

CSAR-IOA LOGIC QUEST 2026

SYLLABUS & QUESTION AREAS

IOA Logic Quest is a reasoning and problem-solving competition designed to test how students think, rather than how much they can memorise. Questions focus on observation, patterns, logical thinking, mathematical reasoning, spatial understanding and problem-solving. The difficulty increases progressively with each grade group.



LEVEL 1 – EXPLORER | Grades 1–2

Students may expect questions based on:

- Picture and shape patterns
- Simple sequences
- Counting and number logic
- Visual comparison
- Matching and classification
- Missing pictures or figures
- Odd-one-out
- Short visual puzzles
- Positions and directions



Reading will be kept to a minimum. Questions will be largely visual and age-appropriate.



LEVEL 2 – DISCOVERER | Grades 3–4

Students may expect questions based on:

- Visual and number patterns
- Spatial reasoning
- Arithmetic logic
- Directions and positions
- Number and figure sequences
- Ordering and ranking
- Simple logic grids
- Simple arrangements
- Classification and odd-one-out
- Short deduction puzzles



Questions encourage careful observation, recognition of relationships and logical solutions.



LEVEL 3 – THINKER | Grades 5–6

Students may expect questions based on:

- Number and figure patterns
- Arithmetic reasoning
- Logical sequences
- Spatial visualisation
- Data-based reasoning
- Coding and decoding
- Arrangements and ordering
- Logical relationships
- Simple constraints
- Multi-step logic puzzles



Students may need to combine two or more clues to reach the correct answer.



LEVEL 4 – SOLVER | Grades 7–8

Students may expect questions based on:

- Multi-step logical deduction
- Number properties and numerical logic
- Pattern recognition
- Spatial and geometric reasoning
- Data interpretation
- Coding patterns
- Arrangements and selections
- Logical constraints
- Strategy-based problems
- Non-routine reasoning



Questions increasingly test the ability to analyse unfamiliar situations and develop an efficient solution strategy.



LEVEL 5 – CHALLENGER | Grades 9–10

Students may expect questions based on:

- Abstract and mathematical patterns
- Number relationships
- Advanced logical deduction
- Data interpretation and analysis
- Non-routine geometric reasoning
- Combinatorial reasoning
- Arrangements and selections
- Optimisation problems
- Multi-condition logic
- Strategy and analytical reasoning



Problems may require students to connect several conditions, eliminate possibilities and discover less obvious solutions



LEVEL 6 – MASTER | Grades 11–12

Students may expect questions based on:

- Advanced non-routine reasoning
- Complex logical deduction
- Combinatorial thinking
- Complex arrangements and constraints
- Mathematical insight
- Abstract pattern recognition
- Optimisation
- Data and analytical reasoning
- Strategic problem-solving
- Multi-stage logic problems



Questions reward depth of thought, insight, accuracy and efficient reasoning rather than routine calculation.

WHAT DOES LOGIC QUEST TEST?

Observation

Pattern Recognition

Logical Thinking

Analytical Reasoning

Mathematical Insight

Spatial Reasoning

Problem-Solving

IMPORTANT NOTE FOR STUDENTS & PARENTS

IOA Logic Quest is not a test of textbook memorisation. Students are not expected to memorise a separate set of formulas or chapters specifically for the competition. Questions are designed to test the ability to think logically, recognise patterns, interpret information and solve unfamiliar problems. The nature and complexity of questions will be appropriate to the student's grade group.

The syllabus above is indicative rather than restrictive. A Logic Quest problem may combine more than one reasoning skill in the same question.

A SIMPLE PREPARATION RULE

Observe carefully. Think logically. Don't rush. Look for the hidden connection.