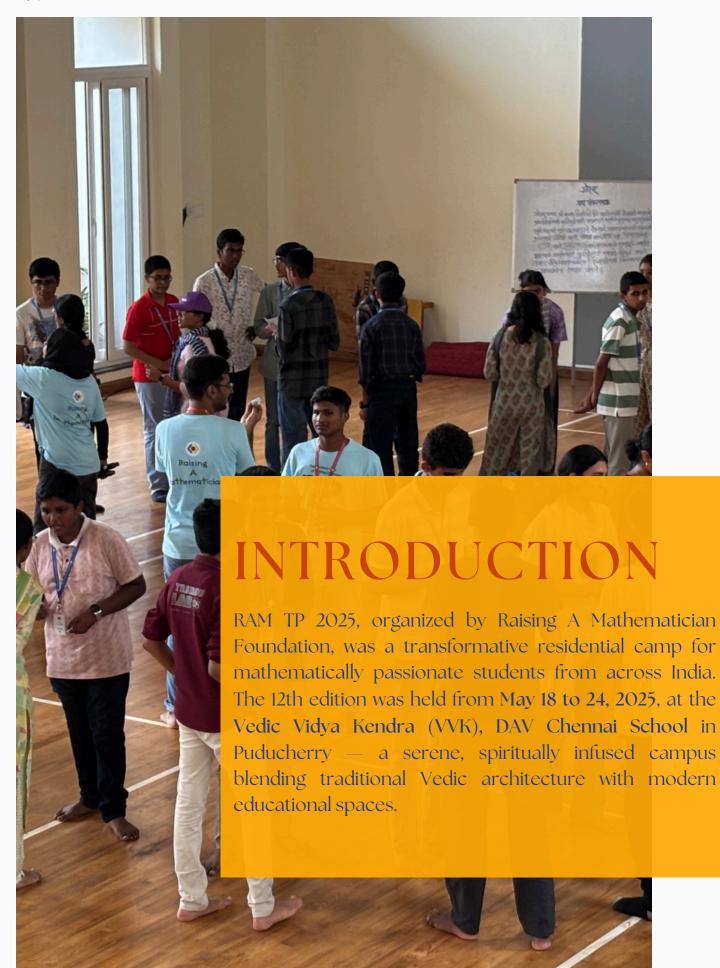


TABLE OF

CONTENTS

O1	Introduction
02	Detailed Report
03	Key Highlights
04	Pedagogy and Program
05	Topics Explored
06	Speakers' Line Up
07	Conclusion
08	Supporters
09	Contact Us







DETAILED REPORT

OBJECTIVE

RAM TP 2025 aimed to immerse participants in rigorous yet joyful mathematical exploration. Through challenging problems, discussions, and exposure to mathematical research, the camp nurtured students' analytical abilities and mathematical curiosity. RAM TP's mission is to identify mathematically inclined students and kindle their passion for the subject by fostering critical thinking and deep engagement. VVK provided a tranquil learning environment that amplified this ethos.

SELECTION PROCEDURE

RAM TP 2025 received a strong response from students nationwide. A multistep selection process included written applications, teacher recommendations, and evaluation of the student's mathematical interests. Selected participants were those who demonstrated strong potential and enthusiasm for exploring mathematics.





KEY HIGHLIGHTS

02

A Street I House of Balls

VVK's design—
spacious courtyards,
earthy materials,
natural light, and
contemplative aura—
supported focused
learning and reflection

01

Distinguished
mathematicians and
scientists including Dr. S.
Muralidharan, Dr.
Ashwin Guha, Bhas
Bhamre Sir, Dr. Sai
Jaganmohan, Dr. Anup
Dixit and many more.

05

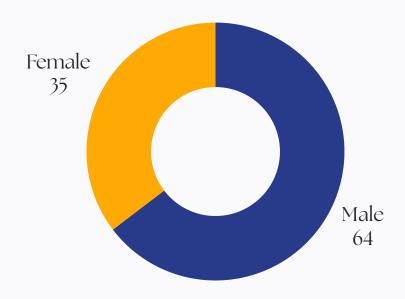
Interactive informal sessions: Life Journey Talks by Teaching Assistants and guest speakers.

Over 20 unique sessions across number theory, probability, cryptography, Gaussian integers, combinatorics, game theory and more. 04 Talks on real-world applications: quantum computing, insurance mathematics, and cryptographic security. 06 Parallel chess. badminton tournaments and relay race to energize and foster camaraderie among students.

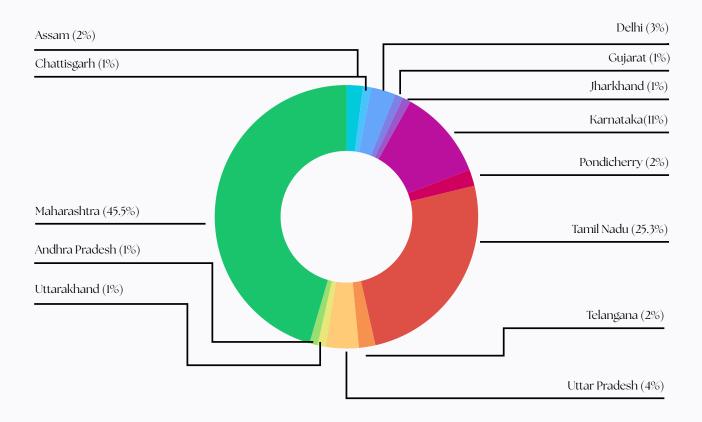


DIVERSITY

Gender



States





PEDAGOGY AND PROGRAM SCHEDULE

RAM TP 2025 was structured as a residential camp at VVK. Students were grouped into four batches – A, B, C and D – each exploring topics tailored to their level of mathematical maturity.

