

### CONTENTS

<table>
<thead>
<tr>
<th>DECLARATION</th>
<th>CERTIFICATE</th>
<th>ACKNOWLEDGEMENT</th>
<th>LIST OF TABLES</th>
<th>LIST OF FIGURES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>i</td>
<td>iii</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ii</td>
<td>viii</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>iii</td>
<td>xii</td>
</tr>
</tbody>
</table>

#### CHAPTER

<table>
<thead>
<tr>
<th>I</th>
<th>INTRODUCTION</th>
<th>1 – 13</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.1 A Brief Historical Review</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.2 Meanings Associated with and Definitions of Intelligence</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.3 Definition of Intelligence</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.4 Factor Analytic Theories of Intelligence</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.5 Conclusion</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>II</th>
<th>REVIEW OF RELATED LITERATURE</th>
<th>14 – 122</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2.1 Structure of Intellect Model – Studies in Abroad</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.2 Structure of Intellect Model - Indian Studies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.3 Synthesis of the Research Studies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2.4 Conclusions</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>III</th>
<th>THEORETICAL FRAMEWORK</th>
<th>123 – 145</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3.1 Introduction</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.2 Guilford's Structure of Intellect Model</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.3 Convergent Production</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.4 Description of the Convergent – Production Tests</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>IV</th>
<th>THE METHODOLOGY</th>
<th>146 – 180</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.1 Statement of the Problem</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.2 Variables</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.2.1 Independent Variables</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.2.2 Dependent Variables</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.2.3 Demographic Variables</td>
<td></td>
</tr>
</tbody>
</table>
### General Objectives

4.3 General Objectives

4.4 Specific Objectives

4.5 Research Hypotheses

4.6 Scope of the Study

4.7 Definitions of Technical Terms

4.8 Method of Research

4.9 Tools Used

4.9.1 Development of Guilford's Type Tests of Convergent Production Abilities

4.9.2 Development of Academic Achievement Test in Science

4.10 The Sample

4.11 Collection of Data

4.12 Statistical Techniques Used

<table>
<thead>
<tr>
<th>V</th>
<th>ANALYSIS OF DATA AND RESULTS</th>
<th>181 – 272</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1</td>
<td>Convergent Production of Figural Factors</td>
<td></td>
</tr>
<tr>
<td>5.1.1</td>
<td>Simple Correlation – An Analysis</td>
<td></td>
</tr>
<tr>
<td>5.1.2</td>
<td>Multiple Regression – An Analysis</td>
<td></td>
</tr>
<tr>
<td>5.1.3</td>
<td>Path Analysis – Direct and Indirect Effects</td>
<td></td>
</tr>
<tr>
<td>5.2</td>
<td>Convergent Production of Symbolic Factors</td>
<td></td>
</tr>
<tr>
<td>5.2.1</td>
<td>Simple Correlation – An Analysis</td>
<td></td>
</tr>
<tr>
<td>5.2.2</td>
<td>Multiple Regression – An Analysis</td>
<td></td>
</tr>
<tr>
<td>5.2.3</td>
<td>Path Analysis – Direct and Indirect Effects</td>
<td></td>
</tr>
<tr>
<td>5.3</td>
<td>Convergent Production of Semantic Factors</td>
<td></td>
</tr>
<tr>
<td>5.3.1</td>
<td>Simple Correlation – An Analysis</td>
<td></td>
</tr>
<tr>
<td>5.3.2</td>
<td>Multiple Regression – An Analysis</td>
<td></td>
</tr>
<tr>
<td>5.3.3</td>
<td>Path Analysis – Direct and Indirect Effects</td>
<td></td>
</tr>
<tr>
<td>5.4</td>
<td>Convergent Production of Behavioural Factors</td>
<td></td>
</tr>
<tr>
<td>5.4.1</td>
<td>Simple Correlation – An Analysis</td>
<td></td>
</tr>
<tr>
<td>5.4.2</td>
<td>Multiple Regression – An Analysis</td>
<td></td>
</tr>
<tr>
<td>5.4.3</td>
<td>Path Analysis – Direct and Indirect Effects</td>
<td></td>
</tr>
</tbody>
</table>

vi
<table>
<thead>
<tr>
<th>Section</th>
<th>Content</th>
</tr>
</thead>
</table>
| 5.5 Convergent Production of Total Content Factors | 5.5.1 Simple Correlation – An Analysis  
5.5.2 Multiple Regression – An Analysis  
5.5.3 Path Analysis – Direct and Indirect Effects |
| 5.6 Principle Component Factor Analysis | 5.6.1 Role of Factors |
| 5.7 Differential Statistics | |
| VI SUMMARY AND CONCLUSIONS | 273 – 314 |
| 6.1 Statement of the Problem | |
| 6.2 Variables | 6.2.1 Independent Variables  
6.2.2 Dependent Variables  
6.2.3 Demographic Variables |
| 6.3 General Objectives | |
| 6.4 Research Hypotheses | |
| 6.5 Scope of the Study | |
| 6.6 Method of Research | 6.6.1 Tools Used  
6.6.2 The Sample  
6.6.3 Collection of Data  
6.6.4 Statistical Techniques Used |
| 6.7 Major Findings | |
| 6.8 Discussion and Conclusions | |
| 6.9 Educational Implications | |
| 6.10 Suggestions for Further Research | |
| BIBLIOGRAPHY | 315 – 327 |
| APPENDICES | 328 – 373 |