SRI MANAKULA VINAYAGAR
ENGINEERING COLLEGE
(AN AUTONOMOUS INSTITUTION)

25 YEARS

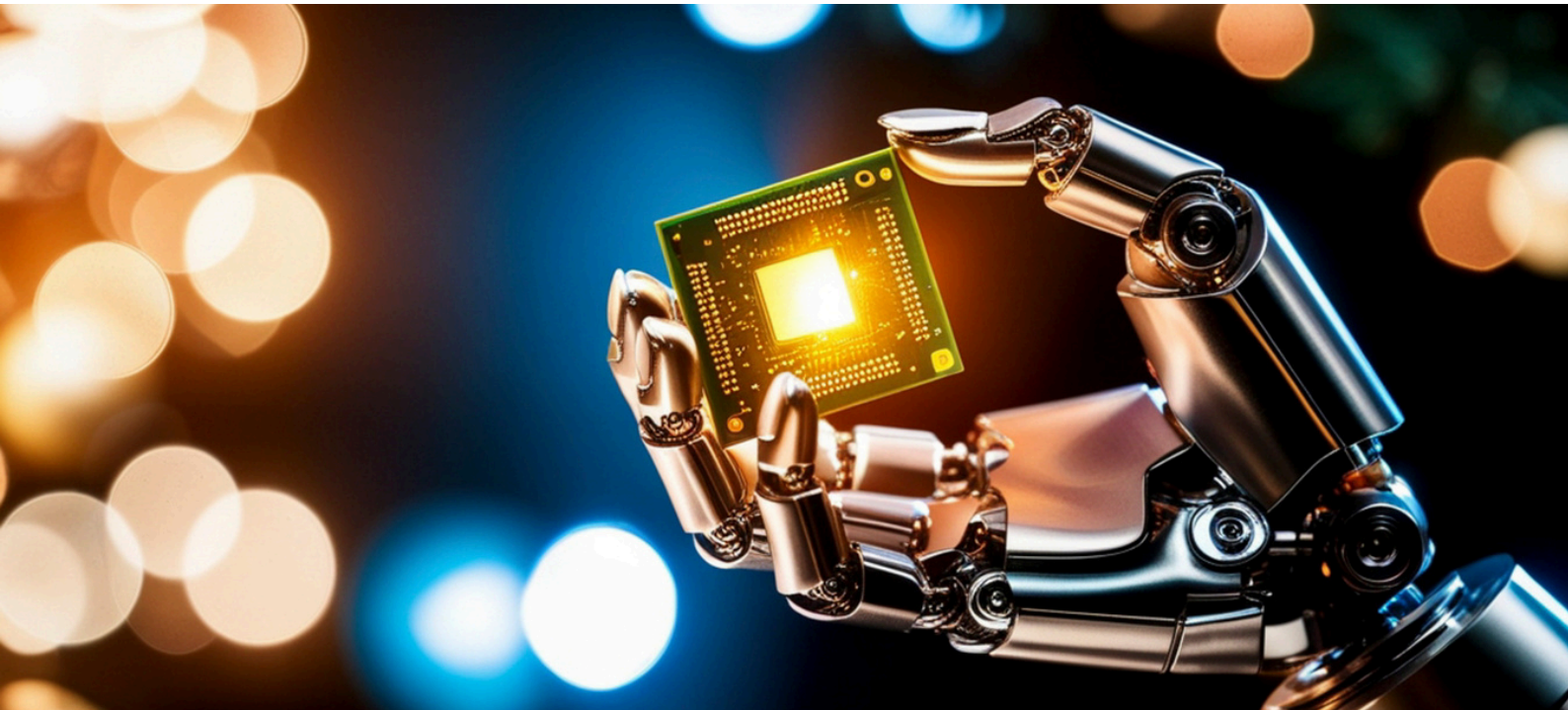
DEPARTMENT OF MECHATRONICS

ROBO TecX CLUB
ANNUAL REPORT

(Academic Year: 2023 to 2024)

