### Indian Institute of Information Technology Vadodara

## Cerebro 2020

# **Penumbera**

#### **About**

● The first round will consist of two modules. In the first module, participants
will be provided with a set of pure mathematical problems covering but not
limited to-
O Number Theory
O Combinatorics
O Probability
O Geometry
O Discrete mathematics
O Calculus

- In the second module, the questions will test general problem solving, pattern finding skills and finding hidden meanings in images. It will focus on encryption, cyphers, codes, cryptography and image-based problems. Participants will be selected on the basis of accuracy and the time they take to complete the challenge for the second round.
- The second round will consist of rigorous and pure math questions.

## **Rules and Regulations**

- There will be 2 Rounds.
- Participants will be given 1 hour 15 minutes for the first round and 1 hour 30 minutes time for the second round.
- 1st round:
  - -10 Questions (marked) + 1 bonus (unmarked)
  - -1 mark each
- Each question will have a definite answer.
- The correct answer with the **correct explanation** (wherever required) will fetch 1 mark. Kindly do not give vague or incomplete explanations.
- The 11th question in the first round will be a bonus question (this question will not carry any marks, and will not aid in qualifying the first round in any manner). The participant who solves this question completely will win a bonus prize.

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- Top 33% Participants from the first round will qualify to the second round.
- 2nd Round:
  - 5 descriptive Questions
  - 2 marks each
- Plagiarism of any kind will result in disqualification.
- No Smartphones are allowed during the course of the event.
- Any kind of communication with other participants will lead to disgualification.
- In case of conflicts, the decision of the organizers will be final and binding.