

ASPIRE

ACHIEVEMENTS IN SPORTS, PROJECTS, INDUSTRY, RESEARCH AND EDUCATION

DEPARTMENT OF MECHANICAL ENGINEERING

**ISSUE
03**



OLDIE BUT CLASSY!!

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ssn

SRI SIVASUBRAMANIYA NADAR COLLEGE OF ENGINEERING
RAJIV GANDHI SALAI(OMR), KALAVAKKAM, CHENNAI, TAMIL NADU, INDIA

From the HoD's desk.....



Dr. K S Vijay Sekar
Professor and Head,
Department of Mechanical Engineering

We are delighted to share the March edition of Aspire!!

We profile Aleksey Yekimov who won the Nobel prize in Chemistry in 2023 for his path breaking work on quantum dots, in the field of nano materials.

International Master Rohith Krishna of the IT department at SSN secured a silver medal at the Commonwealth Chess Open Championship, making SSN proud. Rishab (CSE) and Aditya (MECH) were rewarded with cash prizes by the TN Govt for their outstanding accomplishments in sports.

It's that time of the year when the annual SNF leadership conclave is held, which brings together various arms of the foundation in one congregation that highlights the success stories and experiences of the year gone by. This year's conclave was held at the Shiv Nadar school, Gurugram.

An MOU was signed with Precision Equipment's for training their engineers on the fundamentals of mechanical engineering and management. The Department of Mathematics and Mechanical Engineering jointly organized an international conference on a cutting-edge area in fluid mechanics, heat transfer, and materials. A visit to the NSS camp in a village near Thiruporur revealed the impeccable commitment of the SSN student volunteers and faculty to social transformation and national development.

Alumni Arun and current final year student Mathusha share their experiences in securing higher study admissions in prestigious universities abroad.

Best Wishes for a blooming March,
KSV
vijaysekarks@ssn.edu.in



Aleksey Yekimov: The Nobel Prize in Chemistry 2023

Aleksey Yekimov, also known as Alexey Ekimov, is a distinguished Russian physicist who significantly contributed to nanomaterials research. He is best known for his groundbreaking discovery of semiconductor nanocrystals, also known as quantum dots, in 1981.

His remarkable work on quantum dots paved the way for numerous technological advancements, and he was deservedly recognized with the Nobel Prize in Chemistry in 2023, alongside Louis Brus and Moungi Bawendi.

Since the 1930s physicists and chemists have known that in particles of matter a few nanometers in size, quantum mechanical effects become significant. Particles of this size are called nanoparticles. In the late 1970s, Ekimov became interested in coloured glass and how adding different substances to glass produced the colours. He worked with glass to which he added copper chloride (CuCl). He found tiny CuCl crystals in the glass ranging in size from about 2 to 30 nanometers. Ekimov scattered X-rays off the glass and found that the wavelengths of the absorption lines depended on the size of the CuCl crystals in the glass.

He had discovered quantum dots and showed that they could be produced in the well-known glassmaking process. Ekimov and his collaborators published their work in 1981 in a Soviet journal. Today quantum dots are used in many applications, including QLED (quantum-dot light-emitting diode) screens and solar cells, and as markers in biomedical imaging.

Yekimov's contribution stemmed from his 1981 discovery of size-dependent quantum effects in coloured glass, which ultimately led to the understanding and development of quantum dots.

Triumph in Malaysia: IM S Rohith Krishna Clinches Silver at Commonwealth Chess Open Championship 2024

In a thrilling display of strategic prowess, 1-year IT student, IM S Rohith Krishna (2410), secured a silver medal at the Commonwealth Chess Open Championship 2024 held in Malaysia from Feb 19 to 28. The young chess prodigy exhibited remarkable skill, leading the competition with an impressive 7/8 score heading into the final round.

The climactic showdown saw GM Mitrabha Guha (2526) facing a must-win situation to claim the coveted gold. However, Rohith Krishna's steadfast performance and strategic acumen secured his position as the sole leader, ultimately earning him the well-deserved silver medal. The intense competition and strategic brilliance displayed by Krishna make this achievement a proud moment for both the IT department and the entire college community.



Distinguished recognition: students receive high cash INCENTIVE awards

In a moment of great pride for our college, two outstanding students have been honored by the Tamil Nadu state government for their exceptional achievements in national competitions in 2021.