Robotics Club

Submitted by
Mr. S. Prakash
Assistant Professor
Faculty Coordinator



Preface

The Robo TecX Club of the Department of Mechatronics Engineering, Sri Manakula Vinayagar Engineering College, serves as a dynamic platform to nurture innovation, technical competence, and collaborative learning among students. The club is established with the objective of bridging the gap between theoretical knowledge and practical implementation in the domains of robotics, automation, embedded systems, and intelligent technologies. The club actively encourages students to explore emerging trends in robotics and automation through hands-on workshops, technical training programs, expert lectures, project development, competitions, and interdisciplinary activities. By fostering creativity, problem-solving skills, and teamwork, the club aims to prepare students to meet the challenges of modern engineering and industrial automation. The effective functioning of the club is supported by a dedicated team of office bearers, including the President, Vice President, Treasurer, and Technical Head, who work collectively with enthusiastic club members to plan, organize, and execute various technical and co-curricular activities. Their leadership and commitment play a crucial role in ensuring the successful achievement of the club's objectives. Through continuous learning, innovation, and industry-oriented initiatives, the Robo TecX Club strives to develop technically sound, socially responsible, and professionally competent engineers. The club remains committed to contributing to the overall academic excellence and technological advancement of the institution.

Faculty Coordinator
Mr. S. Prakash

HoD/ MCTR
Dr. G.B.M. Mohan Raj

IQAC Coordinator
Dr. Arivalagar A A

Director Cum Principal
Dr.V.S.K. Venkatachalapathy

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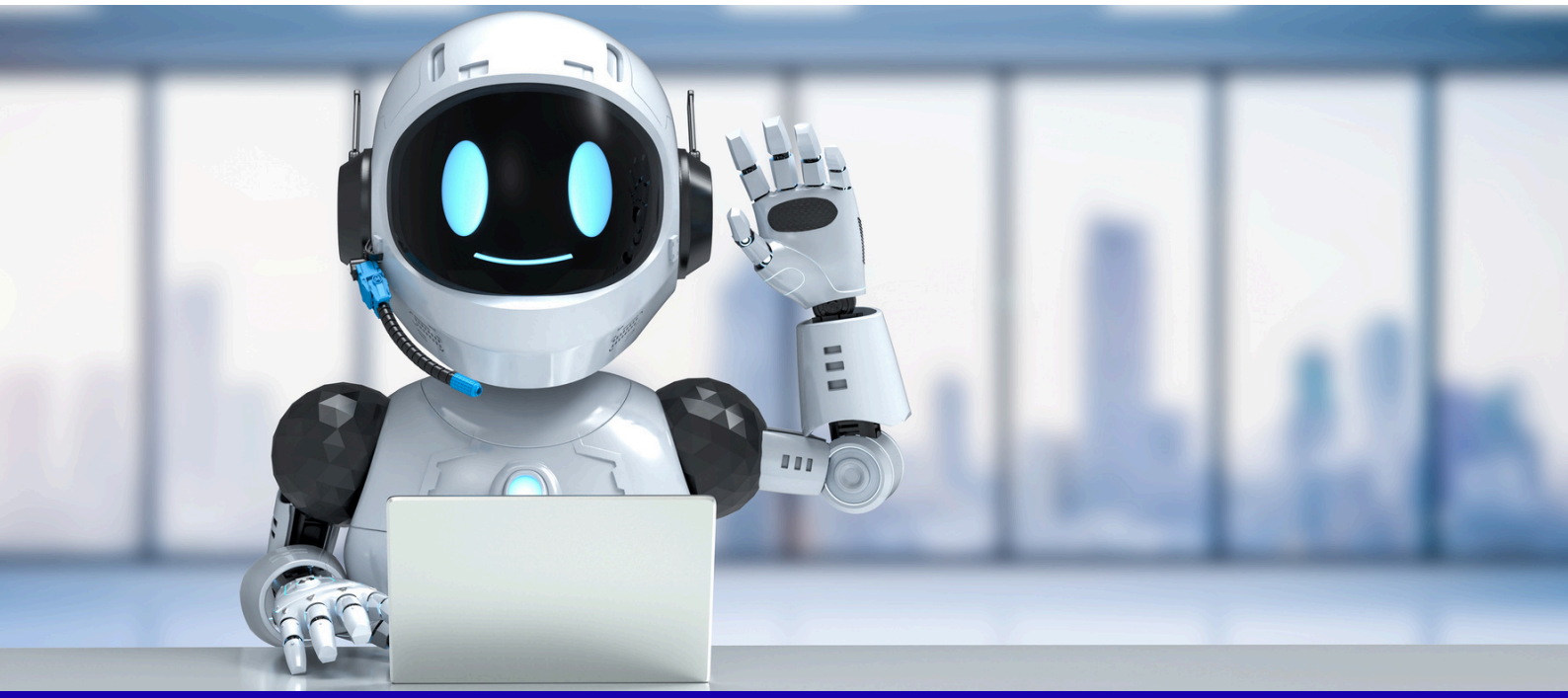


