

Tamanna

An Aptitude Test for Senior School Students

GUIDE FOR TEACHERS AND PARENTS



Tamanna

Try And Measure Aptitude And Natural Abilities

GUIDE FOR TEACHERS AND PARENTS

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Foreword

Individuals differ from each other in terms of their physical characteristics such as height, weight and so on as well as in their psychological dimensions such as ability, interest, aptitude, personality, motivation and emotions. Aptitude is one such psychological dimension which refers to the ability to acquire skill or knowledge in a particular area. The information related to aptitude can guide the student, parents and the school to take decisions regarding a student's educational and career-related choices. It may also motivate students to broaden their horizon about the world of work and undertake new explorations according to their ability profile.

To facilitate schools in helping students make informed career choices NCERT has developed Tamanna: An Aptitude Test for Senior School Students (classes IX and X). The test comprises Technical Manual which gives details of construction and standardisation of the test, technical information on the aptitude test, scoring and norms, and interpretation of scores. The Test Booklet contains items on the seven dimensions measured in the aptitude test, i.e. Language Aptitude (LA), Abstract Reasoning (AR), Verbal Reasoning (VR), Mechanical Reasoning (MR), Numerical Aptitude (NA), Spatial Aptitude (SA), and Perceptual Aptitude (PA). The Guide for Teachers and Parents consists of the features of the aptitude test, test administration and scoring, and understanding the meaning of test scores.

The efforts made by the Department of Educational Psychology and Foundations of Education in developing the aptitude test are acknowledged. Piloting of the aptitude test undertaken by CBSE in its affiliated schools is gratefully acknowledged. I place on record my appreciation to all members of the Test Development Team and Review Committee for their efforts in the development of the aptitude test.

I hope this endeavour would go a long way in helping students to make appropriate academic choices and other career-related decisions.

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New Delhi

October, 2019

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1. UNDERSTANDING APTITUDE

What is Aptitude?

As students enter secondary stage of schooling, they move closer to making many important choices, one of which is deciding the subjects and courses of study at senior secondary level such as Humanities, Commerce, Science or Vocational. This decision of students is influenced by a number of factors such as their interests, attitudes, motivation, personality and aptitude. The decision of students is often influenced by their parents, family members, friends and teachers. Teachers and parents play a significant role in helping students to take decisions by facilitating students to know their aspirations, strengths and limitations. As we all know that when students know their strengths, it helps them to become motivated and put more efforts which is likely to result in improved performance.

Aptitude is a special ability or a cluster of abilities. Since aptitude is a special ability required to study or do a job, it indicates the probability of performing well in a particular course of study or occupation/vocation and also indicates the extent to which the person would derive benefit by training in a particular vocational area. Different occupations need different sets of abilities. For example, to be a successful architect one requires a set of abilities such as keen sense of observation, a sense of visual memory, ability to sketch free hand, etc. A student having these set of abilities is at an advantage and is likely to perform well in this occupation.

Thus, knowing one's aptitude may help a student to make informed career (educational and occupational/vocational) choices. It is important to know that students' interests, personal qualities, educational and occupational information/requirements also play a crucial role in career planning.

How Information about Aptitude is Useful for Students?

Information about aptitude is useful for students in seeking academic and/or career guidance. It is to be used keeping in view the students' needs and their stage of education. The information about a student's strengths and limitations would also help parents, teachers and the school administrators to extend support to the student while making such decisions.

Aptitude test results may help students to:

- Understand and make subject choices in relation to the identified special abilities.
- Explore career pathways related specifically to areas in which they have high aptitudes.
- Reaffirm their aptitude and explore if they want to continue with their chosen course of study or seek alternatives.
- Relook at their occupational aspirations/goals in line with their specific aptitude and review their efforts to achieve desired academic and occupational goals.

2. UNDERSTANDING TAMANNA: AN APTITUDE TEST

This test covers seven areas: Language Aptitude (LA), Abstract Reasoning (AR), Verbal Reasoning (VR), Mechanical Reasoning (MR), Numerical Aptitude (NA), Spatial Aptitude (SA), and Perceptual Aptitude (PA). A brief description of each of these dimension is given to help you understand what is measured, how it is measured and the relationship of a particular ability with some subject areas and occupational fields/occupations:

1. **Language Aptitude (LA)** is the ability to draw meaning from written words and use them effectively. Language aptitude shows how well an individual understands words and their synonyms, spells words correctly, identifies and understands the correct meaning of the given proverbs/idioms.

LA sub-test is divided into three sections which measure the students' ability to know (i) the meaning of words, (ii) the correct spelling and (iii) the meaning of proverbs/idioms. Language aptitude is important for performance in courses and occupations/vocations involving reading and writing such as social sciences, economics, mathematics, teaching, journalism and media studies, advertising, law, library sciences, stenography, business development, etc.

2. **Abstract Reasoning (AR)** involves abilities such as thinking logically, managing time, and solving problems quickly and effectively. It requires to understand patterns, diagrams or designs and draw meaning from them. This ability reveals how well a student can reason, extract rules, find underlying logic in the pattern of symbols or shapes, identify correct answer among a set of possible options, complete sequence and find the odd one out. In AR sub-test, which is a non-verbal sub-test, each item consists of a set of figures/patterns which are in a certain sequence. The student is asked to find the next figure/pattern in the series.

