Instrumentation Engineering

Newsletter 2024-2025

Vision statement of Department

To be recognized as leading contributor in imparting technical education and research in Instrumentation & Control engineering for development of the society.

Mission statement of Department

1.To deliver knowledge of Instrumentation and Control Engineering by strengthening involvement of Research institutions and industries in academics

2. To build conducive environment for advanced learning through participation of faculty and students in collaborative research, consultancy projects, student exchange programs and internships

3.To develop competent Engineers with entrepreneurial skills to address socio-economic needs.

Program Educational Objectives (PEO)

The Graduates would demonstrate

1. Core competency in Instrumentation and Control Engineering to cater to the industry and research needs.
2. Multi-disciplinary skills, team spirit and leadership qualities with professional ethics, to excel in professional career and/or higher studies.
3. Preparedness to learn and apply contemporary technologies for addressing impending challenges for the benefit of organization/society.
4. Knowledge of recommended standards and practices to design and implement automation solutions.

PEO – Mission Mapping

	M1	M2	M3
PEO1	3	2	2
PEO2	2	3	2

PEO3	2	3	3
PEO4	2	3	3

Program Specific Outcomes (PSOs)

Graduates shall have the ability to:

1.Evaluate the performance of suitable sensors / Process components/ Electronic / Electrical components for building complete automation system.

2. Analyze real-world engineering problems in the area of Instrumentation and Control.

3.Design or Develop measurement / electronic / embedded and control system with computational algorithms to provide practical solutions to multidisciplinary engineering problems.

Program Outcomes

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 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, 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. 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.

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

9. Individual and teamwork: 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.

Department Activities

1. Industry Connect of the Department

Following two courses are conducted by Emerson Engineering Export Centre from July 2025 to Dec 2025

1. Batch Process Control (BPC)

2. Industrial Project Engineering (IPE)

2. Professional Body Activities

Activities conducted under International Society of Automation (ISA) VIT Students Chapter

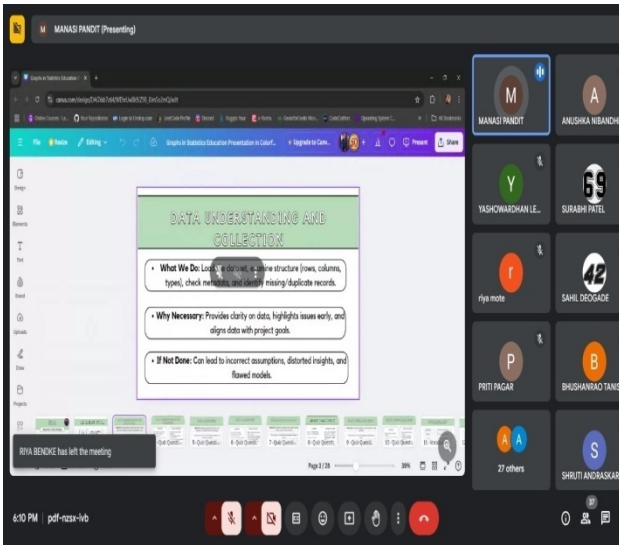
A. Donation of E-vehicle by Logicon Techno solutions

B. Ingenious 2024 Competition: Ingenious 2024, organized by ISA VIT Pune, was a groundbreaking initiative aimed at connecting young minds with industry for innovation. The competition provided a platform for students to collaborate with industry leaders, tackle real-world problems, and get rewarded for their brilliance.

