



**NATIONAL COUNCIL FOR SCIENCE & TECHNOLOGY COMMUNICATION**

Department of Science and Technology, Government of India

**TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY**

Government of Tamil Nadu

**POST GRADUATE AND RESEARCH DEPARTMENT OF MATHEMATICS  
QUEEN MARY'S COLLEGE (AUTONOMOUS) CHENNAI**

**TN State MathsTech Innovation Summit 2025**

*as a part of*

**NATIONAL MATHEMATICS DAY**

on

**14<sup>th</sup> February, 2025**



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*cordially invite you to the inaugural function of*

**TN State MathsTech Innovation Summit 2025**

*as a part of*

**NATIONAL MATHEMATICS DAY**

**on**

**14<sup>th</sup> February, 2025**

**Mr. R. Velusamy**

President, Automotive Product Development, Mahindra & Mahindra Ltd.

**&**

Joint Managing Director, Mahindra Electric Automobile Limited

*will deliver the Chief Guest address & distribute the prizes*

**Prof. Dr. S. Vincent**

Member Secretary

Tamil Nadu State Council for Science and Technology

*will preside over the function*

**Venue**

**G.J. Hall**

**QUEEN MARY'S COLLEGE**



# **PROGRAMME**

**(14.02.2025 9:30 am)**

**Invocation**

**Welcome Address**

**Dr. B. Umamaheswari**

Principal,  
Queen Mary's College,  
Chennai

**Lighting of Kuthuvilakku**

**Felicitation**

**Presidential Address**

**Prof. Dr. S. Vincent**

Member Secretary,  
Tamil Nadu State Council for Science and  
Technology

**Introduction of Chief Guest**

**Dr. N. Jansi Rani**

Associate Professor and Head,  
Department of Mathematics,  
Queen Mary's College, Chennai

**Chief Guest Address**

**Mr. R. Velusamy**

President, Automotive Product  
Development, Mahindra & Mahindra Ltd.  
Joint Managing Director,  
Mahindra Electric Automobile Limited

**Prize Distribution**

**Cultural Program**

**Brain Storming Session:**  
**Moderator**

**Prof. V. Ramaswami**

Associate Professor,  
TamilNadu State Council for Science  
and Technology, Chennai

**Resource Persons**

**Dr. G. P. Youvaraj**

Former Head & Director,  
Ramanujan Institute for Advanced Study in  
Mathematics, Chennai

**Dr. J. Baskar Babujee**

Professor & Head,  
Department of Applied Science & Humanities  
MIT Campus, Anna University, Chennai

**Dr. Ramesh Kasilingam**

Assistant professor of Mathematics,  
IIT, Madras, Chennai

**Dr. R. Parthasarathy**

Assistant Professor,  
Ramanujan Institute for Advanced Study in  
Mathematics, University of Madras,  
Chennai

**Certificate Distribution**

**Vote of Thanks**

**Mrs. S. Sangeetha**

System Analyst  
Tamil Nadu State Council for  
Science and Technology

**National Anthem**



## **Patrons**

Prof. Dr. S. Vincent, Member Secretary, Tamil Nadu State Council for Science and Technology  
Dr. B. Umamaheswari, Principal, Queen Mary's College, Chennai

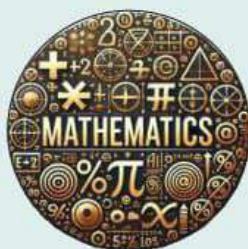
## **Coordinators**

Dr. N. Jansi Rani, Associate Professor and Head, Department of Mathematics, QMC  
Mrs. S. Sangeetha, System Analyst, Tamil Nadu State Council for Science and Technology