It is important for performance in courses and occupations/vocations such as mathematics, economics, physics, chemistry, computer science, biotechnology, computer systems analysis, computer programming, architecture, medicine, mechanics, forensic science, etc.

3. **Verbal Reasoning (VR)** is the ability to solve problems by understanding the meaning and ideas framed in words. Verbal reasoning measures how well an individual can apply reasoning related to words and draw correct meaning from the written information. In VR sub-test, the individual is expected to understand the relationship between paired words and apply it to other relationships.

Verbal reasoning is important for performance in courses and occupations like languages, history, geography, economics, business studies, science, psychology, education, journalism, business, law, public relations, marketing, advertising, linguistics, medical and paramedical fields, administrative services, human resources management, auctioneering, etc.

4. **Mechanical Reasoning (MR)** is the ability to apply reasoning in the practical environment using basic concepts in mechanics. This ability helps an individual to solve problems related to machines and engage in reasoning about the situation rather than simply applying the

formulae. In MR sub-test, items are related to acceleration, pressure, energy transformation, work and power, levers, pulleys, screws, springs, tools, etc.

Mechanical reasoning ability is important for courses and occupations/vocations such as physics, chemistry, engineering, and other technical skill-oriented occupations such as carpentry, masonry, plumbing, etc.

5. **Numerical Aptitude (NA)** is the ability to perform mathematical operations quickly and correctly. Numerical aptitude includes numerical relationships and problem solving related to numbers. NA sub-test involves primary arithmetic operations (like addition, subtraction, multiplication, and division) and other mathematical operations (like ratio, percentage, square and square root).

Numerical aptitude is important for performance in courses and occupations such as mathematics, economics, accountancy, computer sciences, statistics, all types of engineering, architecture, computer applications, oceanography, geology, meteorology, actuarial sciences, etc.

6. **Spatial Aptitude (SA)** is the ability to imagine an object in space and decide how it will look like when rotated in a given direction. In SA sub-test, the student is asked to identify how the figure will look like when seen through a mirror or rotated or when folded in a particular way.

Spatial aptitude is important for performance in courses and occupations/vocations that require an individual to visualise objects in 3-dimensions, such as visual and performing arts, engineering, physics, chemistry, geometry, geography, drafting, architecture, astronomy, visual arts, animation, designing, urban/town planning, photography, multimedia, etc.

7. **Perceptual Aptitude (PA)** involves comparing visual information like letters, numbers or combinations of letters/numbers, quickly and accurately. In PA sub-test, student is asked to compare the paired groups of letters or numbers or combination of letters-numbers and identify the similarity or difference.

Perceptual aptitude is important for performance in courses and occupations/vocations such as traffic police, detectives, data entry operations, clerical and secretaryship, personal assistantship, assembly work, machine job operating and coding, banking, proof reading, computer programming, record keeping, etc.

NOTE FOR TEACHERS AND PARENTS

1. The above description of aptitudes includes only some courses and occupations as examples. However, there is scope for including more courses and occupations relevant to each sub-test.
2. A cluster of aptitudes are required to perform effectively in a course of study or in an occupation. Therefore, the choice of a course of study or an occupation should not be based on performance in one single aptitude only.

3. TEST MATERIALS

Materials Required to Administer the Aptitude Test

(i) Test Booklet

Tamanna: An Aptitude Test booklet consists of the seven sub-tests as mentioned earlier in Section 2.

(ii) Answer Sheets

Answers need to be marked on the separate answer sheets provided with the test booklets. Sample of the answer sheet is given in Appendix- I. Handle the answer sheets with care and do not fold or let them get torn.

(iii) Pencils

Each student must have at least two pencils and an eraser. Keep extra pencils in case required.

(iv) Scoring Keys

Keys for scoring manually are given in Appendix II.

(v) Tamanna: An Aptitude Test Report Sheet

This report sheet is to consolidate the information of a student with respect to her/his score on different sub-tests and prepare the aptitude profile. Sample Report Sheet is given in Appendix-III. Based on this information, suggestions are given about courses of study and occupations so that the student can make optimal use of the aptitude test results.

NOTE FOR TEACHERS

These test booklets are reusable. Before distributing the booklets inform students to not mark anything on the booklet. In case any marking on them is noticed erase them. If the marks or writing cannot be erased, the test booklets should be discarded.

4. TEST ADMINISTRATION AND SCORING

How to Administer Tamanna: An Aptitude Test

General Considerations

1. While introducing the test, tell students about its importance so that they are motivated to do their best. Emphasize that to know their strengths; students have to attempt as many questions as possible within the time limit. However, there is no pass or fail in this test.
2. Each sub-test is of 10 minutes duration; so the total time for taking all the seven sub-tests is about 70 minutes. Care needs to be taken to adhere to the time duration mentioned on a specific sub-test. Specific instructions for each sub-test is provided separately.
3. Total time for administration includes – distribution of answer sheets and test booklets, reading instructions, students attempting practice items and time taken to attempt all seven sub-tests. This entire process would take one and a half hours approximately.
4. Inform students that for each item only one correct response has to be marked. Item(s) having more than one response will not be scored.

