St. JOSEPH'S
INSTITUTE OF TECHNOLOGY
An Autonomous Institution, Affiliated to Anna University

DEPARTMENT OF MECHANICAL ENGINEERING

BEACON

JUNE 25

Editorial Board

Dr.D.Elil Raja, Prof & Head-Mech

Dr.D.Arthur Jebastine Sunderraj, AP, Mech

MESSAGE

Dr. B. Babu Manoharan.,M.A., M.B.A., Ph.D., (Chairman)

"It gives me great pride to credit the staff and students of the Department of Mechanical Engineering, St. Joseph's Institute of Technology, for the excellent newsletter 'BEACON.' This publication highlights the active merits and milestones accomplished by the college. I sincerely hope these efforts help unleash their hidden potentials, paving the way for future success."

Mr. B. Shashi Sekar.,M.Sc., (Managing Director)

"I am very happy that our institution presents its activities marvelously through 'BEACON.' I am sure this newsletter will further enhance academic engagement. I congratulate the staff and students of the Department of Mechanical Engineering for their excellent effort. May 'BEACON' continue to be a great success."

Mrs. S. Jessie Priya.,M.Com., (Executive Director)

"BEACON,' true to its name, is bold in its content. It gives me immense delight to see the exceptional talent of the Mechanical Engineering students at St. Joseph's Institute of Technology. I congratulate the team for creating this newsletter—a true road to success."

Dr. S. Arivazhagan.,M.E., Ph.D., (Principal)

"I applaud everyone involved in creating 'BEACON' from the Department of Mechanical Engineering. The team's tenacity in crafting innovative and informative ideas into this newsletter is commendable. I believe this effort will bring them even greater achievements."

Dr. G. Sreekumar.,M.Sc., M.Tech., Ph.D (Dean & Academic Coordinator)

"The 'BEACON' newsletter stands as a shining example of excellence from the Department of Mechanical Engineering. It reflects the unwavering commitment and creativity of its team. I commend each contributor for making this publication informative and engaging—it is sure to earn widespread acclaim."

Dr. D. Elil Raja, M.E.,Ph.D., Head of the Department, Mechanical Engineering

"It is with immense pride that I commend the tireless efforts of our students and faculty in bringing 'BEACON' to life. This newsletter not only reflects the technical brilliance of our department but also the creativity and dedication of our team. May 'BEACON' continue to illuminate the achievements of our institution and inspire future generations of engineers. Together, we are shaping a legacy of excellence."

VISION OF THE INSTITUTION

- To be a centre of excellence for Education, Innovation and Research in Engineering, Technology and Management and to encourage Entrepreneurship with ethical and professional standards to benefit the society at large.

MISSION OF THE INSTITUTION

- To create a better learning environment to produce competent and innovative professionals with sound technical knowledge and management skills.

- To instill ethical and social values among the students to contribute to the global technological and socio-economic development.

- To inculcate qualities of leadership and entrepreneurship in students to improve their employability and achieve sustained placement through campus interviews.

- To provide opportunities and resources through consistent Industry-Institute Interaction for Research and Development in the emerging fields.

VISION OF THE DEPARTMENT

- To provide knowledge centered education and prepare students for meeting global mechanical engineering challenges thereby enabling them to contribute for the prosperity of the society.

MISSION OF THE DEPARTMENT

- To impart strong technical skills and fundamentals in Mechanical Engineering, through effective teaching and learning methodologies.

- To create an environment conducive for research and development by developing partnerships between academia and industry.

- To cultivate leadership qualities, ethical values, creativity and lifelong learning culture in order to prepare our graduates into a successful professionals.

- To foster knowledge on emerging technologies in interdisciplinary domains inorder to pursue a sustained professional career.

PROGRAM EDUCATIONAL OBJECTIVES (PEOS)

- To provide a strong foundation in science, engineering and computational fundamentals for designing, formulating, solving, and analyzing real-time mechanical engineering problems.
- To inculcate the skills to develop core competency through research and development inorder to compete the ever-changing endeavors in their professional career.
- To nurture leadership abilities, teamwork, and ethical values to fulfill the needs of the society and environment while demonstrating their professional abilities.
- To encourage multidisciplinary learning approach to foster advanced technologies for their successful professional career.

PROGRAM OUTCOMES (PO)

Engineering graduates will be able to:

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

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

3.Design/development of solutions: Design solution for complex engineering problems and design systems components or process that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

4.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.

5.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.

6.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.

7.Environmental 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.

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

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

10.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.

11.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.

