



# VIT<sup>®</sup>

## Vellore Institute of Technology

(Deemed to be University under section 3 of UGC Act, 1956)



# CHEM-REFLECT

## VOLUME 7 ISSUE- I

(JANUARY 2025 – JULY 2025)

*NEWSLETTER*

SCHOOL OF CHEMICAL ENGINEERING

VELLORE INSTITUTE OF TECHNOLOGY

[www.vit.ac.in/schools/scheme](http://www.vit.ac.in/schools/scheme)



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# ABOUT SCHEME



***“Making the world a better place by Chemical Engineering”***

The School of Chemical Engineering (SCHEME) is determined to nurture new talents and create leaders and entrepreneurs who can bring value addition to the chemical and allied process industries. Besides high-quality teaching and instruction at UG level, the faculty members of the school are actively involved in executing a number of R&D and consultancy projects from government agencies including DST, DBT and also from many reputed industries. The school has also regularly benefited from international linkages facilitated by university-level MoU's with several leading foreign universities.



**Chemical Engineering Subject Ranking**  
**World Rank (2025): 251-300**  
**India Rank (2025): 11**

# Message from

# THE DEAN SCHEME

Dear readers,

Welcome to the first issue of Volume 7 of the School of Chemical Engineering's newsletter. This issue provides information about the publications and research work of our faculty and students. The awards and honours received, the teaching-learning and research process and much more is explored.

SCHEME houses B.Tech and Ph.D. programme in Chemical Engineering. All faculty members are doctorates from reputed institutions in India and abroad. There are 101 students in the final year, 81 students in the third year, 220 students in the second year, 131 students in the first year of B.Tech and 25 PhD students in our school.

I hope you find this newsletter engaging. While the newsletter provides a bird's eye view of the accomplishments of the school, you are welcome to contact the Office of SCHEME to know further details about us.

Regards,

Dr. Velu S

[dean.scheme@vit.ac.in](mailto:dean.scheme@vit.ac.in)



# THE VISION

To improve the quality of life through innovations in Chemical Engineering

## • Mission of the School

- ❖ To prepare the graduates for a rewarding career by providing quality education in Chemical Engineering in tune with evolving requirements of society.
- ❖ To impart knowledge and develop technology through quality research in frontier areas of chemical and interdisciplinary fields.
- ❖ To produce practicing engineers with professional ethics to cater to the contemporary needs of the society and environment.

## • Program Educational Objectives of B.Tech Chemical Engineering

- PEO1: Graduates will be engineering professionals in industry, entrepreneurs in process engineering or in the pursuit of graduate education in chemical engineering and other disciplines.
- PEO2: Graduates will assess and relate engineering issues to meet sustainable development goals and contribute to economic growth.
- PEO3: Graduates will function in their profession with strong communication skills to work in diverse multi-faceted team with social awareness and responsibility.

# Our Faculty

## School of Chemical Engineering



**Dr. Velu S**  
Professor and Dean I/C



**Dr. Aslam Abdullah M**  
Associate Professor and  
H.O.D



**Dr. Muruganandam L**  
Professor



**Dr. Anand V P**  
Gurumoorthy  
Professor



**Dr. Aruna Singh**  
Professor



**Dr. Babu Ponnusami A**  
Professor



**Dr. Mahesh Ganesapillai**  
Professor



**Dr. Nirmala G S**  
Professor



**Dr. Sishir Kumar Behera**  
Professor



**Dr. Thomas Theodore**  
Professor



**Dr. Aabid Hussain Shaik**  
Associate Professor



**Dr. Bandaru Kiran**  
Associate Professor



**Dr. Chitra D**  
Associate Professor



**Dr. Dharmendra Kumar Bal**  
Associate Professor



**Dr. Ganesh Moorthy I**  
Associate Professor



**Dr. Mohammed Rehaan  
Chandan**  
Associate Professor



**Dr. Naga Samrat  
Maruvada VV**  
Associate Professor



**Dr. Shankar Raman  
Dhanushkodi**  
Associate Professor



**Dr. Sivagami K**  
Associate Professor



**Dr. Rima Biswas**  
Assistant Professor



**Dr. Pandurangan K**  
Assistant Professor



**Dr. Madambakam  
Midhun Kumar**  
Assistant Professor

# Research Focus, Facilities & Simulation

## Thrust areas:

- Sustainable development, -Separation Technology
- Process & MD Simulation - Nano materials --AI & Machine Learning

## Research Groups:

**1. Colloids and Polymers :** Cutting-edge research initiative at the intersection of colloid science, nano materials and polymer chemistry.