## **Organizing Committee**

**Faculty, Department of Mathematics, QMC**

Dr. B. Usna Banu, Associate Professor  
Dr. P. Vasanthi Beulah, Associate Professor  
Mrs. T. Premalatha, Assistant Professor  
Mrs. M. Chitra, Assistant Professor  
Mrs. K. Gomathi, Assistant Professor  
Dr. K. Sumathy, Associate Professor  
Dr. S. Najeema, Assistant Professor  
Mrs. K. Geetha, Assistant Professor  
Dr. R. Hemavathy, Associate Professor  
Dr. M. Geethalakshmi, Associate Professor  
Dr. J. Emerald Princess Sheela, Assistant Professor  
Dr. C. Sugapriya, Assistant Professor  
Dr. R. Sumitra, Assistant Professor  
Dr. R. Chitra Lekha, Guest Lecturer  
Mrs. M. Lavanya, Guest Lecturer  
Mrs. B. Kaviyarasi, Guest Lecturer  
Mrs. S. Maheswari, Guest Lecturer



***TN State Maths Tech Innovation Summit 2025***  
***Supported by***  
***TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY (TNSCST),***  
***GOVT. OF TAMILNADU, CHENNAI***  
***and***  
***NATIONAL COUNCIL FOR SCIENCE & TECHNOLOGY COMMUNICATION***  
***(NCSTC), GOVT. OF INDIA, NEWDELHI***  
***Organized by***  
***PG AND RESEARCH DEPARTMENT OF MATHEMATICS***  
***QUEEN MARY'S COLLEGE (AUTONOMOUS), CHENNAI 600 004***

***A REPORT***

As part of National Mathematics Day Celebrations, National Council for Science & Technology Communication (NCSTC), Government of India, New Delhi, Tamilnadu State Council for Science and Technology (TNSCST), Government of Tamilnadu, Chennai and Post Graduate & Research Department of Mathematics, Queen Mary's College, Chennai jointly organized a "TN State Math Tech Innovation Summit 2025" as a State Level Grand Finale Event showcasing the top Two Projects selected at each of the 14 nodal centres of National Mathematics Day 2024 for the benefit of Faculty members and Students at Golden Jubilee Hall of the Institution on 14<sup>th</sup> February 2025.

Dr.B.Uma Maheswari, Principal, Queen Mary's College, Chennai welcomed the gathering and Dr.N.Jansi Rani, Associate Professor and Head, Department of Mathematics, Co-Ordinator of TN State Math Tech Innovation Summit 2025 introduced the Chief Guest Mr.R.Velusamy, President, Automotive Product Development , Mahindra & Mahindra Limited, Chennai. Dignitaries were felicitated.







Chief Guest, Mr.R.Velusamy delivered an inspirational talk and motivated the students to equip themselves to become instrumental in increasing India's Gross Domestic Product(GDP) in Future. Also, he encouraged the students to execute innovative ideas in their fields, which will take our country to the level of developed Countries.

Eminent Professors as Resource Persons of the Brain- Storming Session, Dr.Ramaswamy, Associate Professor, Tamilnadu State Council for Science and Technology (TNSCST), Chennai, Dr.G.P.Youvaraj, Former Director, Ramanujan Institute for Advanced Studies in Mathematics, University of Madras, Chennai, Dr.J.Baskar Babujee, Professor and Head, Department of Applied Sciences & Humanities, MIT Campus, Anna University, Chennai, Dr.Ramesh Kasilingam, Assistant Professor, Department of Mathematics, IIT Madras, Chennai and