12.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 OUTCOMES (PSOs)

PSO 1: Ability to apply industrial standards to design, model and analyze machine elements and systems using modelling and analysis tools

PSO 2: Ability to apply knowledge in various process of manufacturing, thermal and industrial engineering to fabricate diverse engineering components inorder to solve engineering problems.

CONTENTS

Stipend Award for CEEE Program at IIT Bombay

Mr. A. Sathish Kumar, Assistant Professor in the Department of Mechanical Engineering, has been shortlisted for the prestigious Centre for Engineering Education Excellence (CEEE) Program, earning a stipend of Rs. 50,000 for a two-week training program at IIT Bombay, further enhancing his expertise in engineering education.

AICTE Sponsored QIP PG Certification in 3D Printing at IIT Palakad

The Department of Mechanical Engineering proudly announces its faculty's participation in the AICTE-sponsored QIP PG Certification Program in 3D Printing held at IIT Palakad, with Dr. D. Ell Raja (Professor & Head) and Dr. S. Prathap Singh (Assistant Professor) representing the institution in this advanced technical training initiative.

CEEE Program Recognition at IIT Madras

Dr. M. Chrispin Das, Associate Professor in Mechanical Engineering, has been selected for the Center for Engineering Education Excellence (CEEE) Program, receiving a stipend of Rs. 50,000 for a two-week immersive session at IIT Madras, a testament to his dedication to pedagogical innovation.

NPTEL Motivated Learner Award (Jan-Apr 2025)

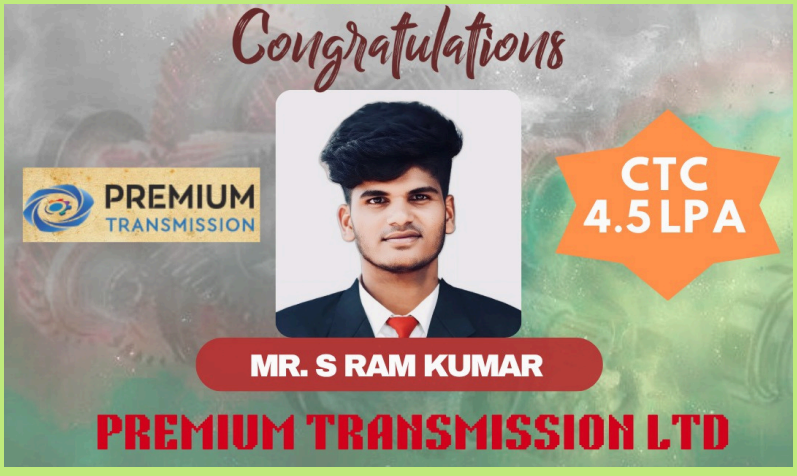
Mr. K.Ramesh Assistant Professor of Our Mechanical Department has been honored as an NPTEL Motivated Learner for his consistent academic performance, having successfully cleared 75% of courses across 8 exams (with at least one exam per semester) between July 2023 and January 2025, as certified by IIT Madras faculty Prof. Andrew Thangaraj and Prof. Vignesh Muthuvijayan.

Internship Achievements

o Three students from the 2022-26 batch of the Department of Mechanical Engineering at St. Joseph's Institute of Technology, Chennai, have secured internships at Rambal Ltd, Thiruporur-Thandalam.

o M. Ravichandiran, Ajay J, and Hari Hairan P are the recipients, with a stipend of ₹10,000/-.

Placement Success

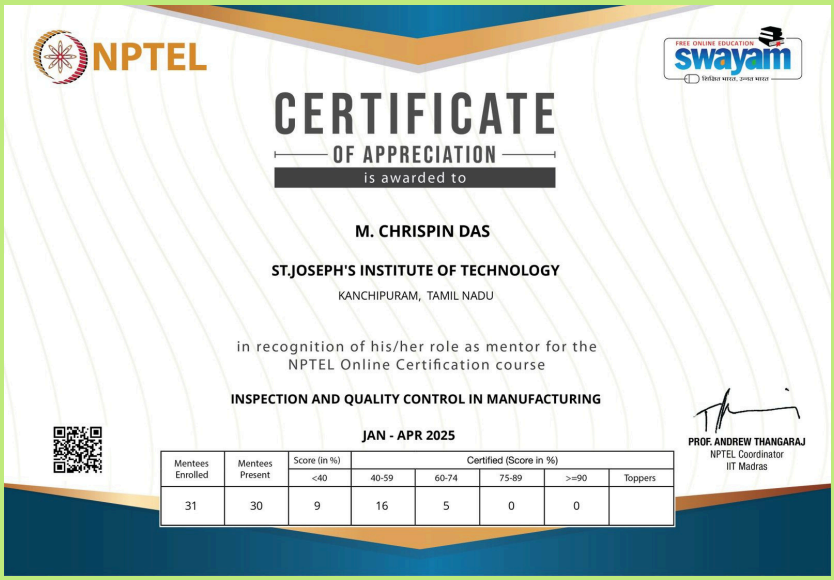


S Ram Kumar from the 2021-25 batch has been placed at Premium Transmission Ltd, marking another milestone for the institution.

