

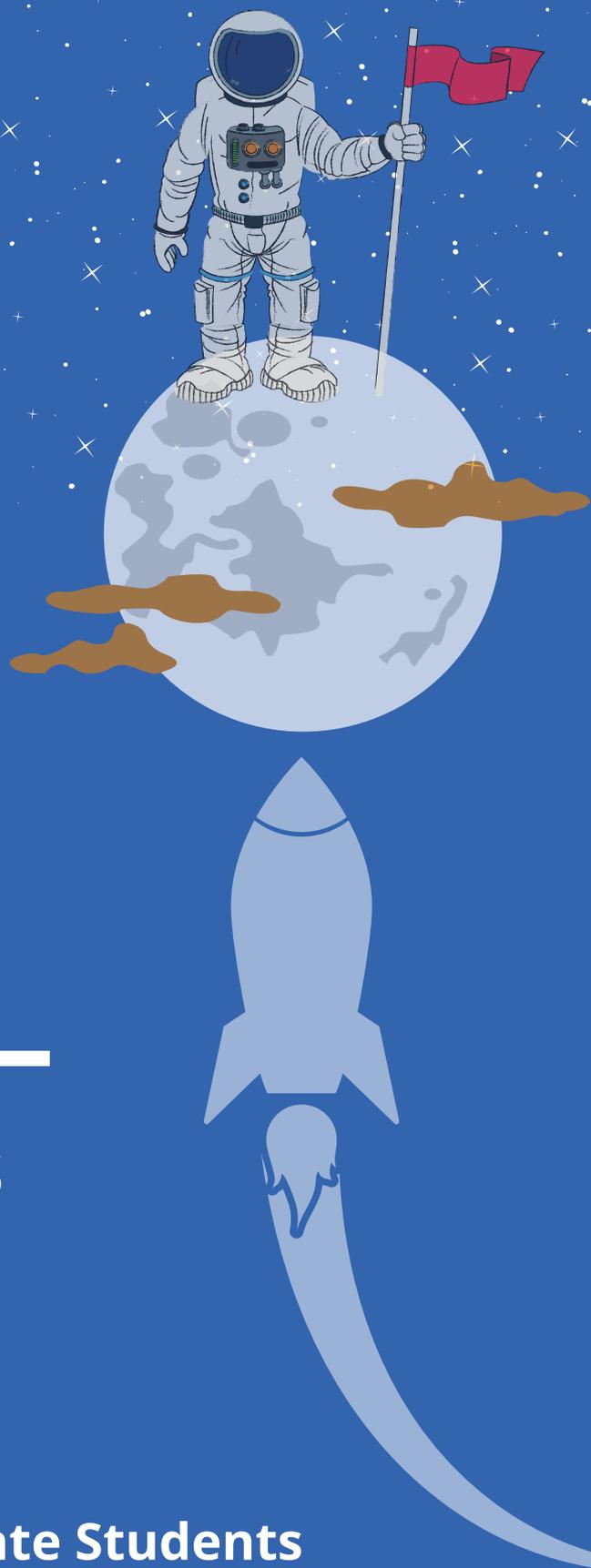


# National Assessment for Scientific Temperament & Aptitude [NASTA]

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## Syllabus Guidelines 2020 - 2021

For Class 11, 12 &  
Pre-Graduates & Non-Collegiate Students



An Initiative of



सीएसआईआर - राष्ट्रीय विज्ञान, प्रौद्योगिकी और विकास अध्ययन संस्थान (निस्टैड्स)  
CSIR - National Institute of Science, Technology and Development Studies (NISTADS)

A Constituent Laboratory of CSIR, Under Department of Scientific and Industrial Research, Government of India.

# SUBJECT AREAS & SKILLS ASSESSED



## SKILL AREAS

Students are assessed across the following attributes:

- **MECHANICAL REASONING**

It is the ability to understand and apply mechanical concepts and principles to solve problems. It assesses the areas of acceleration, pressure, energy transformation, work, and power, levers, pulleys, screws, springs, tools, etc.

- **MATHEMATICAL REASONING**

It refers to understanding numerical relationships and applying the same to the issue/problem. It also covers areas like ratio, percentage, square and square root, cube and cube root, number sequence, factorization, linear equation, work, and speed, etc.

