be done on scientific basis. Phytochemical investigation and the study of the antibacterial and antioxidant activity had provided scientific validity for ethno pharmacological uses of these plants in the treatment and prevention of various diseases and disorders. The investigation of amino acid profile and biologically active compounds revealed the therapeutic potency of these medicinal plants. As there was not much pharmacognostical work on these traditionally valued drugs, the present work could therefore be
used as one of the tools for standardization of crude drug, to identify and decide the authenticity of the drug in herbal industry or trade.

Chapter 1- Provides the general introduction to the work undertaken. It includes the literature survey, the scope of the present work and the objectives of the investigation.

Chapter 2- Gives an elaborate view on the experimental details. It includes the materials used and the methodology adopted for conducting the present study.

Chapter 3- It deals with the results of all the experimental work undertaken.

Chapter 4- The discussions of each result obtained are dealt with. Each parameter is discussed separately.

Chapter 5- The conclusions derived from the present study are summarized. These chapters are followed by list of works consulted and cited as bibliography.