ABOUT THE INSTITUTE

Sri Manakula Vinayaga Educational Trust was founded to provide quality and affordable education to the weaker sections of society. The trust established Sri Manakula Vinayagar Engineering College (SMVEC) in 1999. SMVEC is an autonomous institution affiliated to Pondicherry University. It offers 13 undergraduate, 8 postgraduate and 11 Research programs in engineering. SMVEC has been accredited by NAAC with “A” grade and NBA. The institution is also accredited by TATA consultancy services. The college has a good placement record with students getting job offers from top companies in India and abroad. SMVEC students have won many awards and accolades for their academic achievements. To be globally recognized for excellence in quality education, innovation and research for the transformation of lives to serve the society.

Vision

- To nurture the cornerstone of excellence in engineering education and drive innovation by seamlessly integrating the fundamentals of Science and Humanities

Mission

M1: Quality Education : To provide comprehensive academic system that amalgamates the cutting edge technologies with best practices.

M2: Research and Innovation : To foster value-based research and innovation in collaboration with industries and institutions globally for creating intellectuals with new avenues.

M3: Employability and Entrepreneurship : To inculcate the employability and entrepreneurial skills through value and skill based training.

M4: Ethical Values : To instill deep sense of human values by blending societal righteousness with academic professionalism for the growth of society.

ABOUT THE DEPARTMENT

The Department of Mechatronics Engineering is a top-notch department that offers high-quality UG, PG and PhD programs. The UG program B.Tech - Mechatronics Engineering is accredited by the National Accreditation Board, AICTE-New Delhi, and has a placement record of over 80%. The department's graduates are highly sought-after by employers in the Mechatronics sector.

Our department contributes significantly to achieving the national objective of envisioning the world with a clear and deep commitment and a sincere desire to meet the expectations of a rising, fast-developing technology.

Vision

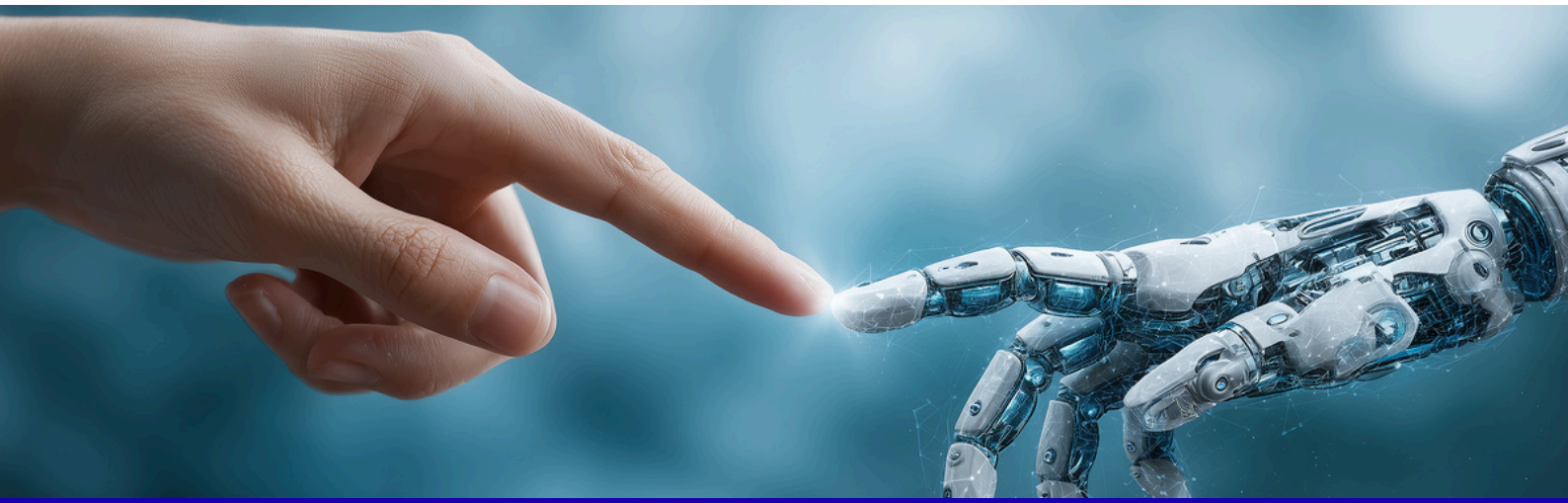
To be a department with outstanding competencies in education and research in interdisciplinary field of Mechatronics Engineering for the prosperity of students and society.

