Allegiance
Educare

TECHNICAL

MANUAL

Technical Manual

We have taken sample of 300 students for age above 16 and 200 samples for age between 12 and 16. From the test, Raw Scores were obtained. These raw scores are converted to Percentile format and then it is converted into Stanine Score, which tells us about the student's ability in that specific domain. The following table shows the Standard Stanine Profiles Based on Percentiles and Its Interpretation

Percentile	Stanine	Interpretation
0-4%	1	Below Average
5-11%	2	Below Average
12-22%	3	Below Average
23-40%	4	Average
41-58%	5	Average
59-77%	6	Average
78-89%	7	Above Average
90-96%	8	Above Average
97-100%	9	Above Average

We followed This Criterion for setting up the Stanine Score and student's profile. Following table will shows the example for age above 16.

Raw Score	Percentile	Stanine Score	Category
17	99.99%	9	Above Average
16	96.90%	9	Above Average
15	90.90%	8	Above Average
14	88.20%	7	Above Average
13	77.20%	7	Above Average
12	59.00%	6	Average
12	59.00%	6	Average
11	40.90%	5	Average
8	36.30%	4	Average
5	13.60%	3	Below Average
5	13.60%	3	Below Average
3	6.30%	2	Below Average
1	1.60%	1	Below Average

Following table will shows the example for age below 16.

Raw Score	Percentile	Stanine Score	category
4	1.30%	1	Below Average
6	5.80%	2	Below Average
7	23.50%	3	Below Average
8	35.20%	4	Average
9	47%	5	Average
10	64.70%	6	Average
12	82.30%	7	Above Average
13	94.10%	8	Above Average
14	99.99%	9	Above Average

Reliability

Internal Consistency – Internal Consistency is a good measure of Reliability. It measures the extent to which items in a Sub(Scale) are intercorrelated

Reliability between Sub-test of Aptitude Test It tells us the correlation between each sub test of Aptitude test has value of Cronbach's Alpha of 0.977, which is indicating that this test is very reliable.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.975	.977	7

Reliability Between Sub test of Interest based test indicates that students can rely on this test to find out their Interest

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.921	.922	7

Validity

Face Validity:
Face validity refers not to what the test actually claims to measure but to what is appears to measure specifically. We have tried to collect the opinion of 40 mathematics teachers working in different Higher Secondary. Opinion of the teachers towards individual sub-test, as well as the entire test was found sound against following questions.

1. Weather the entire test, overall can measure aptitude in mathematics of students of Age above 16 and below, completely, partially or cannot?
2. Is there any sub- test that cannot measure Aptitude in Mathematics of the students?

Content Validity:
Content validity of a test can be examined by the expert's judgment. For getting Judgment of professional experts, four different experts in the field of Mathematics and Education having minimum qualification of M.A. /M.Sc. or M.Ed. and Ph.D. in the respective field were consulted, which, indicating satisfactory content validity of the test.

Intrinsic validity:
Intrinsic validity of a test indicates interrelations of each sub-test with one another and also to the entire test. The correlation matrix is shown in the following table

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	Logical Thinking Test	Conceptual Reasoning Test	Mechanical Reasoning Test	Verbal Ability Test	Visual Skills Test	Speed & Accuracy Test	Writing Skills Test	Mathematical Ability Test	Total
Logic	1.000								
Conc	0.123	1.000							
Mech	0.196	0.478	1.000						
Verb	0.253	0.511	0.405	1.000					
Visua	0.254	0.603	0.389	0.432	1.000				
Spee	0.265	0.139	0.279	0.174	0.276	1.000			
Writi	0.286	0.335	0.373	0.483	0.321	0.293	1.000		
Math	0.329	0.614	0.489	0.591	0.357	0.234	0.496	1.000	
Total	0.401	0.479	0.559	0.518	0.532	0.876	0.574	0.580	1.

*Correlation is significant at 0.01 level (2-tailed)

This Correlation values are depicting the Satisfactory level Intrinsic Validity

Thank You!

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