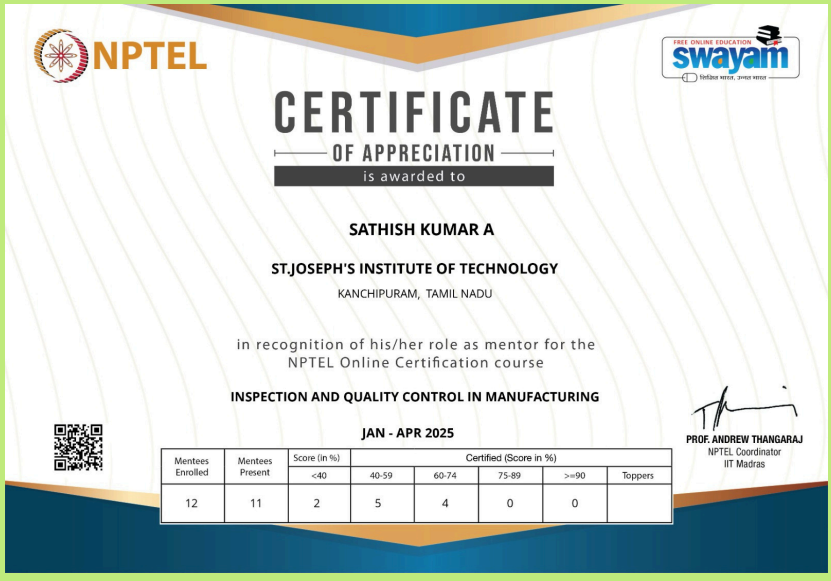
NPTEL Mentorship Recognition

Mr. A. Sathish Kumar and Dr. M. Chrispin Das were awarded Certificates of Appreciation for their roles as mentors in the NPTEL Online Certification course "Inspection and Quality Control in Manufacturing" (Jan-Apr 2025).

- **Mr. A. Sathish Kumar guided 12 mentees (11 present), with 4 achieving scores between 60-74%.**
- **Dr. M. Chrispin Das mentored 31 students (30 present), with 5 scoring 60-74% and 16 scoring 40-59%.**



Mentees Enrolled	Mentees Present	Score (in %)	Certified (Score in %)				
		<40	40-59	60-74	75-89	>=90	Toppers
31	30	9	16	5	0	0	



Mentees Enrolled	Mentees Present	Score (in %)	Certified (Score in %)				
		<40	40-59	60-74	75-89	>=90	Toppers
12	11	2	5	4	0	0	

SCHOOL VISIT

The Department of Mechanical Engineering, has been actively promoting its Engineering Excellence Program through school visits. Faculty members visited multiple schools across Chennai to engage with students and highlight the institute's academic offerings.

1. June 16, 2025

Faculty: Dr. D. Arthur Sebastine Sunderraj, Dr. S. Prathap Singh, and Mr. S. A. Muhammad Abraar.

Schools Visited:

V. S Matriculation Higher Secondary School, Tirukalukumdram, Bharatha Vidhyalaya Matriculation School, Thandalam, Ever Green Matriculation Higher Secondary School, Thiruporur, Aarupadai Veedu Matriculation Higher Secondary School, Thiruporur, Sri Vani Vidyalaya Matriculation Higher Secondary School, Thandalam

SCHOOL VISIT cont..

1. June 20, 2025

Faculty: Mr. K. Ramesh, Mr. D. Murali, and Mr. K. Narayanamoorthy.

Schools Visited:

Anni Violet Matriculation HSS, Selaiyur, Olive Public School & Shikshaa Public School, Hasthinapuram, Vivekananda Vidyalaya, Rosly HSS, Loyola Matriculation HSS, NSN Matriculation HSS, Christ Matriculation HSS, Sacred Heart Matriculation HSS, and Little Holy Angel's Matriculation HSS in Chittlapakkam, Padi, and Korattur.