Procedure

1. Prepare well in advance for administration of the test by getting familiar with names of the sub-tests, test materials and duration of each sub-test. Ensure that you have sufficient number of test booklets and answer sheets for all students who will take the aptitude test.
2. Schedule administration of the test when students are likely to be fresh and alert. Ensure that the room is well-lighted, ventilated, has minimum distractions and interruptions, and seating arrangements are comfortable.
3. Make appropriate seating arrangements to minimize scope of copying.

Instructions for Administering the Aptitude Test

1. Distribute answer sheets and ask the students to write their name, class, gender and school on their answer sheets in the space mentioned.
2. When all students have completed the above, distribute the test booklet. In loud and clear voice say, **DO NOT** put any mark on the test booklet. All writing is to be done on the answer sheet. For any calculations /rough work, you may use separate sheet.
3. Read the instructions given on booklet loudly, clearly and slowly. Ask the students to read the same instructions given on their respective booklets silently along with you. For each sub-test say,

As I read the instructions loudly, you also read them silently to yourselves.

4. After reading the example, pause for some time to allow the students to think about it. Let them attempt the practice item(s) to become familiar with the nature of items of the sub-test.
5. After giving the instructions, ask the students, Is there any doubt or question before you begin?

6. Clear any question or doubt. Allow them to read the instructions again. DO NOT give any new example.
7. After ensuring that the students have understood the instructions clearly, ask them to start attempting the sub-test by saying in a loud and firm voice, Turn the page and **START**.
8. As soon as the students begin, start recording the time. When the time is up, announce in a firm and loud voice, **STOP**. Put your pencils down and do not attempt any more items.
9. Ensure that the instruction “Do not start the next test until you are told to do so” given in the booklet is followed strictly.
10. To ensure continued interest of the students and to avoid fatigue, monotony and boredom, a short break of 10-15 minutes can be given after the first four sub-tests have been completed.
11. When all the sub-tests are complete, ask all students to hand over the test booklet and the answer sheet.

How to score?

The Scoring Key (given in Appendix - II) is to be used to score the students' responses which has correct answer for each item in all the sub-tests. The number of correct answers in a sub-test is a student's score on that sub-test. Correct responses for all the sub-tests will be counted separately. In this process, the score on all the seven sub-tests for a student will be obtained.

NOTE FOR TEACHERS

Before starting to score the answer sheets, ensure that students have marked only one answer for each item on their answer sheets. Exclude any such answer sheet which shows an obvious answer pattern such as all 'a' option is marked or 'a' and 'b' are alternately marked, etc.

5. UNDERSTANDING THE MEANING OF THE APTITUDE TEST SCORES

1. To know how a student has performed on different sub-tests of the aptitude test, you need to have an estimate of her/his standing among students of the same class.
2. The total score obtained on each sub-test will become meaningful when converted to a standard score, which is called the “Sten Score”. These are in the range of 1 to 10 and are given as Norms Tables in Appendix - IV for class IX students and Appendix - V for class X students.
3. To convert the score obtained on a particular sub-test into Sten score, consult the relevant Norms table depending on the class and gender of the student.
4. Record in the Tamanna Aptitude Test Report Sheet (given in Appendix - III), the student's score on all sub-tests, its corresponding Sten scores and description of Sten scores (given in Appendix VI).
5. Plot the sten scores obtained on the seven sub-tests on the graph given in the Aptitude Test Report Sheet.
6. Now identify those aptitudes in which the student has scored high. This can be clearly seen in the Aptitude Test Report Sheet. High aptitude in a sub-test may be used to facilitate exploring of courses and occupations related to that particular aptitude.

NOTE FOR TEACHERS AND PARENTS

Many students may not score high on any of the seven sub-tests. This does not mean that they lack the ability to pursue further education or training in courses to choose a career. Such students need assistance/opportunities to understand themselves through self-exploration and encouraging participation in various school activities of their interest, in addition to subjects of study. Accordingly, s/he needs assistance in knowing future courses and occupations to make the best suitable career choices. To help such students, educational and career planning sessions may be organised and they may also be referred to school counsellor for career counselling.

6. AN ILLUSTRATION TO SCORE, RECORD AND EXPLAIN THE APTITUDE TEST RESULTS

Let us now see how to understand the performance of Manju, a girl studying in class IX in one of the schools.

Steps

1. Fill in the details of the student in the Aptitude Test Report Sheet (Appendix - III).
2. Calculate the score obtained on the first sub-test, i.e. LA sub-test by counting all the correct responses using the scoring key. Let us assume that the total right responses/score of Manju is 15 on LA.
3. Convert raw score 15 to sten score by referring to Norms Table for Class IX (Girls) (Appendix IV).

As can be seen, score of 15 on LA falls in Sten 5. Therefore, Manju's Sten score on LA is 5.

4. Check the Description table (Appendix-VI) to understand the meaning of this Sten score. The Sten score of 5 on LA sub-test indicates that her performance is "Average".
5. Record on the Aptitude Test Report Sheet:
 - (i) The obtained score, i.e. 15.
 - (ii) Corresponding Sten score, i.e. 5.
 - (iii) Description of Sten score specific to LA sub-test, i.e. "average".
6. Now for the remaining sub-tests, let us assume that Manju has scored 27 in AR, 25 in VR, 6 in MR, 19 in NA, 11 in SA and 43 in PA. Repeat the steps 3 to 5 for the remaining sub-tests.
7. Plot Sten scores on the graph.
8. Identify those sub-tests/aptitudes in which Manju has scored "high".
9. Based on Manju's performance, offer suggestions/remarks.

