ABSTRACT

The present thesis deals with the phytochemical investigations carried on (i) *Gardenia latifolia* (Ait), (ii) *Gardenia lucida* (Roxb), (iii) *Gardenia florida* (Linn), (iv) *G. turcica* (Roxb) and consists of five chapters. A brief resume of each one is described below:

CHAPTER - I

INTRODUCTION:

This chapter is an introductory one and describes the scope of plant chemistry, along with the physiological importance of Gardenia plants and the phytochemical investigations which have already been carried out by earlier workers.

A description of some recently investigated plant constituents and applications of modern analytical techniques in their structural elucidations, along with problems taken and work done has also been incorporated in this chapter.

CHAPTER - II

ISOLATION AND STUDY OF THE FLAVONE GLYCOSIDE: 6,7,8,3',4',5' HEXA METHOXY FLAVONE-5-O-ß-D-GLUCOPYRANOSIDE FROM GARDENIA FLORIDA (Linn).

This chapter describes the isolation and
structural elucidation of a new flavone glycoside:
molecular formula \( \text{C}_{27}\text{H}_{32}\text{O}_{14} \), m.p. 212-213°C isolated
from the concentrated methanolic extract of the concentrated
rectified spirit extract of *Gardenia floride* (Linn) and was
identified as 6,7,8,3',4',5' hexa methoxy flavone 5-O-β-D-
glucopyranoside - (I) by chemical degradation and spectral
studies.

(I)
CHAPTER  III

ISOLATION AND STUDY OF THE TRITERPENOIDAL SAPONIN; OLEAN-12-ENE-28-OIC-3-O-β-D-GLUCOPYRANOSYL (1→4)-0-α-L-XYLOPYRANOSIDE FROM GARDENIA LATIFOLIA (Ait) STEMS.

The isolation and study of the triterpenoidal saponin, molecular formula $C_{41}H_{66}O_{12}$, m.p. 218°C, isolated from the concentrated methanol soluble part of the concentrated 95% ethanolic extract of the stem of *Gardenia latifolia* (Ait) and identified as; Olean-12-ene-28-oic-3-O-β-D-glucopyranosyl (1→4)-0-α-L-xylopyranoside has been dealt in this chapter.
CHAPTER IV

ISOLATION AND STUDY OF THE STEROIDAL SAPONIN; β-SITOSTEROL-3-O-α-L-RHAMNOPYRANOSYL (1→2)-O-β-D-GLUCOPYRANOSIDE FROM GARDENIA TURGIDA (ROXB).

Isolation and study of the steroidal saponin, β-sitosterol-3-O-α-L-rhamnopyranosyl (1→2)-O-β-D-glucopyranoside (III). Molecular formula $C_{41}H_{70}O_{10}$, m.p. 270$^\circ$C from the concentrated methanol soluble part of concentrated 95% ethanolic extract of the stem of Gardenia turgida (Roxb) has been described in this chapter.
CHAPTER V

ISOLATION AND STUDY OF A TRITERPENOID;
19-α-HYDROXY ERYTHRODIOL FROM GARDENIA LUCIDA (ROXB).

The isolation and study of the triterpenoid, molecular formula \( C_{30}H_{50}O_{3} \), m.p. 245°C, isolated from the concentrated methanol soluble part of the concentrated 95% ethanolic extract of the stem bark of \( G. \) lucida (Roxb) and identified as; 19-α-Hydroxy erythrodiol (IV) by chemical and spectral studies has been dealt in this chapter.