Madhya Pradesh Council of Science & Technology

Vigyan Bhawan, Nehru Nagar,
Bhopal – 462003 (M.P.)
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"National Mathematics Day-2025". Project Completion Report.

Sanction order number: Endt. No.199/CST/Sci/Pop./NMD/2025

1.	**Name and Address of Institutions**	**Society for Environmental Conservation (SEC).** Add: D-41, Shahenshah Garden, Bhopal, Madhya Pradesh – 462023
2.	**Title of the Event:**	***"Mathematical Marvels: Celebrating Ramanujan Through Students"***
3.	**Date and Venue:**	**Date: 22nd December 2025.** **Venue: Government Higher Secondary School,** Village Padariya Kachhi, Phanda Block, Bhopal District (Rural), Madhya Pradesh.
4.	**Objective of the Event**	The project was conceptualized with a multidimensional educational framework to strengthen mathematical understanding among rural students. The key objectives were: • To commemorate National Mathematics Day by highlighting the life and contributions of **Srinivasa Ramanujan**. • To promote concept-based learning instead of rote memorization. • To reduce mathematics anxiety among rural students. • To encourage hands-on learning using locally available, eco-friendly materials. • To develop scientific temper and logical thinking among students.
5.	**Activities done during the programme**	**Activities Conducted During the Programme:** The programme was organized under the ***"Science and Technology Popularization"*** scheme with the primary objective of fostering scientific temper, logical reasoning, and mathematical awareness among school students, especially from rural and semi-urban backgrounds. The event was designed to bridge the gap between theoretical classroom learning and practical, real-life applications of mathematics through interactive sessions, exhibitions, and mentorship.

		(A) Inaugural and Technical Sessions: **Inaugural Session:** The programme commenced with a formal inaugural session that set an academic and inspirational tone for the entire event. The session began with a ceremonial tribute to the legendary mathematician Srinivasa Ramanujan, emphasizing his extraordinary contributions to mathematics and highlighting the significance of National Mathematics Day. This tribute served to inspire students and create awareness about India's rich mathematical heritage. The **Chief Guest**, **Mrs. Rani Pal, Principal** of **Government Higher Secondary School, Padariya Kachhi, Bhopal,** addressed the participants and dignitaries. In her address, she underscored the importance of nurturing scientific temper, analytical skills, and curiosity among students. She particularly emphasized the need for such initiatives in rural educational settings, where exposure to applied science and mathematics is often limited. She appreciated the proactive efforts of the Society for Environmental Conservation in promoting quality education beyond textbook-based learning and encouraged students to explore mathematics as a tool for innovation and problem-solving. **Technical Overview Sessions:** Following the inaugural session, expert resource persons Mr. Vipin Kumar Sonakia and Dr. Irshad Ahmad Khan conducted in-depth and interactive technical sessions. These sessions were designed to make mathematics relatable, practical, and engaging for students. The key focus areas of the sessions included: • The fundamental role of mathematics in modern science and technology • Applications of mathematics in Artificial Intelligence, engineering, architecture, industrial development, and data analysis • The relevance of mathematics in daily life, decision-making, and real-world problem-solving Through real-life examples, visual explanations, and interactive discussions, the resource persons

		demonstrated how mathematical concepts taught in classrooms are applied in professional and technological fields. These sessions helped students develop a broader perspective of mathematics, enhancing their motivation and interest in the subject. **(B) "On-the-Spot" Mathematical Exhibition:** One of the most engaging and impactful components of the programme was the On-the-Spot Mathematical Exhibition. Students were grouped according to their academic levels and were encouraged to conceptualize, design, and present working mathematical models using locally available and eco-friendly materials. This activity promoted creativity, teamwork, and experiential learning. **Key Exhibits Included:** **1. Geometric Models:** Students presented various geometric models to explain fundamental concepts, including: • Pythagoras' Theorem, demonstrated through visual proofs and working models • Models illustrating volume and surface area calculations using three-dimensional shapes such as cubes, cuboids, cylinders, and cones These models helped simplify complex geometric concepts and strengthened students' spatial understanding. **2. The Ramanujan Square:** Inspired by Srinivasa Ramanujan's fascination with numbers, students showcased: • Magic squares, demonstrating how the sum of numbers in each row, column, and diagonal remains constant • Logical explanations connecting numerical patterns with Ramanujan's creative mathematical thinking This exhibit encouraged students to explore the beauty of numbers and patterns beyond routine