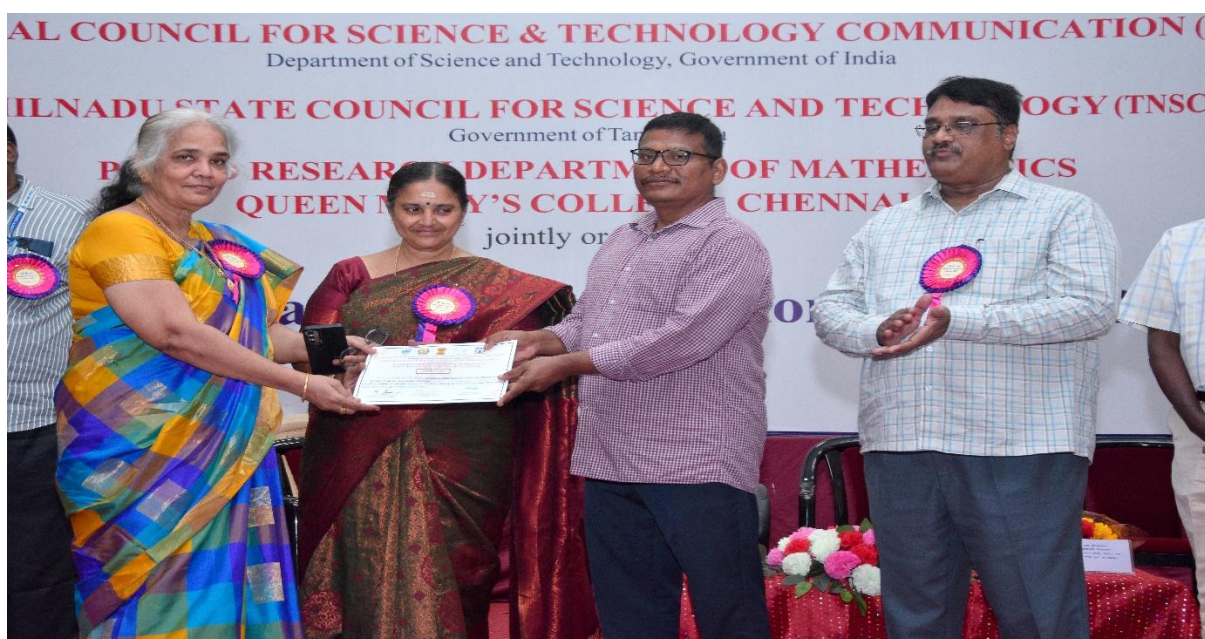
Dr.R.Parthasarathi, Assistant Professor, Ramanujan Institute for Advanced Studies in Mathematics, University of Madras, Chennai were also felicitated.



17 Co-ordinators from 14 different nodal centres from Engineering and Science Streams were felicitated with Trophies and Certificates. Also, 27 teams comprising of 47 winners of the Best Projects from Various Engineering and Arts & Science Colleges in Tamil Nadu were awarded Cash Prizes, Medals and Certificates. Organizing Committee Members of TNState Math Tech Innovations Summit 2025 were also felicitated.







There were around 400 participants comprising of Faculty members of Queen Mary's College, Chennai, Co-ordinators and Winners of Best Projects from 14 different nodal centres from Engineering and Science Colleges of Tamil Nadu, Undergraduate, Post Graduate and Research Scholars of Department of Mathematics, Queen Mary's College, Chennai, Principals of various Schools also participated for this State Level Grand Finale Event.





Cultural programmes were given by students of Harish Matriculation School, Paramakudi and Queen Mary's College, Chennai





Winners of Best Projects exhibited their Mathematical Models in Stalls arranged at Golden Jubilee Hall, Queen Mary's College, Chennai.





## **SESSION-II**

**Minutes of the Brain Storming Session on “Mathematics - Fostering Interest for the Future Generation” conducted at Queen Mary’s College, Chennai on 14.02.2025 at 12:30 pm**

### **Panel Members:**

1. Dr. G. P. Youvraj,  
Former Head and Director,  
Ramanujan Institute for Advanced Study in Mathematics,  
University of Madras, Chennai.
2. Dr. J. Baskar Babujee,  
Professor and Head,  
Department of applied sciences and humanities,  
MIT campus, Anna university, Chennai.
3. Dr. Ramesh Kasilingam,  
Assistant professor of Mathematics,  
IIT Madras, Chennai.
4. Dr. R. Parthasarathy,  
Assistant Professor,  
Ramanujan Institute for Advanced Study in Mathematics,  
University of Madras, Chennai.

### **Moderator:**

Prof. V.Ramaswami,  
Associate Professor,  
Tamil Nadu State Council for Science & Technology,  
DOTE Campus, Chennai.

### **Key Discussions:**

The session commenced at 12:30 PM with Prof. V.Ramaswami outlining the objectives of the discussion and inviting participants to deliberate on critical concerns, including:

1. The significant decline in admissions for Mathematical Sciences in recent years.
2. Identifying challenges in Mathematics education and addressing gaps.