**2. Membrane Separation :** Revolutionize membrane technologies for diverse applications. Involved in the exploration of advanced materials and fabrication techniques to enhance the performance of membranes across various domains.

**3. Industrial Ecology :** Sustainable practices within industrial systems, contributing to a paradigm shift toward more environmentally conscious and resource-efficient processes. Focused on developing comprehensive models and frameworks to assess the environmental impact of industrial activities across entire supply chains.

**4. Mass transfer/Separation Process :** Focused on improving the efficiency of mass transfer processes in various fields, including environmental science and biomedical engineering.

**5. Process Modelling & Simulation :** cutting-edge research at advancing the field of process simulation and optimization. Developing robust computational models that accurately capture the dynamic behavior of complex industrial processes. The key area of emphasis is the integration of artificial intelligence (AI) and machine learning (ML) techniques into process simulation frameworks. Many students are involved in molecular dynamic simulations.

## Simulation Tool

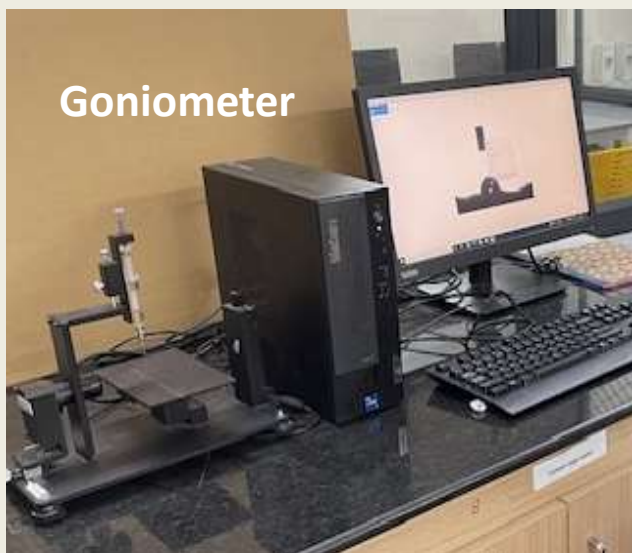




# Research Facilities

School of Chemical Engineering

Goniometer



V-Vis Spectroscopy



Rheometer



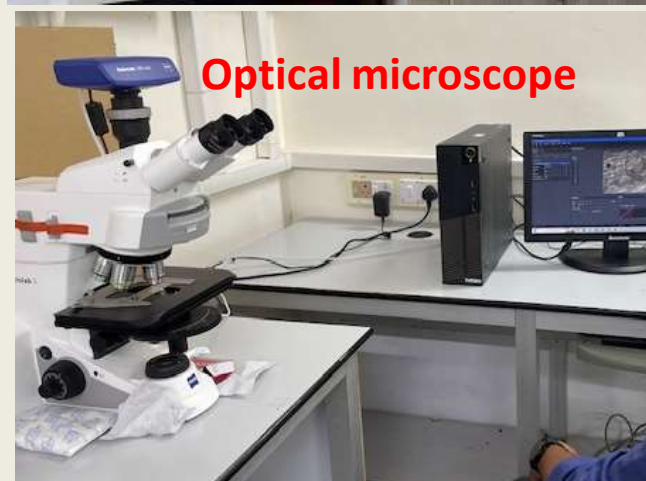
Membrane Performance Testing Facilities



Microwave Pyrolyzer



Optical microscope



Freeze Dryer



HPLC



Probe Sonicator



Microwave Synthesizer

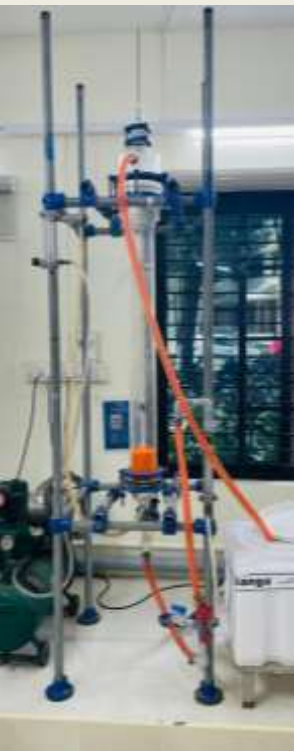




# Chemical Engg Project Lab

School of Chemical Engineering

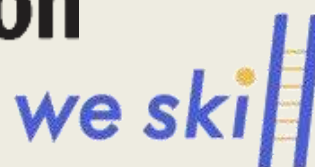
UV-Vis Spectroscopy



# Placements

## Placement Statistics

Package	2024-25	2023-24	2022-23	2021-22	2020-21
Highest (Lakhs)	12	14	18.42	13	11
Average (Lakhs)	6.68	6	7.32	6.77	6.25
Total No. of Students	49	51	66	66	19





# Students in higher education



**Gualbert Arkin(21BCM0192)** has been offered to pursue Masters of engineering(Chemical) at University Of Melbourne



**Rhea Jayakumar** (21BCM0008) has been offered to pursue M. SC. Environmental engineering at Hamburg University of Technology, Germany



**Sahana G** (21BCM0052) has been offered to pursue M. SC. Environmental engineering at Technical University of Denmark, Denmark



**M Valliammai** (21BCM0070) has been offered to pursue Masters in Sustainable Technology at Kth Royal Institute Of Technology, Sweden



**Prateek Banerjee** (21BCM0029) has been offered to pursue Masters Chemical Engineering at Georgia Tech University, Georgia, USA



# Student Achievements

R. Naren(24BCM0078), Arjeet Patanayak (24BCM0063), Shreeshanth Iyer (24BCM0054), Aayush Nair (24BCM0205), Aditya Chatterjee (24BCM0183) participated in Chem-A-Thon 6.0 at VIT Vellore on 14<sup>th</sup>-16<sup>th</sup> February 2025 and secured the Best Technical Innovation



