

INDIAN STATISTICAL INSTITUTE

Recruitment for posts of Scientific Assistant A

SECTION I

(It is common for all Specializations in the Online Test)

Syllabus

- **English Language:** Spot the error, Fill in the blanks, Synonyms/ homonyms, Antonyms, Spellings/ detecting misspelt words, Idioms and phrases, One-word substitution, Improvement of sentences, Active/ passive Voice of Verbs, Conversion into direct/indirect narration, Shuffling of sentence parts, Shuffling of sentences in a passage, Comprehension passage.
- **Quantitative Aptitude:**
 - Arithmetic:* Number systems, Computation of whole number, Decimal and fractions, Relationship between numbers.
 - Fundamental Arithmetical Operations:* Percentages, Ratio and proportion, Square roots, Averages, Interest (simple and compound), Profit and loss, Discount, Partnership Business, Time and distance, Time and work.
 - Algebra:* Basic algebraic identities of school algebra and elementary surds (simple problems) and graphs of linear equations.
 - Geometry:* Familiarity with elementary geometric figures (like triangles and circles) and their properties.
 - Mensuration:* Triangle, Quadrilateral, Regular polygon, Circle, Right prism, Right circular cone, Right circular cylinder, Sphere, Hemisphere, Rectangular parallelepiped, Regular right pyramid with triangular or square Base.
 - Trigonometry:* Trigonometric ratios, Complementary angles, Height and distances (simple problems), Standard identities like $\sin^2\theta + \cos^2\theta = 1$.
- **Logical Reasoning:** Semantic analogy, Symbolic operations, Symbolic/ number analogy, Trends, Figural analogy, Venn diagrams, Symbolic/ number classification, Deductive and inductive inference, Figural classification, Number series, Embedded figures, Critical thinking, Word building, Coding and decoding, Numerical operations.

Sample Questions for the Online Test

Note: For each of the questions there are four suggested answers, of which only one is correct. You will score

*4 marks for each correctly answered question,
0 mark for each incorrectly answered question, and
1 mark for each unattempted question.*

A. English Language

1. Which spelling is correct?

- (a) occassion (b) ocassion (c) occasion (d) ocasion

2. Fill in the blank with the most appropriate of the four alternatives given below:

Owing ----- financial constraints, he was unable to continue his studies.

- (a) with (b) for (c) to (d) from

3. Which of the following words is opposite in meaning to the word AGILE?

- (a) sluggish (b) brisk (c) quick (d) smart

4. Identify the option that best represents the following sentence in indirect speech:

The teacher said to Rita, "Congratulations! I wish you success in life."

- (a) The teacher congratulated Rita and said I wish you success in life.
(b) The teacher wished congratulations and success in life to Rita.
(c) The teacher made congratulations to Rita and wished her success in life.
(d) The teacher congratulated Rita and wished her success in life.

5. Given below is a sentence of which some parts have been jumbled up. Rearrange these parts, which are labelled P, Q, R and S, to produce the correct sentence. Choose the option that gives the proper sequence.

When he

- P: did not know
Q: he was nervous and
R: heard the hue and cry at midnight
S: what to do

The proper sequence should be:

- (a) RQPS (b) QSPR (c) SQPR (d) PQRS

B. Quantitative Aptitude

1. The sum of five consecutive positive integers is 200. What is the sum of the largest and the smallest integers?

- (a) 80 (b) 75 (c) 85 (d) 70

2. A two-digit number contains the smaller of the two digits in the units place. The product of the digits is 24 and the difference between the digits is 5. The number is
- (a) 83. (b) 94. (c) 50. (d) 64.
3. The ratio of the age of a father to that of his son, was 2:1 five years ago. After five years this ratio will become 5:3. The age of son at present is
- (a) 35. (b) 40. (c) 25. (d) 20.
4. A fraction becomes $\frac{3}{4}$ when 1 is added to both its numerator and denominator. And it becomes $\frac{1}{2}$ when 1 is subtracted from both its numerator and denominator. The fraction is
- (a) $\frac{3}{4}$. (b) $\frac{1}{3}$. (c) $\frac{2}{3}$. (d) $\frac{5}{7}$.
5. The area of the rectangle is 2880 square metres. If the ratio of its sides is 5:4, its perimeter is
- (a) 216m. (b) 206m. (c) 180m. (d) 160m.

C. Logical Reasoning

1. A watch gains 5 seconds in 3 minutes and was set right at 8 AM. What time will it show at 10 PM on the same day?
- (a) 10.10 : 35 PM (b) 10 : 23 : 20 PM (c) 11 : 01 : 17 PM (d) 10 : 31 : 20 PM
2. Six players K,M,G,D,L and T are sitting in a circular table facing the center. M is on the immediate left of K. D has G and T on his two sides while L is between G and M. M is diagonally opposite to D. How many people are seated between L and K if counted clockwise?
- (a) 1 (b) 2 (c) 3 (d) None of these
3. Which day of the week was 15 August 2017?
- (a) Monday (b) Tuesday (c) Sunday (d) Wednesday
4. Consider the following three statements:
 I: Ram is an educationist.
 II: Ram is also a politician.
 III: Shyam is neither of these.
- Which of the following statements is not likely to be true?
- (a) Shyam is a sportsperson. (b) Ram teaches in a college.
 (c) Shyam is married. (d) Shyam is the Pradhan of a Panchayat.
5. In a group of 30 people, 20 are male and 25 are employed. The minimum number of male employed persons in the group is
- (a) 5. (b) 10. (c) 15. (d) 20.