The Council had earlier conducted panel discussion and brainstorming session on the topic of creating interest in basic sciences few decades ago which resulted in formulating a programme called “Young Student Scientist Program (YSSP)”. YSSP is a residential programme for 9<sup>th</sup> standard school students aimed at creating interest in science and research particularly in basic sciences which will ultimately lead to national development.

Similarly, the primary goal of this session was to generate insights for policy recommendations and the development of a program to address these issues. Participants shared their perspectives on improving Mathematical research and education to attract young talent.

### **Challenges in School-Level Mathematics Education:**

A Professor from Kongu Engineering College pointed out that fundamental mathematical concepts are not adequately taught in school curricula, particularly in classes 7, 8, and 9.

Dr. Hemavathy from Queen Mary's College emphasized that students are often unaware of the diverse career opportunities available in Mathematics due to a lack of guidance from school teachers. This led to discussions on how the education system has evolved pre- and post-COVID.

Mrs. Ramadevi, Head of the Mathematics Department, Vivekananda Arts and Science College, stressed the need for an orientation program for school teachers, skill-based and entrepreneur-oriented curriculum additions, and a stronger focus on fundamental concepts in classes 6 to 9.

Dr. Rathnamala, Principal of KG College of Arts and Science, highlighted that many primary-level teachers lack adequate qualifications and that the absence of practical applications in Mathematics discourages students. She proposed including aptitude training in the higher secondary curriculum and making Faculty Development Programs (FDP) mandatory for Mathematics teachers.

Dr. Muthuramakrishnan, HOD of a college in Trichy, raised concerns about the lack of work ethics among some teachers, who focus solely on preparing students for exams rather than inspiring a deeper understanding of Mathematics.

Prof. V.Ramaswami consolidated these concerns, emphasizing the need for practical aspects in the syllabus, orientation programs for teachers, and regular training on recent developments in Mathematics education.









## Recommendations for Higher Education:

Professor Ramesh Kasilingam from IIT Madras suggested three key measures:

1. Colleges must prioritize hiring teachers with strong pedagogical skills.
2. More career opportunities should be created for B.Sc. Mathematics graduates, along with a curriculum integrating both theoretical and application-based subjects.
3. Government-industry collaborations should be established for internships and projects, with appropriate funding allocation.



He also proposed introducing a "Mathematics Innovation Hub" in workshops and interactive sessions to generate student interest.

Prof. V.Ramaswami supported this idea, suggesting that activities such as internships, live projects, and intersectoral collaborations be promoted to foster enthusiasm for Mathematics.

### **Enhancing Student Engagement:**

Mr. Muthukrishnan from National College shared his experience conducting a two-day workshop for below-average students, where hands-on demonstrations by experts significantly reduced students' fear of Mathematics.

Dr. Parthasarathy discussed the decline in student performance in entrance tests post-COVID, despite increased access to online learning resources. He emphasized that while teachers play a crucial role, students must also take responsibility for their own learning.

A faculty member pointed out that excessive clerical work for NAAC accreditation limits the time teachers can dedicate to lesson preparation.

Prof. V.Ramaswami concluded that Mathematics teaching should integrate real-life applications, diverse methodologies, and an engaging approach. Teachers must also continuously update their knowledge and teaching methods.

### **The Role of Engaging Teaching:**

Professor Baskar Babujee emphasized the importance of making Mathematics teaching so engaging that students feel compelled to attend every class. He highlighted how modern technologies such as Big Data, IoT, Machine Learning, and Deep Learning are deeply rooted in Mathematics and encouraged faculty to adopt innovative teaching methods, in a humorous way for interactive learning.

### **The Future of Mathematics Education:**

Professor Youvraj, former Head of the Mathematics Department at the Ramanujan Institute, urged teachers to recognize their societal responsibility and continuously improve their subject knowledge. He emphasized the need to:

1. Ensure teachers thoroughly understand their subject instead of relying solely on notes.
2. Revise the evaluation system to foster critical thinking and problem-solving skills, with at least 30% of exam questions focused on problem-solving.
3. Incorporate hands-on learning experiences.

4. Advocated reduced clerical workload for teachers to allow them to focus on teaching.

He concluded with a call to action, encouraging all participants to strive for educational excellence and improvement.