Each day began with Vedic chanting to center and ground the participants. Academic sessions ran throughout the day with a mix of lectures, problem-solving sessions, and group discussions. Post-dinner sessions included informal discussions, TA-led explorations, and talks on personal journeys in mathematics.

The program encouraged students to explore advanced mathematical ideas in a supportive yet intellectually stimulating environment. Sessions were designed to be interactive and exploratory, moving beyond traditional rote learning.





TOPICS EXPLORED

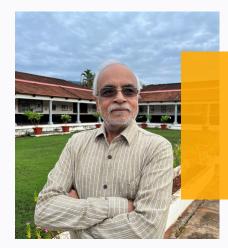
Modular Arithmetic, Fermat & Wilson Theorems	Continued Fractions (e.g., approximations to $\sqrt{5}$)
Linear Regression and Curve Fitting	
	Cryptography & Game Theory
Gaussian Integers	
	Combinatorics & Chessboard
	Puzzles
Probability & Paradoxes (Bayes'	
Theorem, Monty Hall Problem)	Lagrange's Four Square Theorem
D. III. E	
Pell's Equation	Euler's Infinite Descent
Number Construction Challenges	Thue's Lemma and Diophantine Equations
Cagnat Charing and Cagnus	Equations
Secret Sharing and Secure Password Storage	
r assword storage	Optimal Auction Design

Each batch had a tailored curriculum that exposed them to both classical and contemporary mathematical challenges. Sessions often bridged pure mathematics with real-world applications.

Students received pre-reading material and assignments a month in advance. This helped them build foundational understanding and engage more effectively during the camp.



SPEAKERS' LINE UP



Dr. S. Muralidharan

Led extensive sessions on Number Theory, including Modular Arithmetic, Fermat & Wilson's theorems, Four-Square Theorem, Thue's Lemma, and combinatorics. His logical depth and elegant proofs were central to the camp.

Dr. Ashwin Guha

Conducted multiple sessions on probability, Bayes' Theorem, Monty Hall problem, and linear regression. His integration of geometry and data analysis sparked deep thinking and engagement.





Bhas Bhamre

Spanned number theory, continued fractions, Gaussian integers, and creative puzzles. His inquiry-based style encouraged exploration and independent thinking.

Dr. Sai Jaganmohan

Introduced dimensional analysis, symmetry-adapted variables, and the interplay of geometry and algebra, fostering conceptual clarity.







Haragopal

Challenged students with number construction problems, Diophantine equations, and classical impossibilities, blending history with problem-solving.

Aadityan Ganesh

Explored cryptography and game theory, focusing on secure password storage and optimal auction strategies.





Dr. Anup Dixit

Engaged students with p-adic numbers and combinatorial problems like "three in a line," encouraging abstract thinking.

Dr. Siddhi Pathak

Delivered a focused session on continued fractions, enhancing understanding of irrational approximations.





GUEST SPEAKERS



Barak Nehoran:

Guest talk on quantum computing, demystifying its core principles and future potential.



Vivikth Raghavan Narayanan:

Explained the mathematics of insurance, linking theory to real-world applications.



TEACHING ASSISTANTS

Engaged in both academic and life-sharing sessions, including personal journey talks, offering mentorship and relatability to students.



SofiaMathematics postgraduate



Rupali Raj Mathematics postgraduate



Ganesh C B.Sc Mathematic, B.Ed Student



Athary Tambade
Pursuing PhD in Physics



Saurya Singh Undergraduate B.Tech in CS



Preethi Rusum Montessori teacher



Vidya Vaseekaran Montessori teacher



Sundarm Sharma MSc Mathematics Student



Ravindra Singh Chauhan
MSc Mathematics Student



CONCLUSION



RAM TP 2025 was a celebration of mathematical beauty and intellectual camaraderie. Set amidst nature, the camp brought together some of the brightest minds in school-level mathematics and surrounded them with mentors, faculty, and peers who challenged and inspired them.

Beyond merely covering concepts and theorems, the camp nurtured passion, persistence, and the joy of mathematical thinking. Participants left not just with answers, but with better questions and a deeper love for the subject. They are now part of a growing community of learners who see mathematics not just as a subject, but as a way of life.

Additionally, RAM TP 2025 was an inspiring convergence of mathematics, spiritual reflection, and community living. The VVK campus seamlessly integrated spiritual ambience with rigorous learning, allowing participants to deepen both their problem-solving abilities and mindfulness.



SUPPORTERS



Vedic Vidya Kendra (VVK), Puducherry

A flagship integrated learning center established by the Arya Samaj Foundation, Chennai, offering Vedic education, gurukul ethos, meditation facilities, and a purpose-built campus. Designed by Shanmugam Associates, VVK served as an ideal venue combining architectural serenity with educational rigor.





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