M. Heamanth Sanjay Reddy (22BCM0102), S. Vishal, Keerthana. M, Sarvesvaron. A (Guide: Dr. Babu Ponnusami) participated in International Conference on Emerging technologies for sustainable future (ETSF-2025) organized by Chennai Research Foundation on 26<sup>th</sup> and 27<sup>th</sup> April and secured the Best Presentation Award for the paper *"Photocatalytic Degradation of Synthetic Dye Wastewater Using Green Synthesized CuO Nanoparticles"*



Aaron John (24BCM0241), G Jayashree (24BCM0169) secured 2<sup>nd</sup> place in Canvas of Ideas organized by Sri Sivasubramaniya Nadar College of Engineering, Chennai on March 7<sup>th</sup>, 2025.

Kaustubh Purohit (23BCM0049) secured cash prize of 1000 Rs. for maintaining 100% attendance at the University Day on April 5<sup>th</sup> 2025



Rishiraj Karia (22BCM0125) secured Best DesignX Blueprint Award, First Runner Up Innoquest Technical Research at Global Hyperloop Competition hosted by IIT Madras on 21<sup>st</sup>-24<sup>th</sup> February 2025

# Faculty Achievements

1. Dr. Mohammed Rehaan Chandan was awarded the Reviewer for Reviewing BRIDGE Discovery proposal from Swiss National Science Foundation by the Swiss National Science Foundation on June 16<sup>th</sup> 2025.
2. Dr. Bandaru Kiran was recognized with a Reviewer certificate for prestigious Chemical Engineering journal by Elsevier on on 8<sup>th</sup> May, 2025.
3. Dr. Dharmendra Kumar Bal was recognized as BOS member to RVCE Bangalore by Visvesvaraya Technological University on May 27<sup>th</sup>, 2025.
4. Dr. Shankar Raman Dhansukodi was conferred with the Best Reviewer award on 19<sup>th</sup> May 2025 by CSIJ VIT.
5. Dr. K. Sivagami was nominated as the Judge for Junior Stockholm Water Prize by IIT Madras and Wipro Foundation on April 5<sup>th</sup>, 2025.
6. Dr. K. Sivagami was conferred with Emerging Investigators Series Award in Envntl Science and Water Research Journal by the RSC 10<sup>th</sup> January, 2025.
7. Dr. K. Sivagami was recognized as the Idea to Impact National competition Reviewer by IIT Madras and Wipro Foundation on 7<sup>th</sup> January, 2025.
8. Dr. Muruganandam was conferred with the research award on Feb 14<sup>th</sup>, 2025.
9. Dr. Bandaru Kiran was conferred with the research award on Jan 28<sup>th</sup>, 2025.
10. Dr. Ganesh was conferred with the research award on Jan 28<sup>th</sup>, 2025.
11. Dr. Dharmendra was conferred with the research award on Jan 28<sup>th</sup>, 2025.
12. Dr. K. Sivagami was conferred with the research award on Jan 28<sup>th</sup>, 2025.