S. Rishab, a second-year student in the Department of Computer Science and Engineering (CSE), has been awarded a prestigious cash incentive of Rs. 9 Lakh. His remarkable dedication and prowess in national competitions have rightfully earned him this distinguished recognition.



Similarly, Aditya, a fourth-year student pursuing Mechanical Engineering (MECH), has been bestowed with a high cash incentive award of Rs. 5.25 Lakh. Aditya's stellar performance and commitment to securing national medals have not only brought glory to himself but also to the entire college community.

These cash incentives from the Tamil Nadu state government serve as a testament to the academic excellence and competitive spirit fostered within our institution. We extend our heartiest congratulations to S. Rishab and Aditya for their outstanding accomplishments, showcasing the caliber of talent that our college nurtures. Their achievements are an inspiration to all, reflecting the dedication and pursuit of excellence that defines our academic community.



Mela 2024

On February 23, 2024, the Entrepreneurship Development Cell (EDC) successfully hosted MELA, a vibrant showcase of student entrepreneurial spirit, at the Open Air Theater. The event showcased an array of stalls, each offering a unique experience in categories ranging from food, art, games, and beyond. The atmosphere buzzed with creativity and innovation as students enthusiastically presented their entrepreneurial ventures. From delectable culinary delights to captivating artwork and engaging games, MELA provided a platform for students to unleash their entrepreneurial talents and connect with a diverse audience.

Visitors were treated to a diverse range of experiences, from indulging in gourmet treats to discovering one-of-a-kind handcrafted creations. The event fostered a spirit of collaboration and camaraderie among participants, encouraging networking and exchange of ideas. MELA 2024 was not only a celebration of entrepreneurship but also a testament to the creativity and ingenuity of the student community. As the curtains closed on this successful event, it left behind inspiration and a sense of accomplishment, paving the way for future entrepreneurial endeavors within the campus community.

Mechanical Engineering - Class of 2024



••• Placement 2024 •••

EPIKINDIFI SOFTWARE & SOLUTIONS



Congrats!

Harshan M V, Mech

Sri Sivasubramaniya Nadar College of Engineering, Chennai



••• Placement 2024 •••

Valeo



Ashwin Raaghav
Mechanical Engineering

Sri Sivasubramaniya Nadar College of Engineering, Chennai



••• Placement 2024 •••

CATERPILLAR



Vignesh V S, Mech'2025

Sarvesh R, Mech'2025

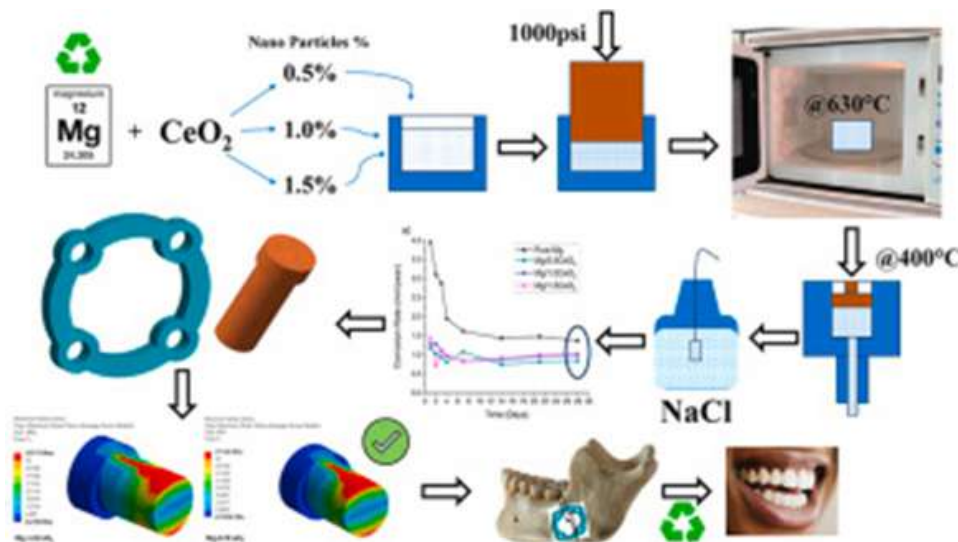
Sri Sivasubramaniya Nadar College of Engineering, Chennai

International Journal Publication - SCI /Clarivate Indexed



.Milli Suchita Kujur, Anirudh Venkatraman Krishnan, Vyasraj Manakari, Gururaj Parande, Hajo Dieringa, Ashis Mallick, Manoj Gupta. "Scope of magnesium ceria nanocomposites for mandibular reconstruction: Degradation and biomechanical evaluation using a 3-dimensional finite element analysis approach."

