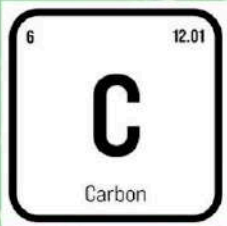


**DEPARTMENT OF**  
**CHEMICAL**  
**ENGINEERING**  
**NEWSLETTER**

**THE**



**CATALYST**  
**ACCELERATING YOUR GROWTH**

**Volume - 3, Issue - III, March, 2024**

For E-copy: SCAN below



## Newsletter

# The Catalyst

(Accelerating your Growth rate)

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# Department of Chemical Engineering

## Vision

To be a leader in Chemical Engineering Education and Research by providing balanced learning and fostering research to enable the learners to meet the challenges of process industries and societal needs.

## Mission

M1: To produce graduates practicing Chemical Engineering professionally and ethically.

M2: To produce Chemical Engineering graduates contributing to the betterment of society in the competitive global environment.

M3: To focus on the development of Chemical Engineers to foster innovation through proficiency and effective communication.

## Motivation: Alumni page



**Mr. Mohana Murali Sridharan**  
**B.Tech Chemical Engineering (2016 – 2020)**  
**Greenhouse Gas Emissions Analyst,**  
**Dillon Consulting Limited,**  
**Toronto, Canada**

To upcoming future leaders of the world,

Coming out as an engineer from SVCE is one of the best things that can happen and that too from the Chemical Engineering Department is a thing like placing a cherry on the top of a wonderfully presented ice-cream in front of you. You may ask what is so special about Chemical Engineering and why not other departments. The reason is Chemical Engineering relies on creativity and it is one of the most versatile engineering fields in the world. As chemical engineers, you can do a lot. Some examples are not limited to creating new things that can be useful,

- 1) For day-to-day purposes (Eg: Electricity Generation, batteries),
- 2) In saving a person's life (Eg: Antibiotics, Vaccines),
- 3) In protecting your country (Eg: Nuclear Missiles) and many more.

According to Michael Mouro, a senior vice president at Sinclair Group, the expected growth for chemical engineers is 14-16% versus all other STEM and engineering disciplines (around 3-5%). Also, it is estimated that over 50% of global gross domestic product is enabled by chemical engineers. This passes on a clear message, as chemical engineers we have a lot of demand, and it is our responsibility to shape this world as a beautiful place to live in by

achieving synergy between the human race and nature.

Today, wherever I stand in the field of chemical engineering, SVCE has undoubtedly made a huge contribution to it. It all started with Pansophy 2017, where I had to design a mini solar evaporator with a group of friends for the model display. Though I might not have won a price, but it indeed sparked an interest towards environment and renewable energy which made me publish a paper on “Effect of thermal radiation on a Linearly Accelerated Vertical Plate” and carry my projects on Dairy Wastewater Treatment and Recovery of protein from Dairy Wastewater using ultrafiltration. All these projects made me realize that emissions have a significant impact on climate change and helped me fix my dream area of expertise to work i.e. Sustainability. If SVCE and my professors had not given me the opportunity to explore, I would not have reached this position.

Additionally, two important learnings which I would like to pass on to you is,

1) “Engineering is always a two-way learning experience”: As students, we should always be taking the first steps to reach out to our professors and shoot them with brilliant questions. I never hesitated to ask questions and our professors were always ready to answer my questions. This way I was aware of the current trends in the field and widened my knowledge in a shorter time.

2) “Be humble and remember your roots”: Anyone can become a successful engineer. But achieving success as an engineer while maintaining goodness and humility is no small feat. SVCE always strives to develop the latter and our professors are a great example of that. For the rest of my life, I will never forget this learning and I also encourage you not to forget this.

Proud to be a SVCEian and will talk to you soon if destiny wishes to.