# • PUBLICATION Statistics (Calendar Year 2025)

Publications Overview

Total Journal Publications	Total Journal Citations	Citation Index	Max Citation	h-index	i10-index	Cum. IF	Average IF	Max IF
348	5298	17.779	371	38	127	1074.252	3.605	16.3

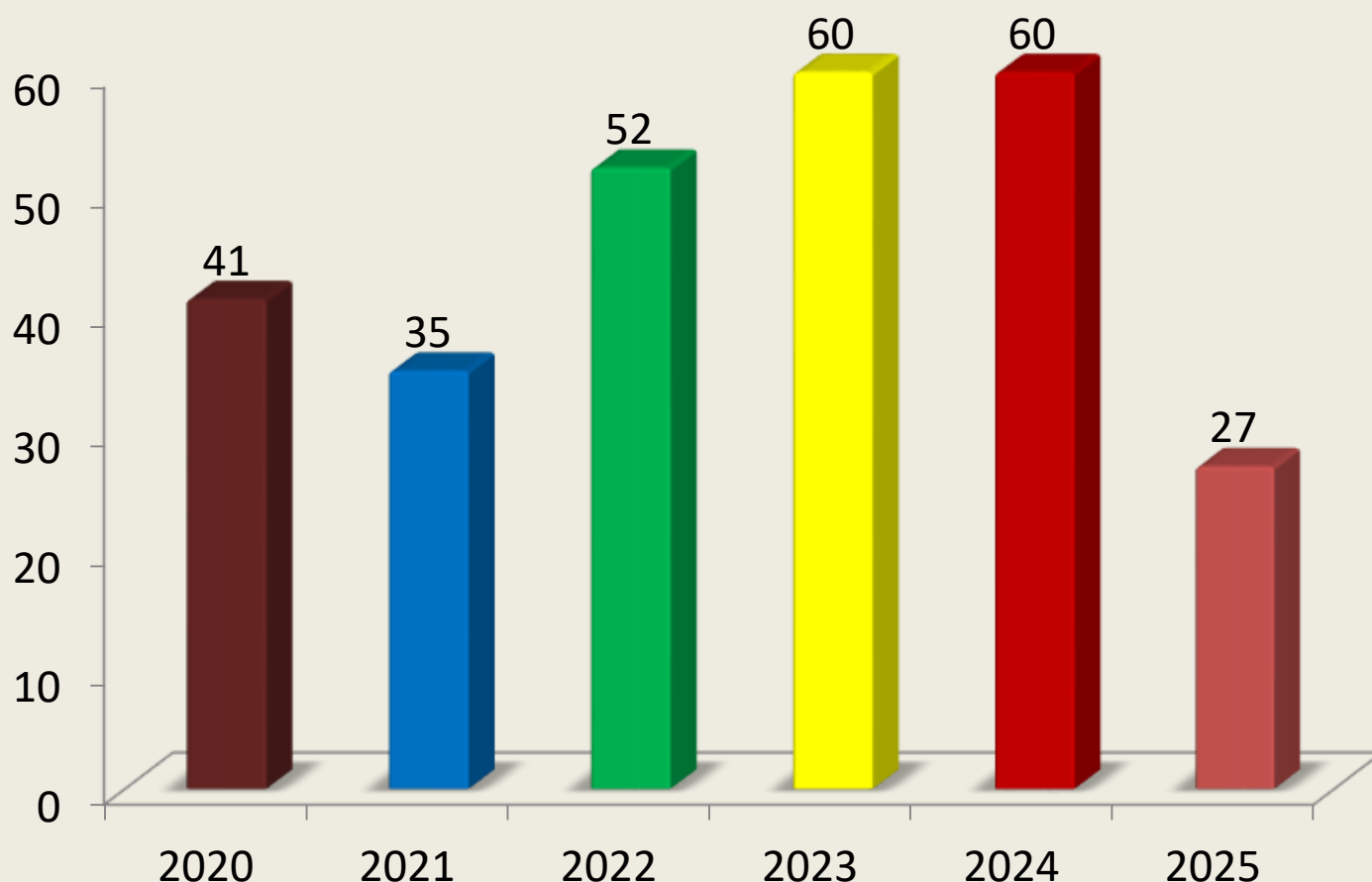
**Total number of publications : 27**

**Article with foreign collaborations : 14**

**Cumulative Impact factor : 183.2**

**Highest impact factor : 8.9**

**Average impact factor : 6.77**



\* Till June 2024



# • UG Publications

1. Thampan D.; Jena M.K.; Hussain R.; Valliammai M.; Hameed M.S.A.; Sreedharan S.P.; Sivagami K., Challenges and opportunities for implementing resource recovery from sanitary waste streams: insights from IndiaJournal of Material Cycles and Waste Management, DOI: 10.1007/s10163-025-02271-y.
2. Khandelwal N.; Kumari S.; Poduval S.; Behera S.K.; Kumar A.; Gedam V.V. Life-cycle assessment of three biorefinery pathways across different generations, Scientific Reports, Vol:15, Issue: 1, DOI: 10.1038/s41598-025-96474-w
3. Baskaran D.; Behera S.K.; Mahanty B.; Aliveli M.; Elmanadely A.; Bilyaminu A.M.; James A.; Rene E.R.; Rajamanickam R., Treatment of Chlorinated Volatile Organic Compounds Using Different Bioreactor Systems: Microbial Communities and Pollutant Removal, Water, Air, and Soil Pollution, Vol:236, Issue: 7, DOI: 10.1007/s11270-025-08049-0
4. Chakraborty D.; Swaminathan P.; Shaik A.H.; Sultana S.; Chandan M.R., Recycling Waste Metallized Biaxially Oriented Plastic Films as Filler in Polyurethane Foams: Properties and Environmental Impact Journal of Applied Polymer Science, DOI: 10.1002/app.56991.
