## LIST OF TABLES

<table>
<thead>
<tr>
<th>Table No.</th>
<th>Title of the Table</th>
<th>Page No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1</td>
<td>Matrix of the Convergent Production Factors</td>
<td>131</td>
</tr>
<tr>
<td>4.1</td>
<td>Difficulty Index and Item Validity of Convergent Production of Figural Abilities</td>
<td>162</td>
</tr>
<tr>
<td>4.2</td>
<td>Difficulty Index and Item Validity of Convergent Production of Symbolic Abilities</td>
<td>163</td>
</tr>
<tr>
<td>4.3</td>
<td>Difficulty Index and Item Validity of Convergent Production of Semantic Abilities</td>
<td>164</td>
</tr>
<tr>
<td>4.4</td>
<td>Difficulty Index and Item Validity of Convergent Production of Behavioural Abilities</td>
<td>165</td>
</tr>
<tr>
<td>4.5</td>
<td>Blue-Print for the Achievement Test in Science</td>
<td>169</td>
</tr>
<tr>
<td>4.6</td>
<td>Distribution of Marks to Different Instructional Objectives</td>
<td>169</td>
</tr>
<tr>
<td>4.7</td>
<td>Content Weightage</td>
<td>170</td>
</tr>
<tr>
<td>4.8</td>
<td>Question Type Weightage</td>
<td>170</td>
</tr>
<tr>
<td>4.9</td>
<td>Difficulty and Item Validity Values of Academic Achievement Test in Science</td>
<td>172</td>
</tr>
<tr>
<td>4.10</td>
<td>School-wise, Gender-wise and Caste-wise Break up of the Sample</td>
<td>178</td>
</tr>
<tr>
<td>5.1</td>
<td>Correlations of Dimensions of Figural Abilities/Factors with Academic Achievement of Students in Science (n=433)</td>
<td>188</td>
</tr>
<tr>
<td>5.2</td>
<td>Significant Regression Coefficients and Multiple Correlation Coefficients</td>
<td>190</td>
</tr>
<tr>
<td>5.3</td>
<td>Relative Contributions of Six Dimensions of Figural Abilities/Factors to Academic Achievement in Science (n=433)</td>
<td>192</td>
</tr>
<tr>
<td>5.4</td>
<td>Direct and Indirect Path Coefficients of Dimensions of Figural Abilities/Factors with Academic Achievement in Science (n=433)</td>
<td>193</td>
</tr>
<tr>
<td>5.5</td>
<td>Correlations of Dimensions of Symbolic Abilities/Factors with Academic Achievement of Students in Science (n=433)</td>
<td>201</td>
</tr>
<tr>
<td>Section</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>5.6</td>
<td>Significant Regression Coefficients and Multiple Correlation Coefficients</td>
<td>203</td>
</tr>
<tr>
<td>5.7</td>
<td>Relative Contributions of Six Dimensions of Symbolic Abilities/Factors to Academic Achievement in Science (n=433)</td>
<td>205</td>
</tr>
<tr>
<td>5.8</td>
<td>Direct and Indirect Path Coefficients of Dimensions of Symbolic Abilities/Factors with Academic Achievement in Science (n=433)</td>
<td>206</td>
</tr>
<tr>
<td>5.9</td>
<td>Correlations of Dimensions of Semantic Abilities/Factors with Academic Achievement of Students in Science (n=433)</td>
<td>214</td>
</tr>
<tr>
<td>5.10</td>
<td>Significant Regression Coefficients and Multiple Correlation Coefficients</td>
<td>216</td>
</tr>
<tr>
<td>5.11</td>
<td>Relative Contributions of Six Dimensions of Semantic Abilities/Factors to Academic Achievement in Science (n=433)</td>
<td>218</td>
</tr>
<tr>
<td>5.12</td>
<td>Direct and Indirect Path Coefficients of Dimensions of Semantic Abilities / Factors with Academic Achievement in Science (n=433)</td>
<td>219</td>
</tr>
<tr>
<td>5.13</td>
<td>Correlations of Dimensions of Behavioral Abilities/Factors with Academic Achievement in Science (n=433)</td>
<td>227</td>
</tr>
<tr>
<td>5.14</td>