Jai Hind! Jai Chemical Engineering

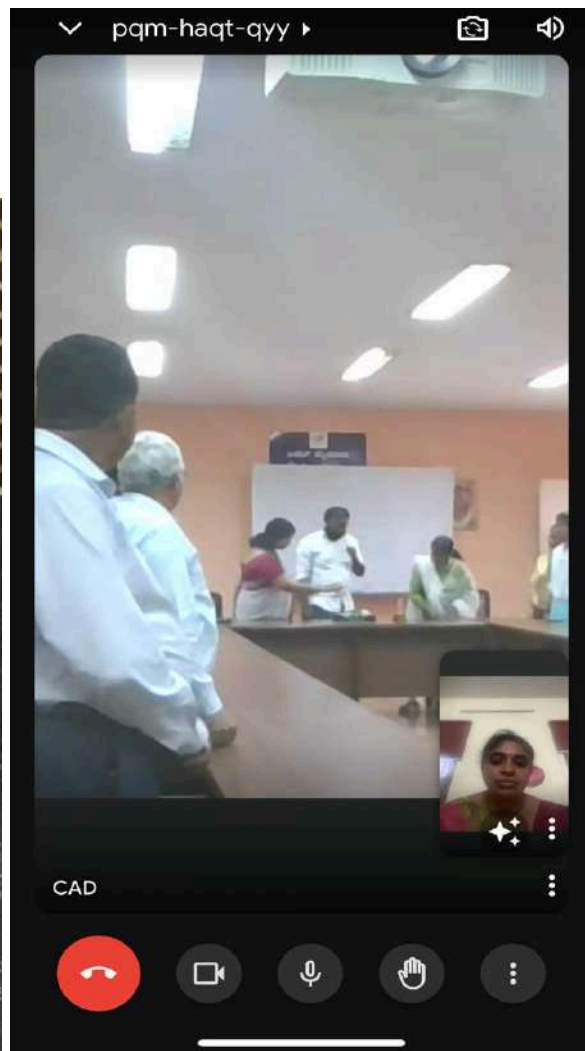
## Industrial Visit: *Learning beyond classroom*

On 01st March 2024, 54 students of first year Chemical Engineering students visited the Thiruttani Cooperative Sugar mill at Thiruvalangadu. They explained the important processes involved in the sugar industry. The students were enthralled about the industrial environment and closely followed the explanation and benefitted from the visit.



## STEM - Women Guest award: CIPET - Mysore

**Dr. M.Srividya, Assistant Professor, SVCE has been honored with STEM - Women Guest award 2024, by Central Institute of Petrochemicals Engineering, Mysore, on the occasion of International Women's day. The award is in recognition of her exemplary skills and contribution in the field of engineering.**



Journal Publication: *peer reviewed achievement.*

Dr. R. Rajesh @Nithyanandam et.al., records his journal publication in the following  
SCI indexed peer reviewed journals, during the month of March 2024.



Review Article  
**Review on Phytoremediation: Toxic Heavy Metal Removal**  
Author(s): Rajesh Nithyanandam<sup>\*</sup>, Moontarj Jahan Orvy, Rajavarsini Rajesh<sup>1</sup>, Rupika Rajendran and Jyotsna SudhiMithran  
Volume 20, Issue 3, 2024  
Published on: 22 January, 2024  
Page: [147 - 161] Pages: 15  
DOI: 10.2174/0115734110286256240116061511



Review Article  
**Review on Heavy Metal Removal and Efficacy of Biosorbents**  
In Press, (this is not the final "Version of Record"). Available online 08 December, 2023  
Author(s): Rajesh Nithyanandam<sup>\*</sup>, Rupika Rajendran, Rajavarsini Rajesh<sup>1</sup> and Moontarj Orvy  
Published on: 08 December, 2023  
DOI: 10.2174/0115734137278018231127062510

Students Exemplified Achievement: GATE 2024

gate 2024  
air - 1614  
air - 1232  
third year chemical engg  
nithya priya s  
praveen kumar as

## Events participated by Staff: *Train for skills.*

Mr. R. Rajkumar, Instructor, Department of Chemical Engineering has attended “5-Days Staff development Program on Enhancing Digital Literacy” during 11/03/2024 to 15/03/2024, organized by EPIC, Sri Venkateswara College of Engineering, Sriperumbudur, Tamil Nadu.



The image shows a certificate of participation for a staff development program. At the top left is the SVCE EPIC logo. In the center is the SVCE logo with the text 'Sri Venkateswara College of Engineering' and 'Autonomous - Affiliated to Anna University Pennalur, Sriperumbudur, Tamil Nadu | www.svce.ac.in'. To the right is the college's circular emblem and the text '38 Years of Excellence'. Below the SVCE logo is the title 'Staff Development Programme' and 'The Certificate of Participation'. A reference number 'SVCE/EPIC/SDP24/P07' is on the left. A portrait of a man in a suit is on the right. The main text certifies that Mr. R. Rajkumar, Instructor, Department of Chemical Engineering, has completed a 5-day staff development program on 'Enhancing Digital Literacy' organized by EPIC and the Department of Information Technology of Sri Venkateswara College of Engineering during March 11-15, 2024. There are three signatures: Dr. S. Ilaiyavel (Coordinator & Manager-SVCE-EPIC), Dr. V Vidhya (HOD/INT), and Dr. S Ganesh Vaidhyanathan (Principal). At the bottom, there are several accreditation logos: ARITA (Top Ranked Affiliated Institution in Tamil Nadu), NIRF (5/5 Star Rated Innovation Cell), IISME (Recognized Incubation Center), ISO 9001:2015 Certified Organization, and NBA (Accreditations).



