GENERAL SUMMARY
1. The chemical natures of the extracts of T. nerifolia Juss have been studied using the techniques like UV, IR, NMR, Mass Spectrophotometry. The chromatography and microanalysis of the elements.

2. Four extracts of T. nerifolia Juss with ether, chloroform, isopropyl ether and n-butanol showed positive responses for the preliminary tests like Legel test, Ferric chloride test, Belget test, Liebermann Burchard test indicating that the extracts contains aglycone and steroid components.

3. The spectral analysis with IR, NMR and Mass spectrum of the purified extract with ether revealed $\lambda_{\text{max}}$ alcohol 217 nm.

4. The chloroform extract of T. nerifolia Juss studied by TLC showed four fractions with $R_f$ values 0.41, 0.54, 0.58 and 0.76. The $\lambda_{\text{max}}$ of the fraction with $R_f$ value 0.41 is 217 nm.

5. The n-butanol extract of T. nerifolia Juss studied by TLC also showed fractions with $R_f$ values : 0.22, 0.25, 0.35, 0.42.
6. The \( \lambda \) max. alcohol of n-butanol extracted fractions with 
Rf values 0.22, 0.25 were 246 nm and of fraction 
with Rf value 0.35 was 274 nm.

7. The chloroform extracts with Rf values 0.54, 0.58 and 0.76 the \( \lambda \) max. were respectively 246 nm, 274 nm and 282 nm.

8. The melting point of the purified ether extract component of \( T \). \( neriifolia \) Juss is 210°C and contains C, H 
and O in the percentage proportion of 73.89, 9.01 and 17.10 respectively.

9. The Mass spectra of the compound has show M+ as 402 and thus the molecular formula of this fraction has been calculated to \( C_{25}H_{38}O_4 \).

10. The functional nature of the compound as studied by IR has been found that the compound contains one unsaturated -\( \gamma \)-lactone ring with secondary and tertiary -OH groups.

11. The NMR spectrum of the purified extract has revealed that the compound contains a number of -\((-\text{CH}_2-)\) and 
\(-\text{(-CH}_3)\) protons with a -\((-=\text{CH})\) linked with -( > C=0) and a cardiac glycosideaglyconeskeleton.
CHAPTER IV:

1. The effect of the ether extract of T. neriifolia Juss on blood glucose has been studied by injecting 2 mg/ml. and 4 mg/ml. in the right hind leg of the albino rats, before 1 hour of sacrifice.

2. In the control group of animal the mean blood glucose level was found to be 106.18 ± 15.14 mg.% declining to 92.15 ± 4.3 mg.% and 64.02 ± 8.4 mg.% due to the administration of 2 mg/ml. and 4 mg/ml. respectively.

3. Reduction of blood glucose in the treated groups was found highly significant (p < 0.0005).

4. The distribution of the values in the control and test groups were represented in table XVIII and Fig. 6.

5. The findings of this investigation suggested that the declination of blood glucose might be due to either blockage of the metabolic system.

CHAPTER V:

1. The effect of the ether extract of T. neriifolia Juss on total serum cholesterol has been studied by injecting 2 mg/ml. and 4 mg/ml. of the ether extract into the hind limbs of the albino rats 1 hour before sacrifice.
2. The mean total serum cholesterol levels were found to 100.01 ± 10.11 mg/100 ml., 77.69 ± 12.94 mg/100 ml. and 58.73 ± 10.36 mg/100 ml. in the control (Group I), in the animals receiving 2 mg/ml. and in the animals getting 4 mg/ml. ether extracts respectively.

3. Reduction of total serum cholesterol levels 1 hour after administration of ether extract were highly significant ($p < 0.0005$) and higher the dose of ether extract administered more was the reduction.

4. A positive correlation co-efficient between the blood glucose and blood cholesterol in all the 3 groups was established.

5. The findings of the present investigation suggested either blockage in the endogenous cholesterol synthesis or in the process of release of cholesterol to the blood and these hypothesis are to be tested in future studies.

CHAPTER - VI:

1. The effect of ether extract of *T. nerifolia* Juss on the total serum protein has been studied by administering 2 mg/ml. and 4 mg/ml. into the hind leg of the albino rats 1 hour prior to sacrifice.
2. The mean values of total serum protein observed in
the control groups receiving 2 mg/ml. and 4 mg/ml.
were 7.72 ± 1.30 mg.%, 5.62 ± 0.72 mg.% and 4.84 ±
0.76 mg.% respectively.

3. A highly significant difference (P < 0.0005) in the
total serum protein between the control and the groups
receiving the ether extract of T.neriifolia Juss
was observed but no significant difference was noted
after increasing the amount of extract administered
by two folds.

4. A high positive correlation co-efficient between the
blood glucose and total serum protein in all the
three groups was observed.

CHAPTER - VII

1. The activity of the serum alkaline phosphatase was
observed by administrating 2 mg/ml. and 4 mg/ml. of
the T.neriifolia Juss extract.

2. The mean activity in the control and treated groups
(Group II and Group III) was found to be 2.90 ± 0.99,
6.80 ± 1.64 and 15.55 ± 4.32 respectively.
3. The serum alkaline phosphatase activity was elevated significantly \( (P \leq 0.0005) \) from mean \( 2.90 \pm 0.99 \) L.U. to mean \( 6.80 \pm 1.64 \) B.U. and mean \( 15.55 \pm 4.32 \) L.U. after one hour of administration.

4. Significance of the action was calculated between the test and control and test and test groups and was found highly significant \( (P \leq 0.0005) \).

5. The frequency distribution has shown that after administration the activity of the serum alkaline phosphatase was well disturbed which was shown in distribution table XXXIV and Fig. 20.

6. A corresponding serum calcium level of the control (Group I) and treated (Group II) was observed and have shown a high elevation from \( 12.01 \pm 0.89 \) mg/100 ml. to \( 17.00 \pm 1.24 \) mg/100 ml.

7. The significance between serum calcium and alkaline phosphatase was found to be very high \( (P \leq 0.0005) \).

CHAPTER - VIII:

1. The histochemical analysis of the brain, liver and pituitary have shown a high activity of alkaline phosphatase.
2. The activity of alkaline phosphatase in brain, liver and pituitary can be shown in the following way:

brain $\supset$ Pituitary $\supset$ Liver.

3. A histopathological investigation of the liver indicated the ineffectiveness of the aglycone to change the cell structure.

4. The respiration rate of the animals were varied significantly. The mean value of the Group I was $161.40 \pm 4.99$ times/minutes. The mean value of Group II and Group III after 15 minutes, 30 minutes and 45 minutes were $112.10 \pm 3.63$, $130.80 \pm 4.37$, $122.70 \pm 3.09$ times/minutes and $95.80 \pm 10.96$, $108.10 \pm 17.47$, $119.30 \pm 13.99$ times/minutes respectively.

5. The motor activity and other physical abnormalities were noted in the treated and control groups as shown in Table XXXVIII.