5. Sivagami K.; Prabakar P.; Balaji A.S.K.; Kumar N.S.; Chakraborty S.; Kiran B., Techno-economic and life cycle assessment of CO<sub>2</sub> storage using amorphous carbon derived from end-of-life Polyethylene Terephthalate, Biomass and Bioenergy, Vol:198, DOI: 10.1016/j.biombioe.2025.107864
6. K F.N.; Tiwari A.; Shaik A.H.; P I.; Brianna B.; Anwar A.; Chandan M.R., Anti-cancer and antimicrobial efficacy of ZnO nanoparticles synthesized via green route using *Amaranthus dubius* (Spleen Amaranth) leaves extract., Green Chemistry Letters and Reviews, Vol:18, Issue: 1, DOI: 10.1080/17518253.2025.2453532.
7. Prajapat R.; Yadav H.; Shaik A.H.; Kiran B.; Kanchi R.S.; Shaik S.; Said Z.; Chandan M.R.; Chakraborty S., A review of the prospects, efficacy and sustainability of nanotechnology-based approaches for oil spill remediation, Waste Management and Research, DOI: 10.1177/0734242X241257095

## • Patents Published AY-2024-25

1. A Laboratory-Based Hydro-Turbine Emulation System and a Method for Simulating the Operational Dynamics of a Francis Hydro-Turbine; Inventors: Raja Singh R (ARC), Shishir Kumar Behera (SCHEME), Sarah B. George (22MPE0010-SELECT)

## • Projects AY-2024-25

- **Prof. Bandaru Kiran** received INR 800000 under DST-Nidhi Prayas Startup grant for **Eco Friendly cost effective Cooling** system on 6<sup>th</sup> Feb, 2025.
- **Prof. Mohammed Rehaan Chandan** (Co-PI) received INR 1545000 Grant from ISRO for Development of CNT infused CFRP prepegs with enhanced thermal and electrical conductivity for satellite structural applications on 18<sup>th</sup> March, 2025.
- **Prof. Mohammed Rehaan Chandan** (PI) & **Aabid Hussain Shaik** (Co-PI) received INR 1696800 Grant from ISRO for Development of Mxene/polyurethane auxetic composite foam for electromagnetic interface shielding and impact attenuation on 3<sup>rd</sup> July, 2025.