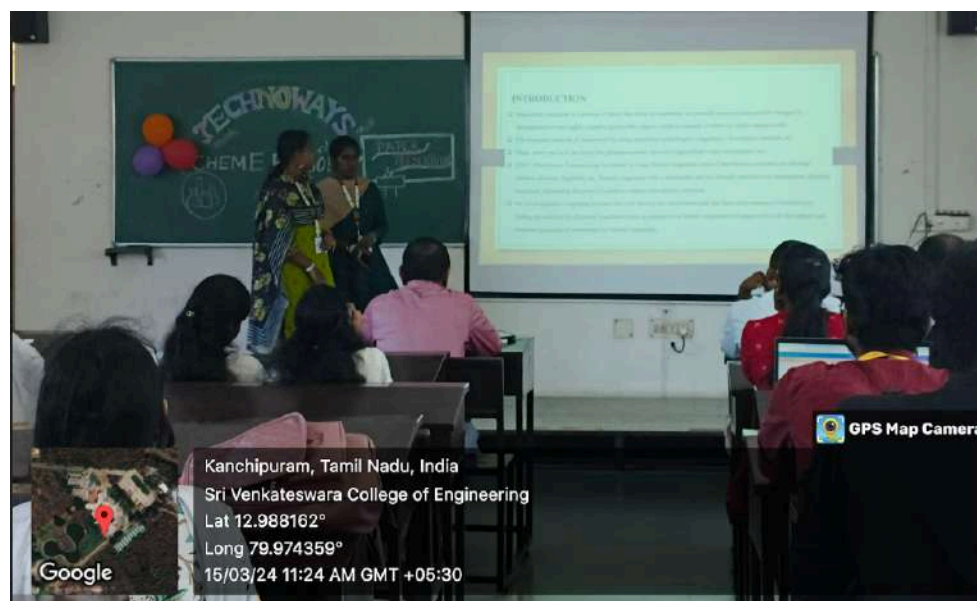
## Events participated by Faculty: *Train the trainer.*

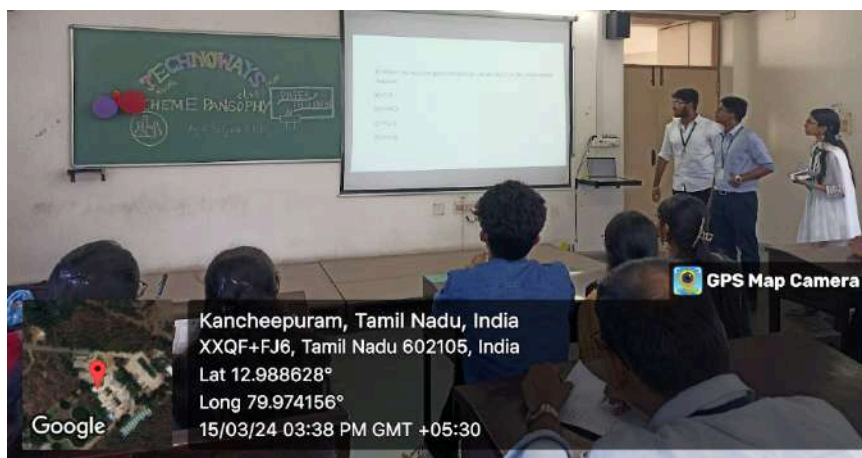
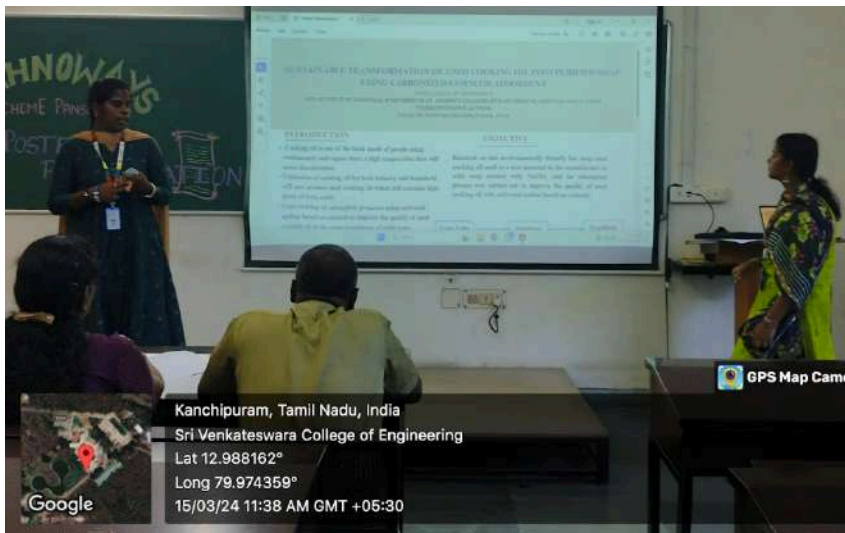
On 23rd March 2024, Dr. D. Sivakumar, Assistant Professor and Ms. A.C. Vijayalakshmi, Assistant Professor has attended the industrial training program focus on "Safety Leadership in ESG Excellence", organized by SEED FOR SAFETY, Chennai.