Mission

- **Quality Integration:** To upfold excellence in education by integrating the teaching learning process with hands on trainings in updated technologies.
- **Research Exploration:** To maintain a dynamic balance between learning and research by encompassing activities related to Research, Industrial projects and Innovation Contests.
- **Personality Development:** To enrich the team spirit and entrepreneurship skills through training programmes on personality development for career prospects.
- **Social Ethics:** To enhance the principle of highest ethical values by inculcating code of conduct for the betterment of the Society.

Programmes offered

- B.Tech - Mechatronics Engineering
- M.Tech - Mechatronics Engineering
- M.Tech - VLSI & Embedded Systems
- Ph.D - Mechatronics Engineering



"Shaping a smarter world through circuits, signals, and systems."

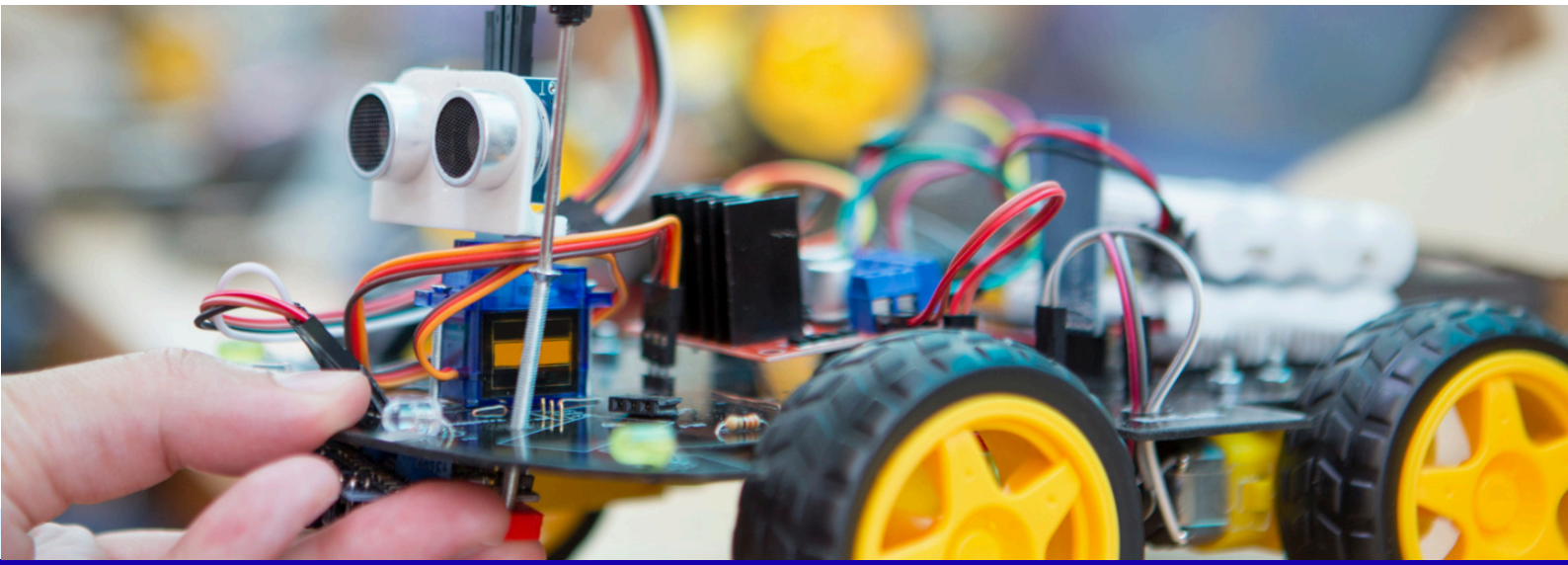
ABOUT ROBO TecX CLUB

The Robo TecX Club from the department of Mechatronics is dedicated to exploring cutting-edge advancements in robotics, AI, and automation, with the overarching theme of "Empowering and Innovating the future with the intersection of Robotics and AI." Our club provides a platform for students to apply theoretical knowledge in practical, hands-on projects that encourage critical thinking, teamwork, and problem-solving. From designing autonomous robots to implementing intelligent control systems, club activities span a broad range of real-world applications. Through workshops, competitions, and collaboration with industry experts, the club cultivates technical skills and inspires creativity, preparing students to become leaders in the rapidly advancing fields of robotics and automation.