Clarivate Impact Factor: 3.9

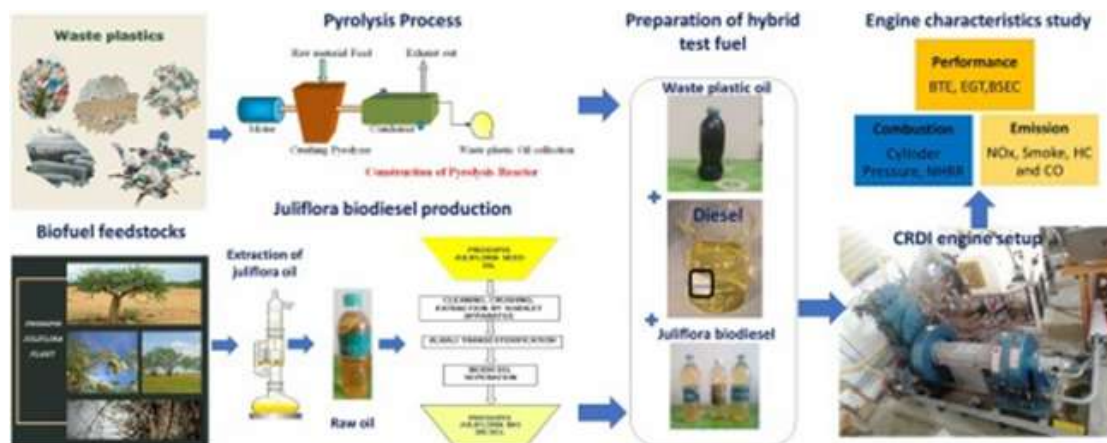


International Journal Publication - SCI /Clarivate Indexed



J Jai Ganesh, R Prakash, M Gowthama Krishnan. "Exploring the synergistic potential of prosopis juliflora and waste plastic oil biodiesel through investigation of performance, combustion, and emission in a CRDI engine: A shift towards sustainable fuel." *Process Safety and Environmental Protection* 184, pp.720-735.

Clarivate Impact Factor: 7.8



International Journal Publication - SCI /Clarivate Indexed



R. Bathala, Hrishikeshan G, S. Rajkumar, Denis Ashok S, T. Jeyaseelan.
“Experimental investigation, ANN modeling, and TOPSIS optimization of gasoline-
alcohol blend for minimizing tailpipe emissions of a motorcycle.”

Energy 293, pp. 130698.

Clarivate Impact Factor: 9

International Journal Publication - SCI /Clarivate Indexed



Jebarajan Manickam Aswin Immanuel Solomon, Gurusamy Selvakumar, Shanmugakani Senthil Kumar, Pandiarajan Narayanasamy. "Experimental Investigation of Wire Electrical Discharge Machining Parameters on WE43 Magnesium Alloy" Metallurgical Research and Technology. 121 (2), Article No. 203, PP 01-12..

Clarivate Impact Factor: 1.035

Scopus Publication

N. Sivashanmugam and K. L. Harikrishna. "A Review on the Corrosion Performance of Magnesium Alloys in Biomedical Applications." Engineering Proceedings 61 (1), 2024061019 (1-7)...

Scopus impact factor:0.3.

K. S. Vijaysekar, K. Gobivel, Chithirai Pon Selvan , M Krishnanand , E Malarmathi , N. Mohamed Saajid and A. Mohanraj. "Investigation into the End-Milling Parameters of Mg/B4C Metal Matrix Composites Engineering" proceedings 61(1), 33

Scopus impact factor:0.5

S. Raghu, Jayasheel I. Harti, Pankaj R. Jadhav , M. Chithirai Pon Selvan , K. S. Vijaysekar and Bharath Venkatesh. Comparative Study on the Effect of Tool Wear on Turning Mild Steel and Stainless Steel with a Ceramic Tool Insert Using Taguchi Method. Engineering Proceedings 61(1), 48

Scopus impact factor:0.3.