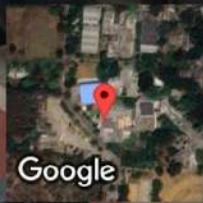
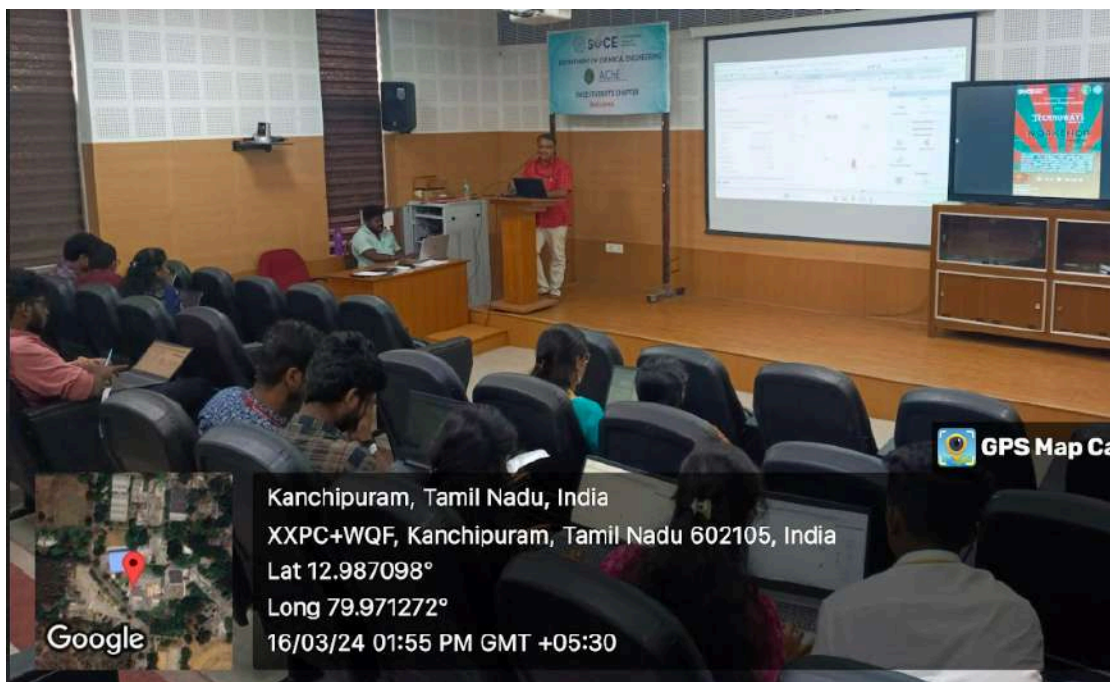