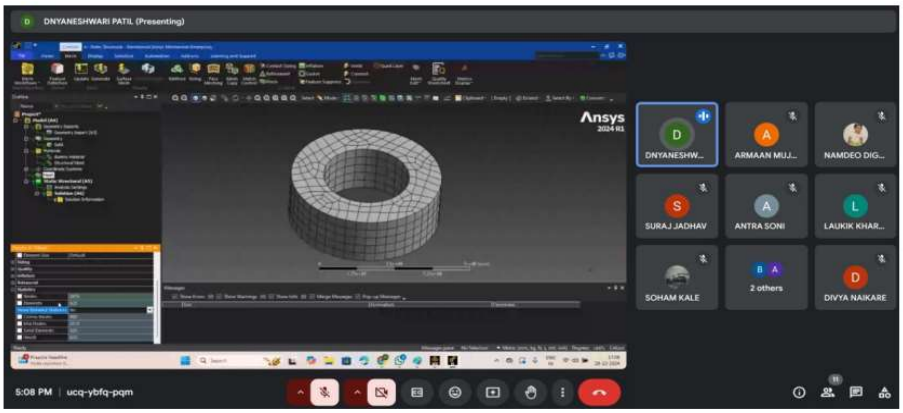
Prize distribution by the delegates from DSS World Pvt. Ltd. Pune August 8, 2024

C. TechTalk by Mr. Rushikesh Nandedkar, Principal Threat Intelligence Analyst at GoDaddy on 8th Aug 2024

D. 3 Day's Online Machine Learning Workshop from December 6-8, 2024



E. Three Days online Workshop on Basics of Designing and Material Analysis December 26-28, 2024



F. Industry Visit under IEEE IMS Students Chapter on 25 March 2025 to Katraj Dairy Pune

3. Details of Students Six months Internships of Final Year students

Name of Student	Industry Name
Bhilare Abhishek Mahadev	Ryka Engineering Solutions Pvt Ltd
Bauskar Aneesh Rajesh	Trichemie Plant Engineering Solutions
Joshi Bhagyashri Vyankatesh	Emerson Export Engineering Centre
Bhalake Samarth Shivanand	Cummins India Pvt Ltd
Bhosale Shreyash Nitin	Trichemie Plant Engineering Solutions
Chandorkar Manas Arun	Thermax babcock and Wilcox Energy Solutions
Chavan Atharv Rahul	UltraTech cements Pvt Ltd
Chaware Sachin	Techport Solutions Pvt Ltd
Choudhari Vedant	Wipro Pari Private Limited
Gadappa Deep	Techport Solutions Pvt Ltd
Deshmukh Amogh	Forbes Marshal Pvt Ltd
Deshmukh Mahesh Madhavrao	InnoGlobal Automation & Engineering Solutions
Deshmukh Shravani	Emerson Export Engineering Centre II

Deshpande Amogh Nagesh	Black & Veatch Pvt Ltd
Deshpande Anway	InnoGlobal Automation & Engineering Solutions
Deshpande Dipti	Emerson Export Engineering Centre II
Dhumal Siddhi	Emerson Export Engineering Centre
Divte Aditya Keshav	Ryka Engineering Solutions Pvt Ltd
Gaikwad Ankita Ashok	Emerson Export Engineering Centre II
Gavhane Swapnil Kishanrao	Spark Innovation Pvt Ltd
Relekar Gayatri	Eaton Pvt Ltd
Ghait Rushikesh Madhukar	Spark Innovation Pvt Ltd
Jadhav Viraj Anil	Petrofac Pvt Ltd Mumbai
Jagadale Makarand	Efilia Technologies
Jaybhaye Shweta	Emerson Export Engineering Centre II
Joshi Aarya Hemant	Emerson Export Engineering Centre II
Joshi Anushka	Emerson Export Engineering Centre II
Kale Prashant	Dssworld Pvt Ltd
Kekan Vijay	Autovue Pvt Ltd
Khomane Kartik	Altizon Pvt Ltd
Kerkar Kimaya	Forbes Marshal Pvt Ltd
Kul Rajeshwari Bapusaheb	Emerson Export Engineering Centre II
Kulkarni Vaishnavi	Emerson Export Engineering Centre II
Lohar Durva	Emerson Export Engineering Centre II
Mukkawar Gauri Sandeep	Technip Energies India Limited
Nagre Hrucha Gajanan	Emerson Export Engineering Centre II
Najare Kaushik Rajendra	Ryka Engineering Solutions Pvt Ltd
Narwane Mrunal	Yoptima Pvt Ltd
Shevkari Niraj	Techport Solutions Pvt Ltd
Nyahalde poonam	Emerson Export Engineering Centre II
Pardhi Ritiksha	Cummins India Pvt Ltd
Patil Aaryen	COEP Tech University Pune
Patil Dinesh	Thyssenkrupp Uhde India Private Ltd
Patil Srushti Mahendra	Emerson Export Engineering
Pembarti Sejal	Technip Energies India Limited
Tushar Phulari	Shreeji Markiting Coperation
Purandare Parag Anand	Black & Veatch Pvt Ltd
Rajput Bhupendrasing Bhausaheb	Metro Pvt Ltd
Rajput Kundan Mahendra	Altizon Pvt Ltd
Manish Rakhewar	Thyssenkrupp Uhde India Private Limited
Dubey Saurabh Praveen	Trichemie Plant Engineering Solutions
Savji Pushkraj	Pune Techtrol Pvt Ltd

