

SMAT TEST

Instructions for Science and Mathematics Ability Test (SMAT)

SMAT is not a competitive test. It aims to excite, enrich and stimulate potentially gifted students in Science and Mathematics by developing their problem solving skills and having them experience the thrill of success while revisiting important science and mathematical concepts. It aims to assess the individual excellence in science comprehension, reasoning and mathematics problem solving, creativity and enthusiasm, highlighting learning strengths of each learner.

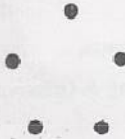
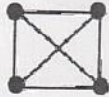
- This paper consists of three parts,
 - Section A - Logical Reasoning & Creativity
 - Section B - Mathematics
 - Section C - Science
- Each section is compulsory
- Time Duration:- 3 hours
- ⓐ The Paper will be Grade Specific. For each grade there will be separate set of paper
- ⓐ Questions will be of higher order thinking skills and will require advanced cognitive processes
- ⓐ SMAT assessment is not based on right or wrong answer. It will be done through rubric based criteria
- ⓐ There will be no negative marking for wrong answers
- ⓐ You can solve/answer a given problem in multiple ways. The novelty of response, originality in responses, extension of knowledge base and comfort with metacognitive processes will be looked into SMAT assessment
- ⓐ Space for rough work will be provided at the end of question paper
- ⓐ Evaluation scheme will not be disclosed and discussed further

Sample Questions for Science and Mathematics Ability Test (SMAT)

Section A

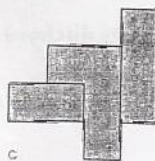
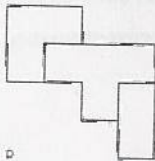
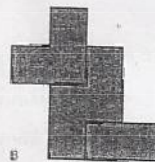
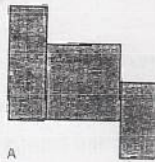
Logical Reasoning & Creativity

Q1. You can draw three line segments by joining three points, six line segments by joining four points. How many line segments can you draw by joining five points?



- A. 7
- B. 8
- C. 9
- D. 10

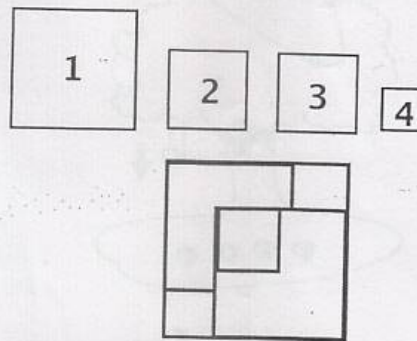
Q 2. If you re-assemble the pieces of each of the four compositions shown below, three of them will be the same shape and one won't. Which is the odd one out?



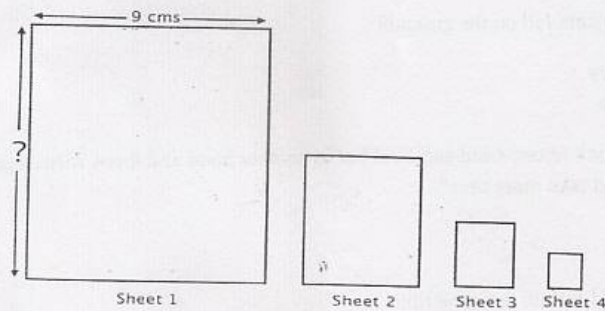
Section B

Mathematics

Q 1. The picture below was made up from four squares 1,2,3 and 4 stuck one upon another. Square 1 is the largest square and square 4 is the smallest square. Square 2 and 3 are of the same sizes. The sequence in which they were placed is



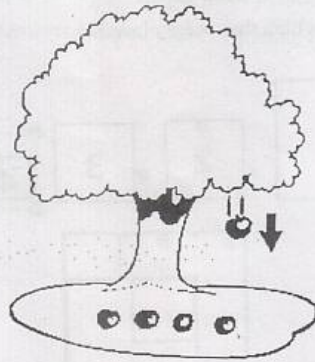
Q2 .Razia has a rectangular sheet. She cuts out another rectangular sheet from it whose length is half and breadth is one-third of the original sheet. From this sheet she cuts out another rectangular sheet, with length half and breadth one-third of the second sheet. She continues this process to get sheet 4 (Figure). The surface area of the fourth sheet was 4 cm^2 and the breadth of the original sheet was 9 cms. What was the length of the original sheet?



Section C

Science

1. Gravity is a force, or type of energy that pulls all objects towards Earth. It holds people on the ground and holds them from flying off into the space. If you throw an object up and let it go, it falls down because of gravity.



Seema wanted to see how do the force of gravity works?

Q i) She collected following objects and threw them one by one.

- @ Book
- @ Ball spoon
- @ Pencil
- @ Marble
- @ Ball of crumbled aluminum foil

Would all objects fall on the ground?

- a. Yes
- b. No

Q ii) She took book in one hand and a rubber in another hand and threw them together. Which one would take more time?

- a. Book
- b. Eraser
- c. Both would fall on the same time

Q2. Here is an incomplete figure. Complete this figure in such a way that it depicts some scientific idea, scientific phenomenon or scientific principle.