## Flagship Event: PANSOPHY'24 - TECHNOWAYS.

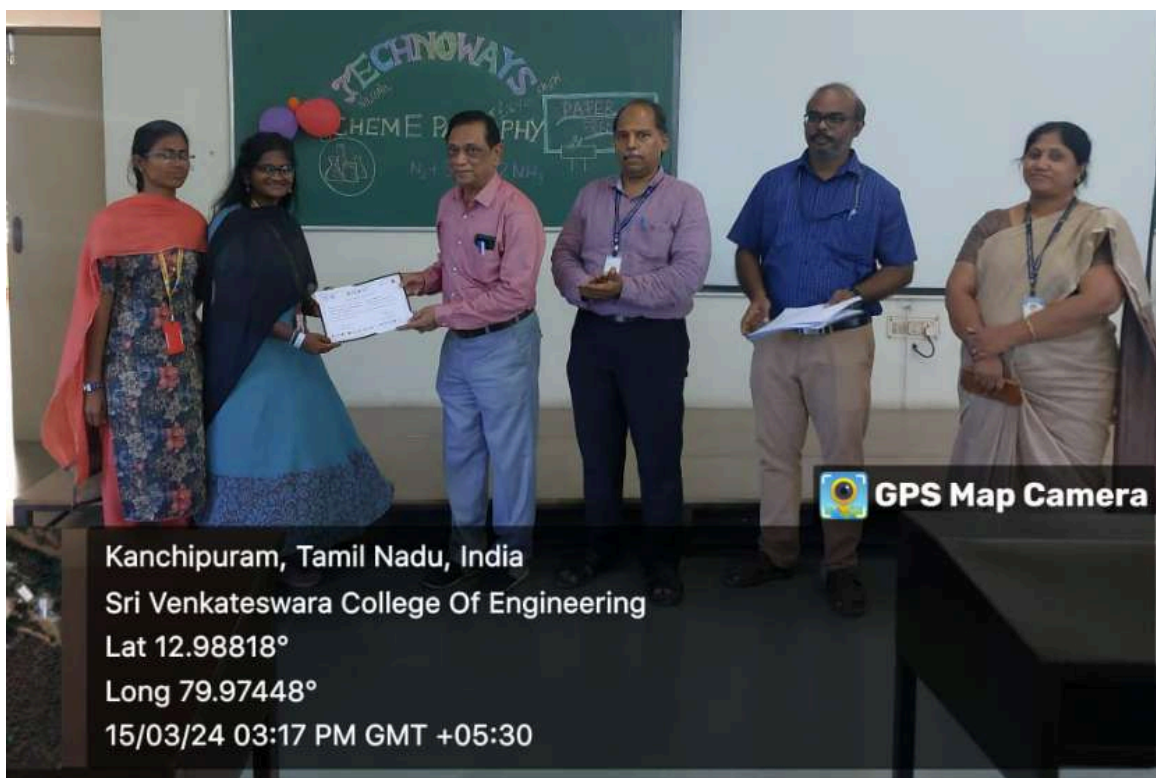
On 15th March and 16th March 2024, Department of Chemical Engineering joined hands with Student Council of Sri Venkateswara College of Engineering and IChE - AIChE - ACT Student Chapter; successfully conducted their flagship event PANSOPHY 2024. These two days National level student symposium is conducted under the banner of TECHNOWAYS.