Tamanna: An Aptitude Test Report Sheet, after filling all details, would look like the one given on the next page.

Aptitude test scores are only suggestive of a student's potential. School and parents should NOT use these scores to choose subjects for the student.

Aptitude Test Report Sheet

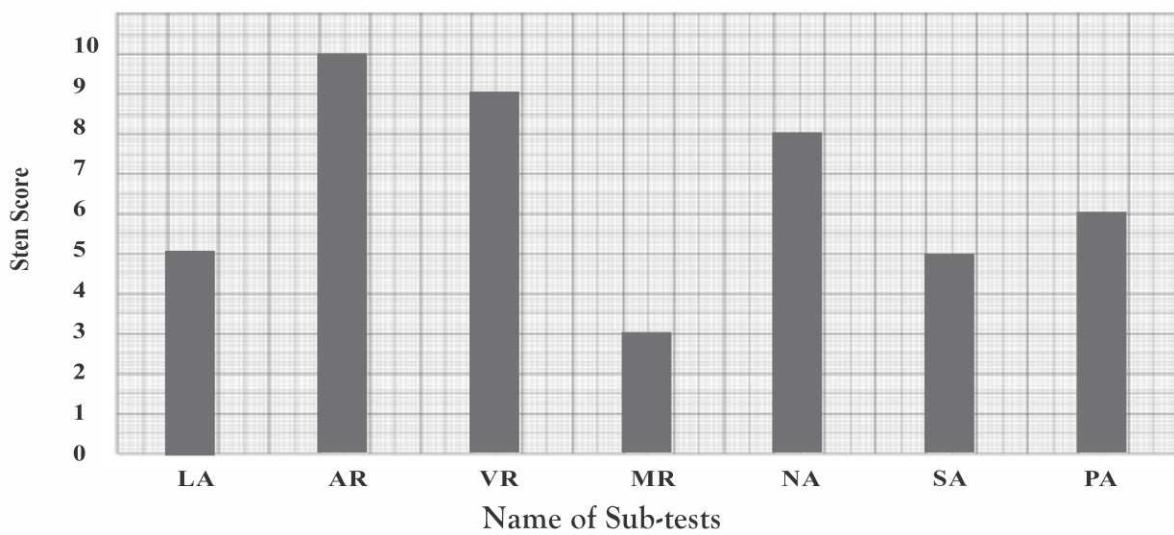
Name: Manju

Class: IX

Gender: F

School: G.S.S.School, New Delhi

S. No.	Sub-Test	Score Obtained	Sten Score	Performance		
				High	Average	Low
1.	LA	15	5		✓	
2.	AR	27	10	✓		
3.	VR	25	9	✓		
4.	MR	6	3			✓
5.	NA	19	8	✓		
6.	SA	11	5		✓	
7.	PA	43	6		✓	



APTITUDE PROFILE

Suggestions/Remarks

Since Manju's score/profile indicates high aptitude for Abstract Reasoning, Verbal Reasoning and Numerical Aptitude, she is likely to do well in subjects like Computer Science, Economics, Mathematics, Accountancy, Graphics, Graphics Design, Psychology, Legal Studies, etc.

Depending on her interest and inclination, she may explore courses and occupations related to Computer Graphics, Animation, Accountancy, Pharmacy, Marketing, Research/Financial/Economic Analyst, Law, Social Work, Psychotherapists, Public Relations, etc.(Refer to Appendix - VII and VIII for related information)

Teacher's Signature

Aptitude test scores obtained are suggestive and should not be used as the only deciding factor for choosing subjects.

APPENDICES

Sample

Answer Sheet

Name : _____ Class : _____
 Gender : _____ School : _____

LA - 01 Practice Item: PART I <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D PART II: <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D PART III: <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D				AR - 02 Practice Item: <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D				VR - 03 Practice Item: PART I <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D PART II: <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D				MR - 04 Practice Item: <input type="radio"/> A <input type="radio"/> B <input type="radio"/> C <input type="radio"/> D							
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17.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	18.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	18.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	18.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
18.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	19.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	19.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	19.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
19.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	20.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	20.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	20.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
20.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	21.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	21.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	21.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
Part- III				22.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	22.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	22.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	
21.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	23.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	23.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	23.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
22.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	24.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	24.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	24.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
23.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	25.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	25.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	25.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
24.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	26.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	26.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	26.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
25.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	27.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	27.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	27.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
26.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	28.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	28.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	28.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
27.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	29.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	29.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	29.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
28.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	30.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	30.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D	30.	<input type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D