Objectives of Robo TecX Club

The primary goal of robotics club are as follows:

- To foster hands-on skills in designing, building, and programming robots, enabling students to bridge the gap between theoretical concepts and practical applications.
- To encourage innovative thinking and creative problem-solving by challenging students to develop unique robotic and automation solutions.
- To keep members updated on the latest advancements in robotics and automation technologies through workshops, webinars, and expert talks.
- To prepare students for national and international robotics competitions by providing resources, guidance, and a platform for experimentation.
- To inspire research in emerging areas of robotics and automation, such as AI, machine learning, IoT, and human-robot interaction.
- To promote teamwork and collaboration among students from various disciplines for solving complex engineering problems.



OFFICE BEARERS

The Robotics Club is led by a dedicated team of office bearers who play a vital role in driving the club's activities and fostering a culture of innovation. The team typically includes a President, Vice President, Secretary, Treasurer, and Technical Leads, each bringing unique skills and responsibilities to the table. These office bearers coordinate workshops, manage resources, mentor junior members, and oversee project development. Their leadership ensures smooth operation of the club while encouraging creativity, collaboration, and hands-on learning in the field of robotics. Through their efforts, the club continues to be a hub of technical excellence and a launchpad for future innovators.

Mr. S. PrakashAssistant Professor Faculty Coordinator

Maria Jeffrey. S
President
IV

Arun Prakash. NA
Vice President
IV

Mathews Talma. A
Secretary
IV

LIST OF EVENTS

S. No	Title of the Events
01	COMPONENT EXPLANATION AND TEST
02	PROJECT DEMONSTRATION AND EXPLANATION

COMPONENT EXPLANATION AND TEST

The Robo TecX Club organized an Seminar titled " Component Explanation And Test " on virtual mode at the Department of Mechatronics.
This topic introduces students to the world of robots and how they are used in everyday life. Students learn about the basic parts of a robot, such as sensors, motors, and controllers, and how these parts work together to perform tasks. The topic also covers simple programming concepts and real-life applications of robots. It helps students develop problem-solving skills, creativity, and logical thinking, while inspiring interest in science, technology, engineering, and robotics.

- Total Number of Participants : 96
- Year of students: I, II, III and IV
- Venue : Department of Mechatronics
- Date : 21/02/2024
- Event Coordinator: Mr. S. Prakash
- Mode of seminar: Offline

Objective of the Seminar

- The primary objective of this event is to highlight the significance of robotics in industrial automation and to share a glimpse of job opportunities in the field of robotics with the students.
- To enhance the technical knowledge of students about robotics in electronics.
- To create interest among the students towards industry automation.
- To make the students interact with the resource person for knowledge transfer.

Outcome of the Seminar

- Students will be able to identify different components used in their projects .
- To create interest among the students towards industry automation.
- Students will evaluate their own understanding and identify areas for improvement through tests .

CIRCULAR

SRI MANAKULA VINAYAGAR ENGINEERING COLLEGE
(AN AUTONOMOUS INSTITUTION)

DEPARTMENT OF MECHATRONICS

SMVEC/MCTR/GL/2024-25/06 Date: 20.02.2024

CIRCULAR

(For Students)

We would like to inform you that the **"Robo TocX Club"**, part of the **Department of Mechatronics Engineering**, has planned to host a technical session on **"PROJECT DEMONSTRATION AND EXPLANATION"** for department students. Students are hereby instructed to participate in the event and enhance their technical and practical knowledge.

PROGRAMME COORDINATOR
(Mr. S. Prakash)

HOD/MCTR
(Dr. G.B.M. Mohan Raj)

PHOTO GALLERY

PROJECT DEMONSTRATION AND EXPLANATION

This allows students to show and explain their projects in front of teachers and classmates. Students demonstrate how their project works, describe the role of each component, and explain the process they followed to design and build it. This activity helps students connect theory with practice, develop confidence, and improve communication skills by presenting their ideas clearly and answering questions. It also encourages creativity, problem-solving, and teamwork.

