The present thesis entitled "Chemical Investigation and Potential Bioactive Flavonoidal Constituents of Some Leguminosae Plants" deals with the isolation, purification and characterization of the flavonoidal constituents from the following Leguminosae plants.

1. Cassia fistula (Linn.)
2. Dichrostachys cinerea (W. & A.)
3. Clitoria ternatea (Linn.)
4. Psoralia coryli-folia (Linn.)

It consists of six chapters, each of which is briefly describe below:

CHAPTER-1

INTRODUCTION

The introductory part incorporates the advancement and significance of phytochemistry. It includes the various physiological activities with special reference to flavonoids from plant origin right from primitive age. It provides an updated account of recent flavonoidal investigations carried out on the Leguminosae plants. It also describes a brief account of the modern techniques used for the isolation and characterization of biologically active constituents along with problem taken and work done.
CHAPTER 2

ISOLATION AND STRUCTURAL ELUCIDATION OF A NEW FLAVONE GLYCOSIDE: 5,7,3',4'-TETRAHYDROXY-6-METHOXY FLAVONE-7-O-α-L-RHAMNOPYRANOSYL-(1→2)-O-β-D-GALACTOPYRANOSIDE FROM THE SEEDS OF CASSIA FISTULA LINN.

This chapter incorporates the isolation and structural elucidation of a new flavone glycoside (CF) from acetone soluble fraction of the defatted seeds of Cassia fistula Linn. The new compound (CF) (0.0204%) had molecular formula C_{28}H_{32}O_{16}, m.p. 252-254°C, [M]+ 624 (EIMS). Its structure (I) was established as 5,7,3',4'-tetrahydroxy-6-methoxy-flavone-7-o-α-L-rhamnopyranosyl(1→2)-o-β-D-galactopyranoside by various colour reactions, alkaline degradations and spectral techniques.
CHAPTER-3


This chapter includes the isolation and structural elucidation of a novel bioactive flavone glycoside (DC) (0.0177%) molecular formula C_{26}H_{34}O_{14}, m.p. 248-249°C and [M]^+ 606 (EIMS), obtained from the chloroform soluble part of the defatted seeds of this plant. Its structure (II) was identified as 5-hydroxy-7,3',4',-tri-methoxy flavone-5-O-α-L-rhamnopyranosyl(1→2)-O-α-L-arabinopyranoside by different spectral data, chemical degradations and colour reactions.

![Chemical Structure](image-url)
CHAPTER 4

ISOLATION AND STRUCTURAL ELUCIDATION OF A NOVEL FLAVONOL GLYCOSIDE: 3,5,4'-TRIHYDROXY-7-METHOXY FLAVONE-5-O-β-D-GALACTOPYRANOSESYL(1→3)-O-β-D-GLUCOPYRANOSIDE FROM THE ROOTS OF CLITORIA TERNATEA LINN.

A novel flavonol glycoside (CT) (0.0206%) obtained from the acetone soluble fraction of the defatted roots of this plant which had molecular formula $C_{33}H_{40}O_{20}$, m.p. 260-261$^\circ$C and [M]$^+$ 756 (EIMS). Its structure (III) was determined as 3,5,4'-trihydroxy-7-methoxy flavone-5-O-α-L-xylopyranosyl(1→3)-O-β-D-galactopyranosyl(1→6)-O-β-D-glucopyranoside on the basis of various chemical degradations, colour reactions and spectral analysis.

(III)
CHAPTER 5

ISOLATION AND STRUCTURAL ELUCIDATION OF A NEW FLAVONOL GLYCOSIDE: 3,5,3',4'-TETRAHYDROXY-7-METHOXY FLAVONE-3'-O-α-L-XYLOPYRANOSYL(1→3)-O-α-L-ARABINOPYRANOSYL(1→4)-O-β-D-GALACTOPYRANOSIDE FROM THE ROOTS OF PSORALIA CORYLIOF-LIA LINN.

A new flavonol glycoside (PC) (0.0112%) molecular formula C_{32}H_{38}O_{20}, m.p. 264-265°C and [M]+ 742 (EIMS), isolated from the methanol soluble fraction of defatted roots of this plants, has been described in this chapter. On the basis of various colour reactions, alkaline degradations and spectral techniques, its structure (IV) was determined as 3,5,3',4'-tetrahydroxy-7-methoxy flavone-3'-O-α-L-xylopyranosyl(1→3)-O-α-L-arabinopyranosyl(1→4)-O-β-D-galactopyranoside.

(IV)
CHAPTER-6

ANTIMICROBIAL ACTIVITY OF THE VARIOUS COMPOUNDS
OF THE PLANTS.

Antibacterial and antifungal activity of the various compounds isolated from the seeds of Cassia fistula Linn, Dichrostachys cinerea W. & A. and roots of Clitoria ternatea Linn. and Psoralia corylifolia Linn. were carried out on broad spectrum of various bacteria and fungi using filter paper disc diffusion plate method with griseofulvin and streptomycin as standard drugs and the growth of inhibition in millimeter was recorded.