Sample Answer Sheet

NA - 05				SA- 06				PA - 07						
Practice Item:				Practice Item: PART I				Practice Item:						
1. A B C D				① ② ③ ④				① ② ③ ④						
2. A B C D				PART II:				① ② ③ ④						
① PartI				PartI				PartI						
1.	A	B	C	D	1.	A	B	C	D	1.	A	B	C	D
2.	A	B	C	D	2.	A	B	C	D	2.	A	B	C	D
3.	A	B	C	D	3.	A	B	C	D	3.	A	B	C	D
4.	A	B	C	D	4.	A	B	C	D	4.	A	B	C	D
5.	A	B	C	D	5.	A	B	C	D	5.	A	B	C	D
6.	A	B	C	D	6.	A	B	C	D	6.	A	B	C	D
7.	A	B	C	D	7.	A	B	C	D	7.	A	B	C	D
8.	A	B	C	D	8.	A	B	C	D	8.	A	B	C	D
9.	A	B	C	D	9.	A	B	C	D	9.	A	B	C	D
10.	A	B	C	D	10.	A	B	C	D	10.	A	B	C	D
11.	A	B	C	D	11.	A	B	C	D	11.	A	B	C	D
12.	A	B	C	D	12.	A	B	C	D	12.	A	B	C	D
13.	A	B	C	D	13.	A	B	C	D	13.	A	B	C	D
14.	A	B	C	D	14.	A	B	C	D	14.	A	B	C	D
15.	A	B	C	D	15.	A	B	C	D	15.	A	B	C	D
16.	A	B	C	D	16.	A	B	C	D	16.	A	B	C	D
17.	A	B	C	D	17.	A	B	C	D	17.	A	B	C	D
18.	A	B	C	D	18.	A	B	C	D	18.	A	B	C	D
19.	A	B	C	D	19.	A	B	C	D	19.	A	B	C	D
20.	A	B	C	D	20.	A	B	C	D	20.	A	B	C	D
21.	A	B	C	D	Part- II				21.	A	B	C	D	
22.	A	B	C	D	21.	A	B	C	D	22.	A	B	C	D
23.	A	B	C	D	22.	A	B	C	D	23.	A	B	C	D
24.	A	B	C	D	23.	A	B	C	D	24.	A	B	C	D
25.	A	B	C	D	24.	A	B	C	D	25.	A	B	C	D
26.	A	B	C	D	25.	A	B	C	D	26.	A	B	C	D
27.	A	B	C	D	26.	A	B	C	D	27.	A	B	C	D
28.	A	B	C	D	27.	A	B	C	D	28.	A	B	C	D
29.	A	B	C	D	28.	A	B	C	D	29.	A	B	C	D
30.	A	B	C	D	29.	A	B	C	D	30.	A	B	C	D
				30.	A	B	C	D						

Scoring Key

To obtain the scoring key, School Principals will need to send a request mail to : tamanna.ncert@ciet.nic.in and a soft copy of the scoring key will be provided.

Scoring Key

To obtain the scoring key, School Principals will need to send a request mail to : tamanna.ncert@ciet.nic.in and a soft copy of the scoring key will be provided.

Sample

Aptitude Test Report Sheet

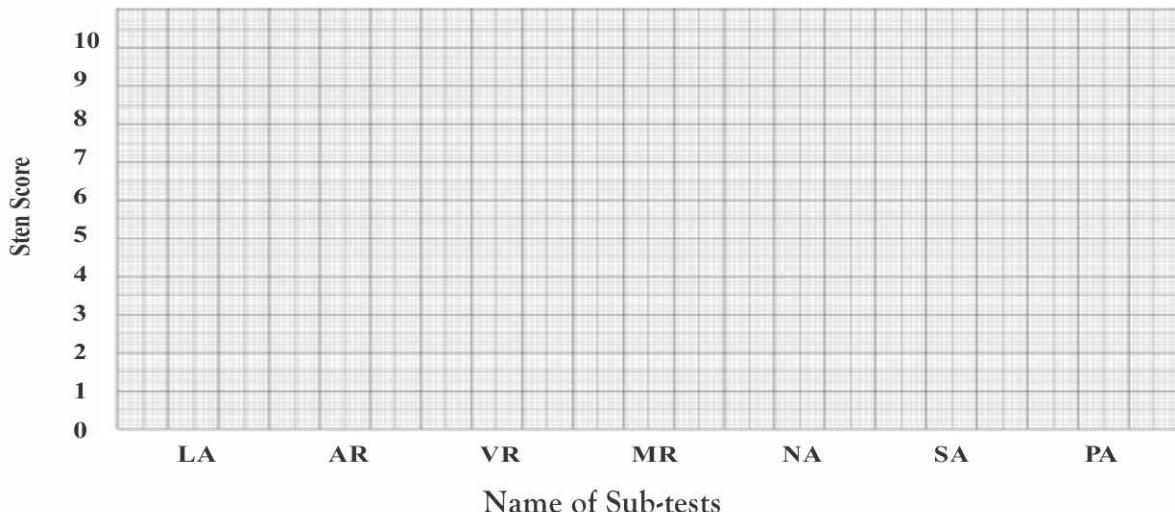
Name:

Class:

Gender:

School:

S. No.	Sub-Test	Score Obtained	Sten Score	Performance		
				High	Average	Low
1.	LA					
2.	AR					
3.	VR					
4.	MR					
5.	NA					
6.	SA					
7.	PA					



APTITUDE PROFILE

Suggestions/Remarks

Teacher's Signature

Appendix - IV

Norms Tables For Class IX Students

Table - 1 Norms (COMBINED - BOYS AND GIRLS)