- Total Number of Participants : 96
- Year of students: I, II, III, & IV
- Date: 11/09/2023
- Venue : Department of Mechatronics
- Event Coordinator: Mr. S. Prakash
- Mode of activity: Offline

Objective of the Activity

- To inculcate interest among the freshers to involve themselves in the field of robotics
- To enhance the technical knowledge of students about robotics in electronics.
- To create interest among the students towards industry automation.
- To make the students interact with the resource person for knowledge transfer.

Overview of the Activity

The Robo TecX Club recently organized a practical demonstration session titled “Project Demonstration and Explanation” for our students, aiming to bridge theoretical concepts with real-world applications in mechatronics and automation. The event was conducted in the Department of Mechatronics Engineering and was led by club representatives. The program began with an introductory discussion to familiarize students with the basics of project development and system integration. The presenters explained the design, working principles, and practical applications of various projects in detail. Students were then encouraged to interact with the models and prototypes, gaining valuable hands-on experience in understanding their functionality. To conclude the session, participants took part in assembling and testing project components using the provided materials. This interactive and collaborative session generated great enthusiasm and curiosity among the students, motivating them to develop further interest in projects, innovation, and automation.

Outcome of the Event

- Students gained practical knowledge of robotics concepts through direct interaction with the Project Making
- Participants successfully assembled and operated the bot, improving their technical confidence and skills.
- The session sparked curiosity and enthusiasm among Department students toward robotics and automation.

CIRCULAR

SRI MANAKULA VINAYAGAR ENGINEERING COLLEGE
(AN AUTONOMOUS INSTITUTION)

DEPARTMENT OF MECHATRONICS

SMVEC/MCTR/GL/2024-25/11 Date: 10.09.2023

CIRCULAR

(For Students)

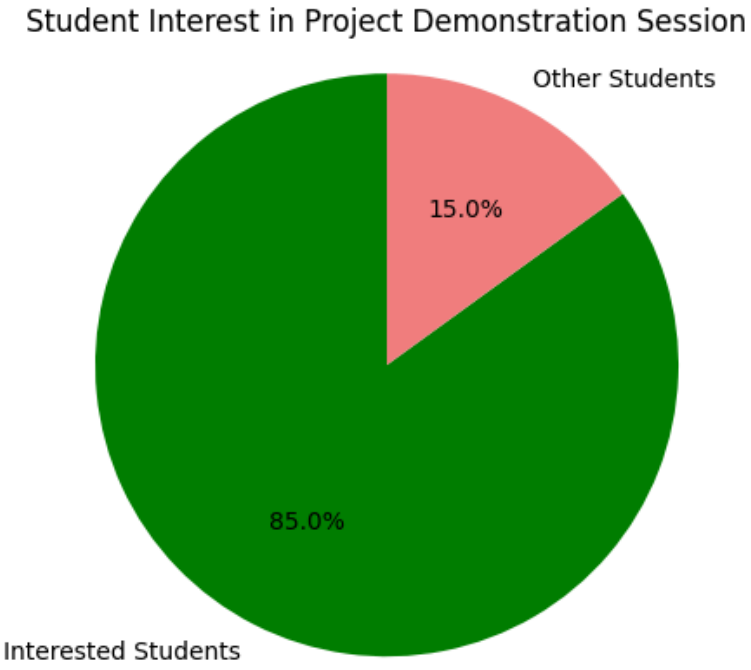
We would like to inform you that the **Robo TecX Club**, Department of Mechatronics Engineering, has organized a technical event titled **"Project Demonstration and Explanation"** for department students. The objective of this program is to enhance students' practical knowledge by providing hands-on exposure to project development, working mechanisms, and real-time applications. The session will include live project demonstrations and detailed explanations by club members. All students are hereby instructed to actively participate in the event and make effective use of this learning opportunity.

PROGRAMME COORDINATOR
(Mr. S. Prakash)

HOD/MCTR
(Dr. G.B.M. Mohan Raj)

PHOTO GALLERY

STUDENT FEEDBACK



The pie chart indicates that 85% of students showed active interest in the Project Demonstration and Explanation session, reflecting high engagement and enthusiasm, while 15% showed moderate participation.