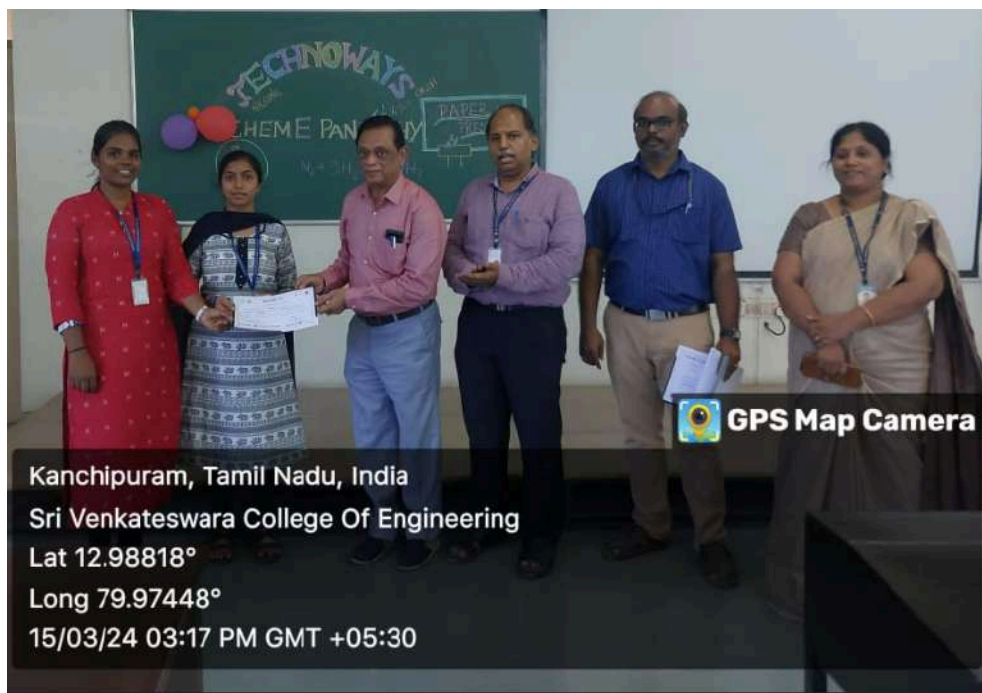




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XXPC+WQF, Kanchipuram, Tamil Nadu 602105, India  
Lat 12.987098°  
Long 79.971272°  
16/03/24 01:55 PM GMT +05:30



Kanchipuram, Tamil Nadu, India  
Sri Venkateswara College Of Engineering  
Lat 12.98818°  
Long 79.97448°  
15/03/24 03:17 PM GMT +05:30



## Parents - Teachers meeting: *A day to Appraise.*

On 23rd March 2024, B.Tech Chemical Engineering program all students performance on academic and extracurricular activities where appraised to their parents and welcomed their suggestions for further improvement.



## Students Participation: *achieving accolades.*

On 25th & 26th March 2024, Students have participated in various challenges at STEET 2024, organised by SSN college, Chennai, which includes paper presentation, poster presentation and other events at national level. This enthralled event is recorded here and the participants name is decorated in the wall below,



ponmathi s

janarthan c

kaviya shree i

syauvani maria rosme

Also Student Ms. Ponmathi S, has participated and presented paper titled “Modeling and Simulation of Level Control System using MATLAB and Simulink” at International Conference on “Advances in Chemical, Biochemical and Microbial Technology for Sustainable Development”, organised by Hindusthan college of engineering and technology, Chennai on 25th & 26th March 2024.



Dr. S. Rajasekar, Assistant Professor, has mentored her towards this paper presentation at ACBMT'24, organised by Hindusthan college of engineering and technology, Chennai.



Programmes run by the Department of Chemical Engineering are,

- B.Tech Chemical Engineering
- M.Tech Chemical Engineering
- Ph.D

### B.Tech CHEMICAL Engineering

#### Programme Educational Objectives

PEO1: Equip students with the necessary skills and knowledge to prosper in their career in Chemical Engineering and related domains.

PEO2: Encourage students to Pursue advanced learning and engage in research with internationally acclaimed institutions and foster professional growth.

PEO3: Empower students with leadership qualities to succeed in diversified fields with ethical administrative acumen and adapt to the rapid technological advancements and innovations.

#### Programme Outcomes

PO1: Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

PO2: Problem analysis: Identify, formulate, research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

PO3: Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs

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with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

**P04: Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

**P05: Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

**P06: The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

**P07: Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

**P08: Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

**P09: Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

**P10: Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

**P11: Project management and finance:** Demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

**PO12: Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.**

**PROGRAMME SPECIFIC OUTCOME's**

**PS01: Apply the knowledge of science and mathematics in the field of various transport processes to accomplish the contemporary needs of chemical and allied industries.**

**PS02: Execute the chemical engineering principles and modern engineering tools to conduct experiments or design a system for developing quality chemical processes by considering the cost, safety and environmental aspects.**

**M.Tech CHEMICAL Engineering**

**Programme Educational Objectives**

**PEO1: Function effectively to solve complex industrial problems using Chemical engineering concepts and also in expanding areas of Energy and Environmental industries**

**PEO2: Pursue their careers in Research and Development towards an advanced degree in Chemical engineering and allied technical discipline.**

**PEO3: To become Professional Leaders in the complex work environment.**

**Programme Outcomes**

**PO1: Independently carry out research /investigation and development work to solve practical problems.**

**PO2: Write and present a substantial technical report/document.**

**PO3: Demonstrate a degree of proficiency over the area as per the specialization of the program. The proficiency should be at a level higher than the requirements in the appropriate bachelor program**

**PO4: Potential to analyze solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety.**

**PO5: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.**

**PO6: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.**

**PROGRAMME SPECIFIC OUTCOME's**

**PS01: Apply the knowledge of science and mathematics in the field of various transport processes to accomplish the contemporary needs of chemical and allied industries.**

**PS02: Usage of modern engineering tools to design and conduct experiments to develop quality chemical processes by considering the cost, safety and environmental aspects.**

**Editorial Team: Dr. N. Meyyappan, HOD/CHE & Mr. S. Jai Ganesh, AP/CHE.**