Sten Scores	1	2	3	4	5	6	7	8	9	10	Mean	SD
Sub-test												
LA	0-4	5-6	7-9	10-12	13-15	16-18	19-21	22-24	25-27	28-30	15.68	5.83
AR	0-1	2-4	5-7	8-10	11-13	14-16	17-19	20-22	23-25	26-30	13.25	6.05
VR	0-3	4-5	6-8	9-11	12-14	15-17	18-20	21-23	24-26	27-30	14.89	5.94
MR	0-3	4-5	6-7	8-9	10-11	12-13	14-15	16-17	18-20	21-30	11.80	4.11
NA	0	1-3	4-6	7-9	10-12	13-15	16-18	19-22	23-25	26-30	12.85	6.12
SA	0-1	2-4	5-6	7-9	10-11	12-14	15-16	17-19	20-21	22-30	11.78	4.97
PA	0-9	10-16	17-23	24-30	31-37	38-43	44-50	51-56	57-58	59-60	37.07	13.66

Table - 2 Norms (GIRLS)

Sten Scores	1	2	3	4	5	6	7	8	9	10	Mean	SD
Sub-test												
LA	0-4	5-7	8-10	11-13	14-16	17-19	20-22	23-24	25-27	28-30	16.24	5.80
AR	0-1	2-4	5-7	8-9	10-12	13-15	16-18	19-21	22-24	25-30	12.79	5.72
VR	0-4	5-7	8-9	10-12	13-15	16-18	19-20	21-23	24-26	27-30	15.45	5.53
MR	0-3	4-5	6-7	8-9	10-11	12-13	14-15	16-17	18-19	20-30	11.34	3.87
NA	0	1-3	4-6	7-9	10-12	13-15	16-17	18-20	21-23	24-30	12.16	5.77
SA	0-2	3-4	5-7	8-9	10-11	12-13	14-16	17-18	19-20	21-30	11.70	4.56
PA	0-12	13-18	19-25	26-31	32-38	39-45	46-51	52-56	57-58	59-60	38.48	13.08

Table - 3 Norms (BOYS)

Sten Scores	1	2	3	4	5	6	7	8	9	10	Mean	SD
Sub-test												
LA	0-3	4-6	7-9	10-12	13-15	16-18	19-21	22-24	25-26	27-30	15.33	5.81
AR	0-1	2-4	5-7	8-10	11-13	14-16	17-19	20-22	23-26	27-30	13.55	6.24
VR	0-2	3-5	6-8	9-11	12-14	15-17	18-20	21-23	24-26	27-30	14.53	6.16
MR	0-3	4-5	6-7	8-9	10-12	13-14	15-16	17-18	19-20	21-30	12.09	4.24
NA	0	1-3	4-6	7-10	11-13	14-16	17-19	20-22	23-25	26-30	13.29	6.30
SA	0-1	2-4	5-6	7-9	10-11	12-14	15-17	18-19	20-22	23-30	11.84	5.22
PA	0-8	9-15	16-22	23-29	30-36	37-43	44-50	51-56	57-58	59-60	36.16	13.95

Appendix – V

Norms Tables For Class X Students

Table - 4 Norms (COMBINED - BOYS AND GIRLS)

Sten Scores	1	2	3	4	5	6	7	8	9	10	Mean	SD
Sub-test												
LA	0-6	7-9	10-12	13-14	15-17	18-20	21-23	24-26	27-28	29-30	17.84	5.75
AR	0-2	3-5	6-8	9-11	11-15	16-18	19-21	22-24	25-27	28-30	15.16	6.34
VR	0-4	5-7	8-10	11-13	14-16	17-19	20-22	23-25	26-28	29-30	16.76	6.05
MR	0-3	4-6	7-8	9-10	11-12	13-15	15-17	18-19	20-22	23-30	12.91	4.56
NA	0-2	3-5	6-9	10-12	13-15	16-19	20-22	23-25	26-28	29-30	15.79	6.66
SA	0-2	3-4	5-7	8-10	11-12	13-15	16-18	19-21	21-23	24-30	12.84	5.33
PA	0-11	12-19	20-25	26-31	32-37	38-43	44-50	51-56	57-58	59-60	38.62	12.76

Table - 5 Norms (GIRLS)

Sten Scores	1	2	3	4	5	6	7	8	9	10	Mean	SD
Sub-test												
LA	0-5	6-8	9-10	11-13	14-16	17-19	20-21	22-24	25-27	28-30	19.05	5.48
AR	0-2	3-5	6-8	9-11	12-14	15-17	18-20	21-23	24-26	27-30	14.83	5.99
VR	0-6	7-8	9-11	12-14	15-17	18-20	21-23	24-26	27-28	29-30	17.46	5.73
MR	0-3	4-5	6-7	8-10	11-12	13-14	15-16	17-18	19-20	21-30	12.31	4.33
NA	0-2	3-5	6-8	9-12	13-15	16-18	19-21	22-24	25-27	28-30	15.06	6.12
SA	0-3	4-5	6-8	9-10	11-12	13-15	16-17	18-20	21-22	23-30	12.95	4.85
PA	0-10	11-17	18-23	24-30	31-38	39-43	44-50	51-56	57-58	59-60	40.05	11.88

Table - 6 Norms (BOYS)