"Journey to Excellence: Pursuing Passion in Mechanical Engineering"

Featuring: Mathusa Rao, Batch 2024

Hello SSN Family,
Hope this message finds you all well! It's Mathusa Rao, part of the vibrant Batch '24, reaching out with an update on my journey post-SSN.

The passion for learning more about the subjects I've dealt with in my undergrad led me to the decision to try for my master's in the US. Eager to dive into the field of research I decided that a general master's degree in mechanical engineering would be a slice of cake. The preparation for this started around July of last year. I took up the GRE which I soon realized wasn't necessary as many colleges waived off its need for the Fall 2024 admission season.



After scoring a decent mark, I took the IELTS exam. The preparation for that was done using free resources from the IELTS Liz website and I was able to score a decent 8.5 band overall. The admission procedure started around November, making sure my Statement of Purpose and other documents were done. This was the right time to approach the teachers too for their Letters of Recommendation. After the hectic procedure, nothing was left but to wait for the results. I was ecstatic when I got an admission to the prestigious Carnegie Mellon University, and it just shows that when you are passionate about what you like you will be blessed if you are true to it.

"Exploring the Intersection of Artificial Intelligence and Mechanical Engineering: Insights from Dr. M S Alphin's Guest Lecture at Karunya Institute of Technology and Science"

APPLICATION OF ARTIFICIAL INTELLIGENCE TECHNIQUES IN MECHANICAL ENGINEERING SYSTEMS

FEBRUARY 5th TO 9th, 2024

🕒 3PM - 4PM



Dr. JOEL THOMPSON
Strategic Capability Head
TCS Japan IoT & Digital Engineering
Tokyo, Japan



Dr. N. JAYANTH
Assistant Professor
Centre for Excellence in Product Design and
Smart Manufacturing
MANIT, Bhopal



Dr. M.S. ALPHIN
Associate Professor
Department of Mechanical Engineering
SSN College of Engineering, Chennai

Dr. M S Alphin served as a guest Speaker in a Faculty development Program on application of Artificial Intelligence Techniques in Mechanical Engineering Systems conducted by Karunya Institute of Technology and Science, Coimbatore, 5-9 Feb 2024

Faculty Development Program on “Materials: A Futuristic Approach”

The Faculty Development Program on “Materials: A Futuristic Approach” was conducted for the duration of 5 days, 12 to 16 Feb 2024. The objective was to empower faculty members to integrate the latest advancements in materials science into their teaching, research, and mentorship activities. The program delved into various emerging materials, and technologies, including nanomaterials, biomaterials, and smart materials, among others. By leveraging interdisciplinary perspectives and industry partnerships and emphasizing sustainability, scalability, and adaptability, this forward-looking initiative equips educators with the tools and strategies needed to inspire the next generation of materials scientists and engineers.

Various eminent speakers were invited from IITs, Industry, R&D labs, and other prominent Institutions to share their research expertise in novel materials technologies. Approximately 25 participants, mainly faculty members, research scholars, and students from various engineering colleges and industries attended the program.



Prof. S R Bakshi, IIT Madras, Dr. M Murali, Kalasalingam Academy of Research and Education, Prof. P Ramkumar, IIT Madras



Dr. C. Karthik, IITDM, Kancheepuram, Dr. R Karunanithi, Crescent institute of science and tech, Mr. N. Rangarajan, Pricol, Former gen. Manager



Prof. Rohit Batra, IIT Madras, Dr. GowthamaRaj, University College Cork, Ireland

Dr KSV reports on the Shiv Nadar Foundation Leadership Conclave

We had the opportunity to attend the SNF Leadership conclave at the Shiv Nadar School, Gurugram on Feb 17th, 2024. The conclave is an annual affair where the different arms of the foundation get together for a day of pleasantries, presentations, and networking. The idea is to meet and greet as a family look at opportunities for interdisciplinary projects and get insights into the previous year's performance of the various entities. The meeting was hosted by Roshni Nadar in the presence of Shiv Nadar and Kiran Nadar and from SSN, president Dr Kala Vijayakumar led a team of faculty and staff. Roshni Nadar set the tone for the day with a wonderful presentation connecting various popular movies released in 1994 with the journey of the SNF foundation over 30 years.