### **Concluding Remarks:**

Prof. V.Ramaswami summarized the session by highlighting the need for a thorough review of the curriculum and teaching methodologies. He stressed that professional ethics must be reinforced to improve student outcomes. Collaborative efforts between the government, educational institutions, parents, and individuals are essential to uplifting Mathematics education. Institutions should leverage their resources to inspire students through workshops and innovative programs. Additionally, government funding should be improved for program development and infrastructure. Teachers should be relieved of excessive clerical responsibilities to focus solely on education.

The brainstorming session concluded with a vote of thanks and the National Anthem at 2:00 PM.



# TAMILNADU STATE COUNCIL FOR SCIENCE AND TECHNOLOGY

DOTE Campus, Chennai – 600 025

National Mathematics Day 2024

## Winners List of Projects at District Level and Details of Co-ordinators TNState Math Tech Innovatations Summit 2025

| Team N | Programme Centre                                       | Coordinator Details  | Project Title   | Name of the Student                  | Institution Name                              |
|--------|--|--|---|--------------------------------------|---|
| 1      | St. Joseph's College of Engineering , Chennai - 600119 | Dr.G.Meena Devi,<br>Professor and Head,<br>Department of Mathematics<br>Contact No. 9940500645 | Application Of Mathematics In Water Rocket              | 1.Kousalya A<br>2.Dhilip M           | Hindustan Institute of Technology and Science |
| 2      |  |  | Working On Washing Machine Based On Fuzzy               | 1.Jeevanandam<br>2.Shanly Hilvas M   | Loyola College                                |
| 3      | KG College of Arts & Science, Coimbatore - 641035      | Dr.M.Usha,<br>Dean - School of Computational Sciences<br>Contact No. 9487790087                | Fire Fighting Robot                                     | Poornesh P<br>MirthunJai Hubert R    | KG College of Arts and Science                |
| 4      |  |  | Radar with Arduino                                      | Praveen F<br>Sumeth S S              | Kongunadu Arts and Science College            |
| 5      |  |  | ML Processing of Smart Health Monitoring System         | NithishKumar M<br>Thanesh D          | KG College of Arts and Science                |
| 6      |  |  | Design and Analysis of Multipurpose Agriculture Machine | Mariya Suji Midhuna R<br>Hemalatha S | PSGR Krishnammal College for Women            |

|    |  |   |  |  |  |
|----|--|---|--|--|--|
| 7  | Kongu Engineering College, Erode-638060  | Dr. R.Viswanathan, Professor, Department of Mathematics<br>Contact No. 9487151694<br>Dr.N.Shanthi, Professor, Department of CSE   | Rov-E the Crawler for Surveillance in Harsh Terrains | Sachin K and Phurnes M S                       | Nandha Engineering College                                       |
| 8  |  |   | Mathematical Application of Disease prediction in ML | Sivadharshana G and Subiksha A                 | Kongu Engineering College  |
| 9  | Vivekanandha College of Arts & Sciences for Women (Autonomous) Tiruchengode - 637205 | Dr. P.Baby Shakila, Principal Vivekanandha College of Arts & Science for Women (Autonomous) Tiruchengode<br>Dr.S.Ramadevi Professor and Head, Department of Mathematics<br>Contact No. 9080569828 | Smart Dustbin  | R.Tamilini, R.Abirami, S.Arularasi, S.Kirthika | Vivekanandha College of Arts And Sciences For Women (Autonomous) |
| 10 |  |   | Sensor in Check Post                                 | M.Subashini, G.Nandhini S.Shairabanu           |  |
| 11 | National College, Tiruchirappalli - 620001   | Dr.D.Muthuramakrishnan Associate Professor and Head<br>Department of Mathematics<br>Contact No. 9791712045  | Helix Bridge   | S.Divya G. Rajalakshmi P.. Saraswathi devi     | Seethalakshmi Ramaswami College, Tiruchirappalli.                |
| 12 |  |   | Application of Mathematics in daily life             | G. Monisha V. Gokul Priya P.Sathya P. Vinitha  | Srimad Andavan Arts and Science College, Thiruvanaikovil         |
| 13 | Kings College of Engineering, Punalkulam – 613303                                    | Dr.G.Shankarakalidoss, Assistant Professor, Coordinator of Mathematics<br>Contact No. 9442890090  | 3 D Model – Ellipse                                  | Rukmani.K & Esthar Jebasheela.K                | Maruthupandiyar College, Thanjavur                               |
| 14 |  |   | Applications of Mathematics                          | RAJESH.R & SUDHARSAN S                         | Rajah Serfoji Govt. College(Autonomous), Thanjavur.              |