# Events Organized by SCHEME CHAPTERS

**American Institute of Chemical Engineers,** Vellore Institute of Technology, Student Chapter has organized 15 events.



**Indian Institute of Chemical Engineers,** Vellore Institute of Technology, Student Chapter has organized 11 events.

**Society of Petroleum Engineers,** Vellore Institute of Technology, Student Chapter has organized 05 events.





# • Guest Lectures delivered

1. Prof. Mahesh Ganseapillai delivered a lecture on Redefining Waste: A Circular Economy Approach to Sustainable Resource Management at Far Western University, Kanchanpur, Nepal on February 7<sup>th</sup>, 2025.
2. Prof. Anand Gurumoorthy delivered a lecture titled “Sustainability- A Brief Glimpse” at VIT Vellore on February 10<sup>th</sup>, 2025.
3. Prof. Mahesh Ganseapillai delivered a talk on Beyond the Toilet: Circular Sanitation and its Impact on Water Resources at SRM University, Amaravati, India on February 27<sup>th</sup>, 2025.
4. Prof. Mahesh Ganseapillai delivered a lecture on Building a Circular Sanitation Movement: Empowering Communities and Fostering Behavioral Change at York University, Toronto, Canada on April 29<sup>th</sup>, 2025.
5. Prof. Shankar Raman Dhanuskodi delivered a talk on Engineering Functional Materials for Energy: Degradation Modes and Testing Strategies of PGM catalyst layers in PEM Fuel Cells at VIT Vellore on June 23<sup>rd</sup>, 2025.

# • Guest Lectures organized

1. Dr. Aashish Priye delivered a lecture on “Accessible and Inexpensive Molecular Testing Via Microfluidics, Systems Engineering, and Toy-inspired Physics”. Faculty coordinators: Dr. Aruna Singh and Dr. Monash. P; Number of attendees: 24.
2. Dr. Foluso O Agunbiade delivered a lecture on “Vapour Liquid Equilibria for Non-Ideal Solutions”; Faculty coordinator: Dr. A. Babu Ponnusami; Number of attendees: 40.
3. Dr. Foluso Agubiade delivered a lecture on “Piping Design for Process Engineers”; Faculty coordinators: Dr. Shishir Behera and Dr. Chitra. D. Number of participants: 96.
4. Dr. R. Ravishankar delivered a lecture on “Role of Thermodynamics in Refining Processes & Nano/Material Technology. - An Overview”; Faculty coordinators: Dr. Dharmendra Bal and Dr. Aabid Shaik; Number of participants: 64.
5. Dr. Foluso Agubiade delivered a lecture on “Fuzzy Membership Functions and Adaptive Neuro-fuzzy Inference System (ANFIS)”; Faculty coordinators: Dr. Monash. P and Dr. Pandurangan. K; Number of participants: 46.
6. Dr. Anand Gurumoorthy delivered a lecture on “Sustainability- A Brief Glimpse”; Faculty coordinators: Dr. Monash.P and Dr. Babu Ponnusami; Number of participants: 43.
7. Mr. Sreejit Soman delivered a lecture on “Next-gen Molecular Simulations: Applications in Advanced Materials, Combustion, And Reaction Kinetics with Amsterdam Modeling Suite (AMS)”; Faculty coordinators: Dr. Muruganadam, Dr. Pandurangan. K and Dr. Mohammed Reehan Chandan; Number of participants: 67.

# • Know our Alumni



**Mr. Gaurav Dubey** (2006 batch) is currently working as a Director Business Transformation at Teva Pharmaceuticals, Ireland.



**Mr. Duraivelan Dakshinamoorthy** (1996 batch) is currently working as Director at Process-CFD Solutions Inc., Sugar Land, Texas, USA.



**Dr. V Naveen** (1998 batch) is currently working as a Principal Scientist, CSIR-National Aerospace Laboratories, Ministry of Science & Technology of India, Bangalore.



# • Editorial Committee

## Faculty Board Members



**Dr. Bandaru Kiran**  
Associate Professor



**Dr. Mohammed Rehaan Chandan**  
Associate Professor

## Student Board Members



**Ganesh R**  
**23BCM0066**  
Content creator



**THANK  
YOU!**



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## Contact Us

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