CHAPTER 3

Aim and Objective of Work
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3.1 Rationale
Asthma is a common disease in adult and children of economically developing countries. According to a survey by WHO 3000 million people suffered from asthma and 255000 died due to asthma in 2005. There are many drugs available to treat asthma but they have side effects on CNS, CVS and GIT. Herbal drugs proved good alternative in this condition.

As per the estimation of WHO, around 80% of the world’s population presently use herbal medicine for primary health care (WHO technical report series 1996). However, usage of plant or parts of plant as it is very inconvenient due to some reasons like large dose, disagreeable taste, and lengthy procedure to take drug and above all variation of active constituents with geographical place, time of collection etc. The overlong use of plant drugs has provided a basis for systematic study of pharmacognosy, phytochemistry and pharmacological activity and development of the formulations that are acceptable and consumable by living entities. Due to above mentioned reasons its more beneficial to extract some active constituents responsible for activity and make acceptable formulations from them than to use plant or parts of plant as it is for medicinal use.

3.2 Aim of present work
Ayurveda mentioned that roasted seeds and leaves of the plant Cassia occidentalis Linn have antiasthmatic action. Still substantial research work has not been reported to prove this activity, so aim of present work is to collect, identify, extract, test for various phytoconstituents, pharmacological screening for anti asthmatic activity and prepare possible formulation of most active dose of extract of the leaves and seeds of the plant Cassia occidentalis Linn.

3.3 Objective
- Collection, authentification and drying of Cassia occidentalis Linn. seeds and leaves.
• Macroscopy, microscopy and proximate analysis of dried leaves and seeds of the plant *Cassia occidentalis Linn*.
• Roasting seed at specific temperature.
• Preparation of different extract of dried leaves and roasted seeds of *Cassia occidentalis Linn*.
• Preliminary Phytochemical screening of these extracts to identify the nature of Phytoconstituents present in it and selection of extract for pharmacological study.
• Preparation of extract for pharmacological study.
• Pharmacological screening for anti-asthmatic activity of selected extract of leaves and roasted seeds of cassia occidentalis.
• UV Visible spectra of biologically active extracts.
• Extrapolation of human dose from animal dose and prepare fast dissolving tablet of roasted seed extract.
• FTIR analysis to study compatibility of excipients with drug extract.
• Development of fingerprinting profile of formulation, roasted seed extract and seed extract.

### 3.4 Hypothesis

With the advance and rapid growth in pharmaceutical market, one needs the methods that meet the urgent demand of people for medicinally useful herbal products. By carrying out systematic pharmacognostic, phytochemical and phytopharmacological study of leaves and seeds of cassia occidentalis, it’s possible to explore and put plant in more beneficial therapeutic use.