|    |   |  |   |  |  |
|----|---|--|---|--|--|
| 15 | Kings College of Engineering<br>Punalkulam - 613303       |  | Applications of Mathematics   | Karan. K   | Kings College of Engineering,<br>Punalkulam.           |
| 16 | Jayam Arts and Science College,<br>Dharmapuri             | Mr.R.Sathishkumar<br>Head, Department of Mathematics<br>Contact No. 9489914803   | Representation of clocks  | S.Nivetha  | Pachamuthu Arts And Science College                    |
| 17 |   |  | Maths Squares   | S.Nithya   | Sakthikailash Arts And Science College                 |
| 18 | Mohammed Sathak Engineering College, Keelakarai - 623806  | Dr R.SENTHILKUMAR<br>Vice Principal<br>Mohamed Sathak Engineering College<br>Kilakkarai<br><br>Dr.SP.Ganesan,<br>Professor<br>Contact No. 9566232250 | Personal Assistant Nurtures Differently Abled (P.A.N.D A.)  | J.Ahamed Kabeer  | Mohamed Sathak Engineering College,<br>Kilakarai       |
| 19 |   |  | Wild Animals Repellent System   | 1. Abdul Ahad<br>2. Mohamed Fahad Khan<br>3. Rifaideen<br>4. Mariyam Hilmiya<br>5. Rifqa fathima R |  |
| 20 |   |  | Bio-Inspired Optimization of Solar-Powered Ferris Wheels Using DNA Computing and Conic Section-Based Solar Panels | P Aparna<br>V Lishali shree  | Thassim Beevi Abdul Kadar College For Women, Kilakarai |
| 21 | St Xavier's College (Autonomous), Palayamkottai – 627002. | Dr.Y. Therese Sunitha Mary<br>Assistant Professor (Sl. Gr.), Department of Mathematics,<br>Contact No. 9865225238                                    | Application of functions in construction of dam   | 1. Brindha G<br>2. Karthika Devi M<br>3. Sangeetha M   | St. Xavier's College                                   |
| 22 |   |  | conic sections  | 1.Usha Nanthini K<br>2.Nithya M  | Sri Paramakalyani College, Alwarkurichi                |

|    |   |  |  |                                     |   |
|----|---|--|--|-------------------------------------|---|
| 23 | Central University of<br>Tamil Nadu,<br>Thiruvavarur – 610005 | Dr.C.Vijayalakshmi,<br>Professor & Head, Dept. of<br>Statistics & Applied<br>Mathematics,<br>Contact No. 9444889819<br>Dr.Roopkumar.R,<br>Professor, Dept. of<br>Mathematics<br>(Mob No:9842177072 | Linear Algebra in<br>Computer graphics | S.Roopashri &<br>S.Sneha            | Nehru Memorial<br>College,<br>Puthanampatti,<br>Thiruchirappalli 621007 |
| 24 |   |  | Mathematics in TAJ                     | J.Abinayashree &<br>S.Subashri      |   |
| 25 | Theivanai Ammal<br>College for Women,<br>Viluppuram-605602    | Prof. V.S.Selvi, Vice<br>Principal,<br>Contact No. 8056940668  | Smart Energy Saving<br>System          | B.Ajira and<br>N.Vishnupriya        | Theivanai Ammal<br>College For Women -<br>Autonomous,<br>Villupuram     |
| 26 |   |  | Drip Irrigation Method                 | S.Reshma Nilofar and<br>E.Kanimozhi |   |
| 27 |   |  | Stranger Sensor<br>alarm               | I.Siva Priya and<br>K.Kawnika       |   |