<td>Significant Regression Coefficients and Multiple Correlation Coefficients</td>
<td>229</td>
</tr>
<tr>
<td>5.15</td>
<td>Relative Contributions of Six Dimensions of Behavioral Abilities/Factors to Academic Achievement in Science (n=433)</td>
<td>231</td>
</tr>
<tr>
<td>5.16</td>
<td>Direct and Indirect Path Coefficients of Dimensions of Behavioural Abilities/Factors with Academic Achievement in Science (n=433)</td>
<td>233</td>
</tr>
<tr>
<td>5.17</td>
<td>Correlations of Convergent Production of Figural Abilities, Symbolic Abilities, Semantic Abilities, Behavioural Abilities/Factors with Academic Achievement in Science (n=433)</td>
<td>240</td>
</tr>
<tr>
<td>Section</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>---------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>5.18</td>
<td>Significant Regression Coefficients and Multiple Correlation Coefficients</td>
<td>242</td>
</tr>
<tr>
<td>5.19</td>
<td>Relative Contributions of Convergent Production of Figural Abilities, Symbolic Abilities, Semantic Abilities, Behavioural Abilities / Factors to Academic Achievement in Science (n=433)</td>
<td>244</td>
</tr>
<tr>
<td>5.20</td>
<td>Direct and Indirect Path Coefficients of Convergent Production of Figural Abilities, Symbolic Abilities, Semantic Abilities, Behavioural Abilities/Factors with Academic Achievement in Science (n=433)</td>
<td>245</td>
</tr>
<tr>
<td>5.21</td>
<td>Principle Components in Linear Combination</td>
<td>251</td>
</tr>
<tr>
<td>5.22</td>
<td>Matrix of Factor Loading (Un-rotated)</td>
<td>252</td>
</tr>
<tr>
<td>5.23</td>
<td>Matrix of Factor Loading (Varimax Rotated)</td>
<td>253</td>
</tr>
<tr>
<td>5.24</td>
<td>Variable-wise Common Factor Variable Commonalities and the Percentages of Variance accounted for by each Factor</td>
<td>254</td>
</tr>
<tr>
<td>5.25</td>
<td>Comparison of three levels of Figural Ability Scores (Below Average, Average and Above Average) with Respect to their Achievement in Science</td>
<td>263</td>
</tr>
<tr>
<td>5.26</td>
<td>Multiple Comparison of Means (Scheffe's Test)</td>
<td>264</td>
</tr>
<tr>
<td>5.27</td>
<td>Comparison of Three Levels of Symbolic Ability Scores (Below Average, Average and Above Average) with Respect to their Achievement in Science</td>
<td>265</td>
</tr>
<tr>
<td>5.28</td>
<td>Multiple Comparison of Means (Scheffe's Test)</td>
<td>266</td>
</tr>
<tr>
<td>5.29</td>
<td>Comparison of Three Levels of Semantic Ability Scores (Below Average, Average and Above Average) with Respect to their Achievement in Science</td>
<td>267</td>
</tr>
<tr>
<td>5.30</td>
<td>Multiple Comparison of Means (Scheffe's Test)</td>
<td>268</td>
</tr>
<tr>
<td>5.31</td>
<td>Comparison of Three Levels of Behavioral Ability Scores (Below Average, Average and Above Average) with Respect to their Achievement in Science</td>
<td>269</td>
</tr>
<tr>
<td>Section</td>
<td>Description</td>
<td>Page</td>
</tr>
<tr>
<td>---------</td>
<td>-------------</td>
<td>------</td>
</tr>
<tr>
<td>5.32</td>
<td>Multiple Comparison of Means (Scheffe's Test)</td>
<td>270</td>
</tr>
<tr>
<td>5.33</td>
<td>Comparison of Three Levels of Four Content Areas Scores (Below Average, Average and Above Average) with Respect to their Achievement in Science</td>
<td>271</td>
</tr>
<tr>
<td>5.34</td>
<td>Multiple Comparison of Means (Scheffe's Test)</td>
<td>272</td>
</tr>
</tbody>
</table>