PART I

I. INTRODUCTION

II. THE PROBLEM

Meaning of aptitude - Scientific aptitude - What is an aptitude test? - Need of aptitude testing - Purpose of present investigation - Scope of the present investigation.

III. EARLY ATTEMPTS TO MEASURE SCIENTIFIC APTITUDE

Review of attempts to measure scientific aptitude - Aptitude testing in India - General criticism on tests of Scientific aptitude - Impact of studies of existing tests on the present work.

PART II

IV. TEST DESIGN

Cardinal factors of a test design - What is to be measured? - Purpose - Type - Selecting the sub-tests - Sample - Item selection - Standardisation

V. TEST CONSTRUCTION

Selection of the sub-tests - Contents of the sub-test - Assigning weightage - Selection of test form - Writing the test items - Assembly of the tests - Directions to the students - Scoring key
* PART III

VI. CRITERION

What is a criterion? - Importance of the criterion - Immediate, intermediate and ultimate criterion. How to select a good criterion? Different criterion measures - selection of criterion groups.

VII. ITEM SELECTION

Item validity - Preliminary tryout - Sample for the tryout - Test administration - Scoring - General findings - Item analysis - Correction for chance - Internal consistency - Item difficulty - Item selection.

VIII. FINAL RUN OF THE TEST

Fixing the time-limit - Directions - Sample - Conducting the final administration - Scoring - Treatment of the data.

* PART IV

IX. STATISTICAL ANALYSIS OF THE DATA

Calculation of mean, median & S.D. - their reliability - Nature of distribution of scores - Chi-square test - Graphical representation - Superimposition of ideal curve.

X. NORMS

Percentile norms - Standard Score norms - Z-scores & T-scores - Assigning letter grades.
XI. RELIABILITY

Test-retest method - Split-half method - K-R method - Analysis of variance method - Reliability coefficients of the present test

XII. VALIDITY

Types of validity - validity of the present test - Content validity - Predictive validity - Concurrent validity - Cross-validation - Construct validity.

XIII. FACTOR ANALYSIS

Sample for the present study - Inter-correlations of the sub-tests - Analysis - Application of Humphrey's rule

XIV. SUMMARY & OBSERVATIONS

Science aptitude and population - Sex differences - Rural and urban differences - Predictive value of the test - Science aptitude and general intelligence - Future studies

* APPENDICES

* BIBLIOGRAPHY