

## TABLE OF CONTENTS

- - - - -			
-	ACKNOWLEDGEMENTS	.....	ii
-	TABLE OF CONTENTS	.....	iii
-	LIST OF TABLES	.....	v
-	LIST OF GRAPHS	.....	viii
-	LIST OF APPENDICE	.....	ix
- - - - -			
CHAPTER	TOPIC		PAGE
I	: INTRODUCTION - BRIEF SURVEY OF TESTING MOVEMENT .....		1 - 8
	Introduction	... ..	2
	Objectives	... ..	4
	A Brief Survey of the Testing Movement ..		4
II	: THE MEANING OF AN APTITUDE - APTITUDE TESTING .....		9 - 21
	The Meaning of an Aptitude	... ..	10
	Aptitude Testing	... ..	17
III	: SCIENTIFIC APTITUDE - ABILITIES SELECTED		22 - 43
	Scientific Aptitude	... ..	23
	Questionnaire and Its Analysis	... ..	23
	Numerical Ability	... ..	26
	Spatial Ability	... ..	30
	Reasoning Ability	... ..	32
	Inter-Relationship ..	... ..	34
	Mechanical Ability ..	... ..	36
	Cause and effect Relationship	... ..	39
	Infer from an& Experimental Data	... ..	42
IV	: PRINCIPLES OF TEST CONSTRUCTION - CRITERIA OF A GOOD TEST .....		44 - 67
	Principles of Test Construction	... ..	45
	Forms of New Type Tests	... ..	46
	Multiple Choice Type	... ..	46
	The Matching Type	... ..	48
	Free Response Items	... ..	49
- - - - -			

## Table of Contents (Contd.)

CHAPTER	TOPIC	PAGE
IV	Criteria for a Good Test ... ..	49
	Validity ... ..	50
	Reliability ... ..	52
	Objectivity ... ..	55
	Discrimination ... ..	56
	Comprehensiveness ... ..	57
	Economy ... ..	57
	Norms ... ..	58
	The Science Aptitude Test .. ..	59
V :	ADMINISTRATION OF THE PILOT TEST . ....	68 - 96
	Administration of the Pilot Test . ....	62
	Objectives (Preliminary Testing) . ....	62
	Administration of the Test .... .	72
	Selection of the Items for the Final Test..	80
VI :	ADMINISTRATION OF THE FINAL TEST . ....	97 - 107
	Administration of the Final Test . ....	98
	The Final Test ... ..	98
	The Answer Sheet . ....	99
	Methods of Sampling ... ..	99
	The Procedure of Administration .. ....	100
	Schools Selected for administration ....	101
VII :	STATISTICAL ANALYSIS OF THE DATA . ....	108 - 180
	Statistical Analysis of the Data . ....	109
	Analysis of the Total Scores .... ..	109
	RELIABILITY OF MEAN, MEDIAN AND STANDARD DEVIATION ..... ..	115
	GRAPHICAL REPRESENTATION OF THE TEST SCORES ... ..	121
	CHI-SQUARE TEST OF THE HYPOTHESIS OF NORMAL DISTRIBUTION ..... ..	137
	RELIABILITY OF THE TEST . ....	149
	THE ESTIMATION OF TEST VALIDITY ..... ..	159
	NORMS OF THE TEST ... ..	168
VIII :	FACTOR ANALYSIS OF THE DATA - THURSTONE'S CENTROID METHOD ... ..	180 - 195
IX :	SUMMARY - CONCLUSIONS AND SUGGESTIONS .	196 - 207
-	APPENDICE ... ..	208 - 359
-	BIBLIOGRAPHY ... ..	360 - 366