For the first time, inter-foundation projects were sanctioned to a maximum of forty lakhs, which was highly motivating to the audience. The day also saw some brilliantly curated chat shows with tennis legend, Leander Paes, Historian William Dalrymple, and Film producer and Oscar winner Guneet Monga. Paes inspired and regaled the invested audience with his story of how an eleven-year-old boy gave up his passion for football and took up tennis with the sole aim of playing for the national flag. Dalrymple gave us glimpses of the British Raj and brought out the inglorious side of the East India Company and its shady practices. Guneet's story of how having a passion for filmmaking, helped her overcome her early loss of both parents and eventually with the crowning glory of the Oscar for Elephant Whisperers was truly amazing. A photo session in the company of Shiv Nadar, a person of lasting greatness and humility was magical. As we wined up, we were looking forward to a great day next year too...with more sharing and caring. Thank you, SNF for the memories!!!



MOU signed with Precision Equipment's

An MOU was signed with Precision Equipments, a pioneer in the field of manufacturing & supply of shell and tube heat exchangers. The MOU was signed by Dr Kala Vijayakumar, President SSN Institutions from our end. The Mechanical Engineering department will be handling some fundamental courses for the engineers of the company in SSN over the next few months, while the School of Management, SSN will be handling some managerial courses for them. It augurs well for us, that our expertise will help the company employees upskill their knowledge base and, in the process, we also learn how a core mechanical based industry works. It's a mutually rewarding opportunity for both SSNI and Precision Equipments.



"Advancing Boundaries: Highlights from the ICFMHM-2024 Conference at SSN College of Engineering"

A Two-day International Conference on Progress in Fluid Mechanics, Heat Transfer and Materials (ICFMHM-2024) was jointly organized by the Department of Mathematics and the Department of Mechanical Engineering at Sri Sivasubramaniya Nadar College of Engineering during 9 – 10, February 2024. Dr. B. Praba, Prof. & Head of Department of Mathematics, Dr. K. S. Vijay Sekar, Prof. & Head of Department of Mechanical Engineering, and Prof. P. Ramasamy, Dean (Research) and Director, SSN Research Centre inaugurated the conference and released the conference proceedings. Ir. Dr. Mohd Zulkifly Abdullah, Professor/Mechanical, at Universiti Sains Malaysia, and Dr. Babu Viswanathan, Professor/Mechanical, at IIT Madras delivered keynote lectures during the first day of the conference. Professor Mohamed Kheireddine Aroua, Head-Centre for Carbon Dioxide Capture and Utilization, Sunway University, Malaysia, and Dr. K. Maruthi Prasad, Professor/Mathematics, GITAM (Deemed to be University), Hyderabad delivered keynote lectures during the second day of the conference. The conference provided major technical sessions in the areas of Mathematical analysis, Fluid flow, Heat Transfer, Materials, and Design. A total of 39 technical papers were presented by the faculty, scholars, and students during these two days. The papers covered a wide spectrum of topics enriching the content of the conference. The authors and participants appreciated the opportunity to interact with eminent speakers and researchers which enabled them to exchange new ideas and develop new contacts. The organizers thank the management, heads of the departments, faculties, staff, and research scholars for making the conference a grand success.



HOD visits NSS Camp at Thandalam Village

I had the opportunity to visit the Annual Special Camp" on 27th February 2024 at Thandalam Village organized by the SSN NSS wing and observe the dedication of the faculty and students in making a positive difference to the Govt school in the area. From painting the walls of the school, classrooms to providing drinking water to educating the school kids – one could see how a social transformation could be possible, through NSS activities. It set me thinking that more students across varied social backgrounds need to partake in such grass root level transformation, that has the potential to change the citizens of the morrow. The experience sharing session was an eye opener, with students expressing how bottled up and shy they were when joining SSN, but how they are relishing the roles of leadership and volunteering which has helped them overcome their personal challenges. Our best wishes to the SSN organizing team and the NSS volunteers.