		calculations. **3. Applied Algebra Models:** Students used charts and physical models to demonstrate: • Algebraic identities and expansions • Visual representations to simplify abstract algebraic expressions These hands-on tools made algebra more accessible and helped students overcome conceptual fear associated with symbolic mathematics. Overall, the exhibition provided a platform for students to express creativity while reinforcing conceptual clarity and practical understanding of mathematical principles. **(C) Mentorship and Academic Guidance:** Throughout the programme, students received continuous academic support from a dedicated mentorship team comprising: • *Ms. Vaidehi Shukla* • *Mr. Mukesh Mehra* • *Mr. Amarjit Singh* The mentors played a crucial role in ensuring effective learning by: • Providing real-time feedback on students' models and presentations • Explaining the logic and reasoning behind mathematical formulas and concepts • Encouraging critical questioning, analytical thinking, and problem-solving approaches • Guiding students to understand the "why" behind the "how", rather than relying on rote learning This mentorship-driven approach created a learner-friendly and interactive environment, significantly boosting students' confidence, presentation skills, and conceptual understanding. **Participation Data Analysis:** The programme ensured inclusive and equitable participation across different social categories and

		genders. Students from diverse backgrounds actively participated in all sessions, exhibitions, and discussions. Special emphasis was placed on encouraging the participation of girls and students from rural and marginalized communities, thereby promoting gender equality and social inclusion in science and mathematics education. The active engagement observed during technical sessions, exhibitions, and mentorship interactions reflected the programme's success in creating an inclusive learning platform that catered to varied learning levels and social backgrounds.
6.	**Key Dignitaries/Resource Person details** (Name, Designation, Institute Name and address, Email, Mobile Number)	**(1). Name: Dr.** Irshad Ahmad Khan. **Designation:** Professor and Head, Mechanical Engineering Department **IES** University, Bhopal Madhya Pradesh. **Address: 305, T4,** Sagar Lake view Homes, Vrindavan Nagar Bhopal–462022. M.P. **Mobile number:** 9238363255 **E-mail:** irshadak85@gmail.com **(2**). **Name: Mr.** Vipin Kumar Sonakia **Designation:** Ex. Deputy Director of Industries Bhopal Madhya Pradesh. **Address:** H. No. 04, Padmanabh Nagar Bhopal **Mobile number: 7999852835** **E-mail:** vksonaia@gmail.com **(3)**. **Name: Ms.** Vaidehi Shukla **Designation:** Member in Vikalp Society Bhopal. **Address:** H. No. LIG-33, C-Sector Kasturba Nagar Bhopal. **Mobile number: 8319328204** **E-mail:** vaidehishukla003@gmail.com
7.	**Description**	***"Mathematical Marvels: Celebrating Ramanujan Through Students"*** was a joyful and inspiring educational initiative organized on 22nd December 2025 at Government Higher Secondary School, Padariya Kachhi (Rural), Bhopal, under the Science and Technology Popularization scheme. The programme celebrated National Mathematics Day by honoring the life and genius of Srinivasa Ramanujan while nurturing curiosity, confidence, and conceptual understanding among rural students. Through interactive expert talks, hands-on mathematical models, and an engaging on-the-spot exhibition using eco-friendly materials, students explored mathematics beyond textbooks. The initiative promoted logical thinking, reduced math

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<tr><td></td><td></td><td>anxiety, and encouraged learning by doing. Guided by dedicated mentors and educators, students enthusiastically showcased creativity, teamwork, and a growing love for mathematics in an inclusive and supportive environment.</td></tr>
<tr><td>8.</td><td>Participants Number
<table><tr><th>Gen</th><th>SC</th><th>ST</th><th>OBC</th><th>Total</th><th>Women</th></tr><tr><td>5</td><td>13</td><td>5</td><td>47</td><td>70</td><td>31</td></tr></table></td><td>Analysis and Interpretation:
The participation data clearly demonstrates that the programme successfully reached students from socially and educationally diverse backgrounds, with a significant representation from OBC (67.14%), followed by SC participants (18.57%). Participation from ST and General categories stood at 7.14% each, ensuring balanced social inclusion.

Notably, women constituted 44.29% of the total participants, reflecting strong female engagement and the programme’s commitment to promoting gender equity in science and mathematics education. The encouraging participation of women students highlights the effectiveness of targeted outreach efforts in rural and semi-urban educational settings.