Shambharkar Sayali	Emerson Export Engineering Centre II
Shravyasri	Upnyx Innovative Solutions
Sandbhor Sourabh Sunil	Teclog Automation Pvt Ltd
Talnikar Vedhas	Flyt Base Labs Pvt. Ltd.
Tasmay Barve	Melux Control Gears P.Ltd.
Thipsay Yash	Nethermind Pvt Ltd
Thombare Prathamesh Rajkumar	Pune Techtrol Pvt Ltd
Upganlawar Ved	Ribbstyle India Pvt. Ltd.
Yevatekar Shaunak Makarand	Metro Pvt Ltd
Lambhate Santosh Balu	Yamazaki Mazak Machine Tools Pvt Ltd
Prathamesh Pawar	PHN Technology

4. Faculty Achievements

Faculty Research for Academic Year 2024-25

Sr. No	Publications	Total
1	SCI/WOS/Scopus Journal Publications	7
2	UGC Care and other peer reviewed journals	32
3	Conference and book chapter	65
Patents		
1	Granted	5
2	Published	24
3	Filed	28

List of SCI/Scopus/WOS publications published

Sr. No	Title of Paper	Name of Journal	Name of Faculty	ISSN
1.	Advancements in Bearing Defect Diagnosis: Deep Learning-based Signal Processing and Real-time Fault Detection	Journal of Failure Analysis and Prevention, Springer Nature	Dr. Shilpa Sondkar	1864-1245
2.	Rolling-element bearing vibration datasets under varying loads and speeds: A study from Vishwakarma Institute of Technology	Data in Brief, Elsevier	Dr. Shilpa Sondkar and Prof. Jitendra Gaikwad	2352-3409
3.	A Comprehensive	International	Dr. Archana	2074-9074

	Evaluation of Spectral Unmixing Methods in Hyperspectral Imaging	Journal of Image, Graphics and Signal Processing(IJIGSP), MECS Press	Chaudhari	
4.	CNN and GAN Based Stroke Detection Using CT Scan Images	International Journal of Image, Graphics and Signal Processing (IJIGSP) MECS Press	Dr. Archana Chaudhari	2074-9074
5.	Energy-efficient Q-learning-based routing in wireless sensor networks	International Journal on Smart Sensing and Intelligent Systems, Sciendo Publications	Dr. Archana Chaudhari	1178-5608
6.	Salient Region Guided Colour Image Restoration using Deep Learning with Adaptive Compressive Sensing	Panamerican Mathematical Journal	Prof. Pramod Kanjalkar	10649735
7.	Comparative analysis of feature descriptors and classifiers for real-time object detection	International Journal of Reconfigurable and Embedded Systems (IJRES)	Prof. Vikas Nandeshwar	2089-4864

Following Patents granted to Department Faculty and Students

1. Automatic System to Reduce Water Losses in Solar Water Heating Systems granted to Prof. Pramod Kanjalkar and following students Varad Uday Dange, Shruti Shailesh Rane, Aditi Sanjay Rawat, Prajyot Pramod Patil

2. An intelligent retro-fit add on device for two wheeler automobile to avoid forward collision granted to Prof. Pramod Kanjalkar and following students Kajal Salvi, Monali Harde and Akshada Favare

5. Industry Visits of Third Year students at Kamco Industries on 28 March 2025