"SSN-SNUC MUN Society Shines Bright: Double Victory at Christ University MUNs"

By: Anirudh Kriishnan , Third Year

The SSN-SNUC MUN Society sent a delegation to the School of Law –Christ University SLCU MUN and the Christ University Department of Professional Studies Future MUN in February 2024 held at Christ University – Bangalore. This event saw the participation of students From Karnataka, Tamil Nadu, Kerala, Telangana etc. Our SSN MUNSOC had about 30 delegates distributed among the various Committees of the event. Most of our students participated in both of The MUNs back to back with no break in between. We were declared Overall winners of both events and were given two best delegation Trophies to bring back to Chennai. This makes them special as they Are our college’s first best delegation awards outside Chennai and Show the progress the MUNSOC is making. Raghav Subramaniam And Anirudh Kriishnan (3rd year from the mechanical department secured special mention awards in the CCC committee of Future MUN. For SLCU MUN, Raghav was a part of the UNSC executive Board and Anirudh received a verbal mention in the CCC. Overall, this Was a great and enjoyable learning experience for everyone who participated.

"Thriving Under Pressure: A Recap of the National Level Business Simulation Challenge Competition at SNU NOIDA"

By: Murali Krishnan , Third Year

Myself and Ajay Srikanth from the 3rd-year Mechanical department were selected to attend the National Level Business Simulation Challenge Competition at SNU NOIDA on the 27th and 28th of January, 2024.

This competition included the usage of business Simulation software. Each decision taken by the participant determines the company's monthly profit or loss. This was a 6-hour event starting from 11 am and extending till 5 pm on the 27th of January. Participants were told to manage their 6 hours in the most efficient way possible. The simulation was based on Account-based marketing, a 2nd year MBA subject. The whole simulation was based on account-based marketing for which the participants had reading materials/lessons and case studies during the course of the competition itself.

Finally those participants with the maximum profit and the correct decisions that they made while building their business in simulation were announced as the winners.



"Driving Change: Arun's Journey from Mentorship to Sustainable Business Creation"

Featuring: Arun, Batch of 2016

Motivated by a desire to impart information and experiences, Arun turned into a mentor to help fellow students navigate their academic journeys by providing advice and insights to make things easier.

Given his enthusiasm for the automotive business, picking Windsor as his study destination was an obvious choice. Windsor's geographic location and cultural diversity made it the ideal pick above other cities, making it the hub for the automotive industry

He continued his academic pursuits and volunteered in the Windsor community after being chosen for the MEng Auto Co-op program. Giving back to the community brought him fulfillment, as seen by his contributions to clean-up programs, the Film Festival, tree planting, and bus pass administration for graduate students.

He wants to become resilient at UWindsor by overcoming challenges with joy and tenacity. His capacity for multitasking has given him the confidence to accomplish all his goals.

Raised in Tiruchengode, Tamil Nadu, India, he wanted to develop a business with the knowledge he gathered there. Ultimately, he wants to establish self-sufficient farms in his community, advance his purchasing profession, and support sustainable business creation.

Best wishes,
Arun



No Competition, No Progress

Case Chronicles: Case Study Competition:

Link: [Register here](#)



Eureka Challenge 2.0 Varroc:

Link: [Register here](#)



From the desk of Ramki – Aspire to Inspire

From Ramki

Happy Morning – Aspire to Inspire

If two people are trying to climb a mountain together, what is the most important things they need to get to the top?

Is it

1. Equipment
2. Training
3. Teamwork
4. Favorable weather conditions



Well, they need all of these for sure. But the most important thing is the MOUNTAIN itself, they need a clear GOAL!

Too often, we get obsessed with the equipment and the training but have no clear goals. The best mountain climbing equipment is of little use if you don't have a mountain to climb.

We are all very fortunate. We have the most fabulous equipment there is. We have access to training. And there are colleagues out there, waiting to help us succeed. But we need to have our mountains. Our own goals. When you have your mountain to climb, everything changes.

- You get your sense of purpose
- You begin to want to climb that peak.
- You become disciplined.
- You get up early.
- You brave the cold.
- You watch your diet.
- You seek out experts.
- You read the books

All because you have a mountain to climb and a peak to conquer.

Equipment, Skills, Competence, Training everything comes later depending on the mountain you want to climb.

So instead of complaining about your equipment or your training and worrying about

buying more sophisticated gadgets, set your goals first. Ask questions like “what is that I want “, and the next one “How do I get there?” Get the answers for these.



Dr. M S Alphin



Dr. Satheesh Kumar G



Kavya S



Harish S



Abirami Subbiah



Magari R



Mithila V



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