Overall, the participant distribution indicates that the programme effectively fulfilled its objective of inclusive scientific outreach, fostering equal opportunities for learning and engagement across social categories and genders.</td></tr>
<tr><td>8.</td><td>Selected 5-6 Photographs & Media Coverage Clips</td><td>Photographs enclosed on Annexure-I & II.</td></tr>
<tr><td>9.</td><td>Outcomes and Impact</td><td>The event gently turned mathematics into a joyful experience. Students understood concepts better through hands-on models, felt less fear of math, and gained confidence to ask questions. Logical thinking and curiosity grew as they explored the “why” behind formulas. Using eco-friendly materials inspired creativity and sustainability. Ramanujan’s life story motivated students to dream big, regardless of background. Strong mentor support, inclusive participation, and teamwork made learning warm and meaningful. Overall, the program transformed math into something friendly, inspiring, and full of possibilities.</td></tr>
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Key Achievements of the Project:

- Successfully celebrated **National Mathematics Day** by highlighting the life, legacy, and contributions of **Srinivasa Ramanujan** among rural students.

- Enhanced conceptual understanding of mathematics by shifting focus from rote learning to concept-based and application-oriented learning.
- Reduced mathematics anxiety among students through interactive sessions, hands-on activities, and learner-friendly mentorship.
- Enabled students to design and demonstrate working mathematical models using locally available, eco-friendly materials, promoting creativity and sustainability.
- Strengthened students' logical thinking, problem-solving skills, and scientific temper through real-life applications of mathematics.
- Increased awareness about the role of mathematics in modern technology, including AI, engineering, architecture, and daily life.
- Encouraged active participation, teamwork, and confidence building through on-the-spot mathematical exhibitions and presentations.
- Provided effective mentorship and guidance by subject experts, fostering curiosity and critical questioning among students.
- Ensured inclusive participation across gender and social categories, promoting equitable access to quality science education.
- Contributed to the objectives of the **Science and Technology Popularization scheme** by making mathematics engaging, accessible, and meaningful for rural learners.

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Annexure-I

Govt, Higher Secondary School, Village Padariya Kachhi, Phanda, Bhopal District (Rural).

Endt. No.199/CST/Sci/Pop./NMD/2025. ***(SEC, Bhopal)***

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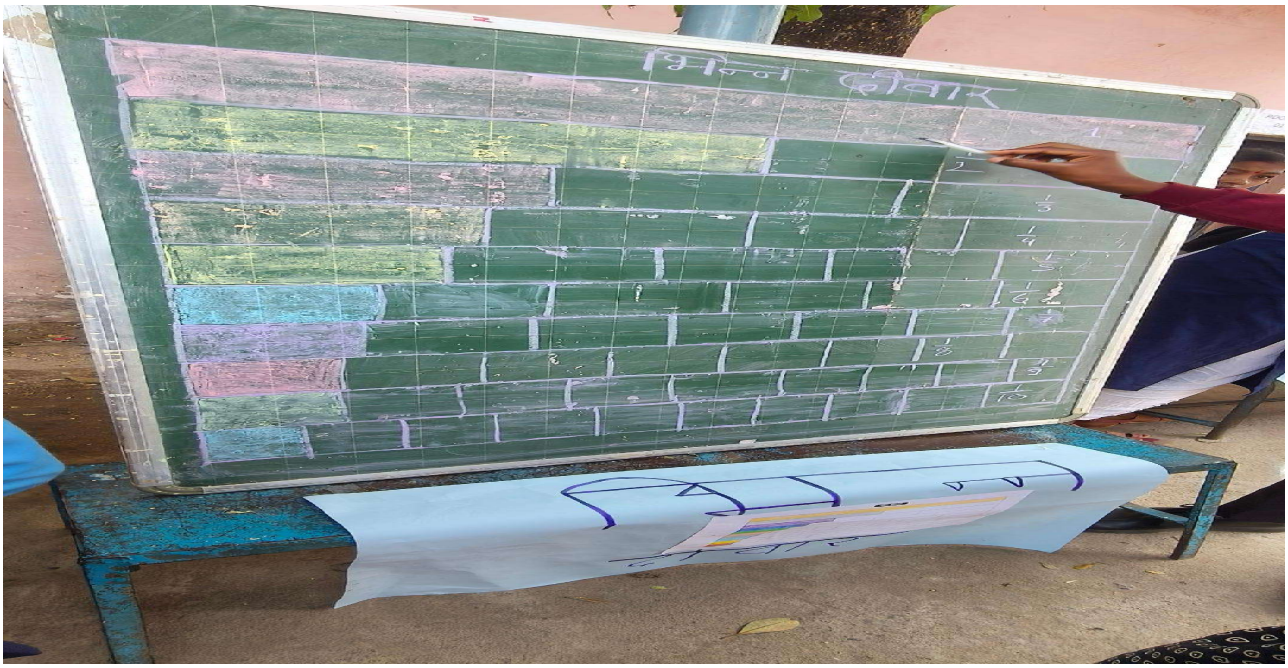

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Prize & Certificate Distribution Ceremony at Govt. H.S. School,Village Padariiya Kachhi, Bhopal.

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