Sten Scores	1	2	3	4	5	6	7	8	9	10	Mean	SD
Sub-test												
LA	0-5	6-8	9-11	12-14	15-17	18-19	20-22	23-25	26-28	29-30	17.09	5.78
AR	0-2	3-5	6-8	9-12	13-15	16-18	19-21	22-25	26-28	29-30	15.37	6.54
VR	0-3	4-7	8-10	11-13	14-16	17-19	20-22	23-25	26-28	29-30	16.32	6.21
MR	0-3	4-6	7-8	9-10	11-13	14-15	16-17	18-20	21-22	22-30	13.27	4.65
NA	0-2	3-5	6-9	10-12	13-15	16-18	19-22	23-25	26-28	29-30	16.25	6.95
SA	0-1	2-4	5-7	8-9	10-12	13-15	16-18	19-21	22-24	25-30	12.77	5.61
PA	0-11	12-17	18-24	25-31	32-37	38-44	45-50	51-56	57-58	59-60	37.73	13.21

Description of Sten Scores

Sten Score	Description	LA	AR	VR	Sub-tests	NA	SA	PA
1-3	Low	Below average aptitude in understanding English words, spelling words correctly and identifying and understanding the meaning of a proverb/idiom	Below average aptitude in logical reasoning through understanding relationship among patterns, symbols or shapes	Below average aptitude in applying reasoning to word relations and deriving meaning from written information	Below average aptitude in applying reasoning and solving problems in practical situations where mechanical concepts are being used	Below average aptitude in correctly and quickly solving problems of mathematical operations related to primary arithmetic operations, and numerical relationships	Below average aptitude in perceiving and judging relationships among visual patterns by imagining them mentally	Below average aptitude in perceiving visual information (letters, numbers, etc.) quickly and accurately
4-7	Average	Average aptitude in comprehending English vocabulary and verbal skills for practical application in everyday life	Average aptitude in applying logical reasoning from some specific information to general concept	Average aptitude in meaningfully comprehending word relations and written information to generalize to other situations.	Average aptitude in being aware of information about basic mechanical concepts and hence applying them in daily life	Average aptitude in showing quick understanding and applying solutions to numerical computational tasks	Average aptitude to perceive and judge orientation of figures under different circumstances and to visualize objects in 3-Dimensions	Average aptitude in comparing visual information and accurately perceiving it
8-10	High	High aptitude in comprehension as well as use of English language. This indicates that the student has good vocabulary and understands synonyms and meanings of proverbs	High aptitude in understanding abstract figures. This includes applying logical reasoning for comprehending relationships and solving problems quickly and effectively when dealing with abstract patterns in everyday life	High aptitude in this area reflects well above average skill for meaningfully comprehending word relations and written information so as to skillfully apply these in other similar situations	High aptitude in rapidly and accurately manipulating numbers for solving arithmetic tasks and numbers in everyday life	High aptitude in understanding and grasping relationships among objects in 3-Dimensions	High aptitude quickly and accurately perceiving visual information.	High aptitude in understanding and grasping relationships among objects in 3-Dimensions

Some Occupations/Vocations and Related Aptitudes

1. Accountant
 - Numerical Aptitude
 - Abstract Reasoning
 - Perceptual Aptitude
2. Agricultural Scientist
 - Abstract Reasoning
 - Numerical Aptitude
 - Mechanical Aptitude
 - Language Aptitude
3. Air Hostess
 - Language Aptitude
 - Verbal Reasoning
 - Abstract Reasoning
4. Air Traffic Control Officer
 - Numerical Aptitude
 - Abstract Reasoning
 - Spatial Aptitude
 - Language Aptitude
5. Animator
 - Spatial Aptitude
 - Abstract Reasoning
 - Verbal Reasoning
6. Architect
 - Numerical Aptitude
 - Mechanical Reasoning
 - Spatial Aptitude
 - Abstract Reasoning
7. Banker
 - Numerical Aptitude
 - Abstract Reasoning
 - Perceptual Aptitude
 - Language Aptitude
8. Beautician
 - Language Aptitude
 - Verbal Reasoning
 - Spatial Aptitude
9. BPO Associate
 - Language Aptitude
 - Perceptual Aptitude
 - Abstract Reasoning
 - Verbal Reasoning
10. Charted Accountant
 - Numerical Aptitude
 - Perceptual Aptitude
 - Abstract Reasoning
11. Civil Servant
 - Abstract Reasoning
 - Verbal Reasoning
 - Language Aptitude
 - Perceptual Aptitude
12. Company Secretary
 - Abstract Reasoning
 - Verbal Reasoning
 - Numerical Aptitude
 - Perceptual Aptitude
13. Computer Programmer
 - Numerical Aptitude
 - Perceptual Aptitude
 - Abstract Reasoning
 - Verbal Reasoning
14. Corporate Lawyer
 - Verbal Reasoning
 - Language Aptitude
 - Abstract Reasoning
 - Numerical Aptitude
 - Perceptual Aptitude
15. Counsellor
 - Verbal Reasoning
 - Language Aptitude
 - Abstract Reasoning
16. Dietician
 - Abstract reasoning
 - Language Aptitude
 - Spatial Aptitude
 - Numerical Aptitude
17. Event Planers
 - Language Aptitude
 - Spatial Aptitude
 - Abstract Reasoning
 - Numerical Aptitude