- **DIGITAL LITERACY**

Digital literacy refers to an individual's ability to find, evaluate, and compose clear information through writing and other media on various digital platforms.

- **SPATIAL APTITUDE**

It is related to the capacity to mentally manipulate actual materials through imagining. This assesses how well a student understands words and their synonyms, spells the word correctly, and identifies the correct meaning of the given idioms/proverbs.

- **LANGUAGE APTITUDE**

It is concerned with a person's ability to use and understand written language. This assesses how well a student understands words and their synonyms, spells the word correctly and identifies the correct meaning of the given idioms/proverbs.

- **PERCEPTUAL APTITUDE**

It refers to a person's ability to quickly, accurately, and meaningfully compare visual information like numbers, objects, pictures, or patterns. It assesses how students compare the paired groups of letters or numbers and identify the similarities or differences.

- **ABSTRACT REASONING**

It is non-verbal and assesses how well students can reason and logically relate geometric shapes or designs. Series and sequences based questions.

- **VERBAL REASONING**

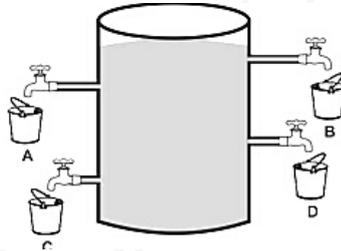
It is the ability to understand and reason using concepts expressed in words. It evaluates a student's ability to think constructively with words.



# SAMPLE QUESTIONS

1

## MECHANICAL REASONING



In the given figure which one of the buckets will get filled first?

- A. Bucket A
- B. Bucket B
- C. Bucket C
- D. Bucket D

2

## MATHEMATICAL REASONING

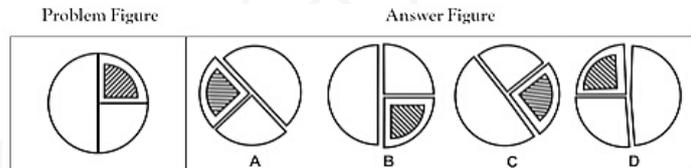
Points A, B, and C lie on a line and B is between A and C. If  $AB = 10$  cm and  $BC = 5.2$  cm, what is the distance between the midpoints of AB and BC?

- A. 2.4 cm
- B. 2.6 cm
- C. 5.0 cm
- D. 7.6 cm

3

## SPATIAL APTITUDE

Find out which options- A, B, C and D from the Answer Figure has parts that can make the Problem Figure.



4

## VERBAL REASONING

Each sentence has two pairs of words. One word from the second pair is missing. You need to complete the second pair by selecting the correct word from the given options.

\_\_\_\_\_ is to Bird as Monkey is to \_\_\_\_\_

- A. Wings ----- Branch
- B. Crow ----- Mammal
- C. Crow ----- Branch
- D. Wings ----- Mammal

5

## PERCEPTUAL APTITUDE

The question consists of letters, numbers or letter-number combination. The options have same numbers/letters/letter-number combination, but in different order. Only one of these options is exactly same as the question. Select the correct option which contains the same combination as displayed in question.

L7LL77L2

- a. L7LLL772
- b. L7LL7L72
- c. L7L7LL72
- d. L7LL77L2

# NASTA RIGEL

NASTA RIGEL consists of one paper. Details are as follows:

## A. PAPER 1

- Paper Language: English, Hindi or other Regional Languages
- Eligibility: All students of CBSE, ICSE/ISC

Duration (90 minutes)			
Class	Subject	No. of Questions	Total Marks
11 to 12 & Pre graduate & Non-collegiate students	Aptitude & Career Advisory Test	80	80

## ABOUT CSIR - NISTADS

CSIR-NISTADS is one of the constituent laboratories of the Council of Scientific and Industrial Research (CSIR), Under DSIR, Govt. of India, New Delhi. The Institute is devoted to research on policy, policy advisory and provides research support to national S&T agencies on science, technology, society, and innovation challenges.

CSIR-NISTADS is a pioneering research organization in the realm of S&T policy research in the areas of Innovation systems, S&T Human resources, Rural development, MSME, Global governance, Climate change, Energy and Environment and other domains related to STI (Science, Technology, and Innovation) policy. One of the pressing issues of India is that young students are not attracted to opt science as a career, and therefore, there is a strong need to address this issue.

## LEARN MORE

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