- 18. Fashion Designer**
 - Spatial Aptitude
 - Abstract Reasoning
 - Numerical Aptitude
 - Language Aptitude
- 19. Forensic Scientist**
 - Abstract Reasoning
 - Numerical Aptitude
 - Perceptual Aptitude
- 20. Graphic Designer**
 - Spatial Aptitude
 - Perceptual Aptitude
 - Numerical Aptitude
 - Abstract Reasoning
- 21. Hotel Manager**
 - Verbal Reasoning
 - Language Aptitude
 - Numerical Aptitude
 - Abstract Reasoning
- 22. Jewellery Designer**
 - Spatial Aptitude
 - Perceptual Aptitude
 - Language Aptitude
 - Numerical Aptitude
- 23. Journalist**
 - Language Aptitude
 - Verbal Reasoning
 - Abstract Reasoning
 - Numerical Aptitude
- 24. Laboratory Assistant**
 - Mechanical Reasoning
 - Numerical Aptitude
 - Abstract Reasoning
- 25. Mobile App Developer**
 - Numerical Aptitude
 - Mechanical Reasoning
 - Abstract Reasoning
 - Spatial Aptitude
 - Perceptual Aptitude
 - Language Aptitude

- 26. Naval Officer**
 - Numerical Aptitude
 - Abstract Reasoning
 - Spatial Aptitude
 - Verbal Reasoning
 - Language Aptitude
 - Perceptual Aptitude
- 27. Nurse**
 - Abstract Reasoning
 - Language Aptitude
 - Perceptual Aptitude
 - Numerical Aptitude
- 28. Optician**
 - Numerical Aptitude
 - Perceptual Aptitude
 - Spatial Aptitude
- 29. Photographer**
 - Spatial Aptitude
 - Perceptual Aptitude
 - Abstract Reasoning
- 30. Physiotherapist**
 - Numerical Reasoning
 - Language Aptitude
 - Abstract Reasoning
 - Verbal Reasoning
- 31. Pilot**
 - Abstract Reasoning
 - Perceptual Aptitude
 - Spatial Aptitude
 - Numerical Aptitude
 - Mechanical Reasoning
 - Language Aptitude
- 32. Police Officer**
 - Abstract Reasoning
 - Perceptual Aptitude
 - Language Aptitude
 - Verbal Reasoning
- 33. Retail Manager**
 - Language Aptitude
 - Perceptual Aptitude
 - Abstract Reasoning
 - Numerical Aptitude

34. Radio and TV Anchor

- Language Aptitude
- Verbal Reasoning
- Abstract Reasoning
- Perceptual Aptitude

35. Tourist Guide

- Language Aptitude
- Abstract Reasoning
- Numerical Aptitude

36. Teacher

- Language Aptitude
- Verbal Reasoning
- Abstract Reasoning
- Perceptual Aptitude

37. Travel Agent

- Language Aptitude
- Abstract Reasoning
- Verbal Reasoning
- Numerical Aptitude

38. Security Guard

- Spatial Aptitude
- Abstract Reasoning
- Perceptual Aptitude

Appendix – VIII

Aptitude and Few Educational/Vocational Areas

S. No.	Aptitude	Educational and Vocational Areas
1	Language Aptitude (LA) (Ability to use and understand written language)	Relevant for courses/occupations/vocations involving reading and writing, teaching, journalism and media studies, advertising, law, library science, stenography, business development, travel and tourism, etc.
2	Abstract Reasoning (AR) (Ability for logical and analytical thinking)	Relevant for courses/occupations/vocations concerned with mathematics, computer programming, architecture, law, medicine, economics, mechanics, forensic science, etc.
3	Verbal Reasoning (VR) (Ability to understand and reason using concepts expressed in words)	Relevant for courses/occupations/vocations like psychology, speech therapist, auctioneering, advertising, linguistics, business, law, education, public relations, marketing, journalism, etc.
4	Mechanical Reasoning (MR) (Ability to understand and apply mechanical concepts and principles to solve problems)	Relevant for courses/occupation/vocations concerned with machinery/electrical/civil/automobile engineering, carpentry, electrician, machine operator, physics, chemistry, etc.
5	Numerical Aptitude (NA) (Ability to do mathematical operations quickly and accurately)	Relevant for courses/occupations/vocations related to all types of engineering, architecture, oceanography, geology, meteorology, biosciences, health sciences, statistics, natural sciences, banking, etc.
6	Spatial Aptitude (SA) (Ability test is required to quickly judge how an object would look like when constructed in a given way)	Relevant for courses/occupations/vocations such as manufacturing industry, drafting, designing (fashion, interior, toys and games, jewellery, urban planning, landscape designing, etc.), architecture, astronomy, chemist, visual arts, animation, multimedia art, etc.
7	Perceptual Aptitude (PA) (Ability to quickly, accurately and meaningfully compare visual information, i.e. letters, numbers, objects, pictures or patterns)	Relevant for courses/occupations/vocations concerned with bank-teller, accountants, computer programmers, police detectives, data entry, assembly work, record keeping, dispatching, filing, etc.



राष्ट्रीय शैक्षिक अनुसंधान और प्रशिक्षण परिषद्
NATIONAL COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING