VIVEKANAND EDUCATION SOCIETY'S INSTITUTE OF TECHNOLOGY (AUTONOMOUS)

Newsletter
Department of Automation & Robotics
TENTH Edition

INNOVETA

2024-2025

EDITORIAL

EMBRACING THE FUTURE: THE RISE OF AUTOMATION

AUTOMATION HAS REVOLUTIONIZED THE WAY INDUSTRIES OPERATE, TRANSFORMING THE LANDSCAPE OF WORK AND REDEFINING THE BOUNDARIES OF HUMAN CAPABILITY. AS WE STAND AT THE THRESHOLD OF A NEW ERA, IT IS IMPERATIVE TO ACKNOWLEDGE THE PROFOUND IMPACT OF AUTOMATION ON OUR LIVES AND THE FUTURE OF WORK.

INDUSTRIAL AUTOMATION IS A DISCIPLINE THAT INCLUDES KNOWLEDGE AND EXPERTISE FROM VARIOUS BRANCHES OF ENGINEERING INCLUDING ELECTRICAL, ELECTRONICS, CHEMICAL, MECHANICAL, INSTRUMENTATION, COMMUNICATIONS, AND MORE RECENTLY COMPUTER AND SOFTWARE ENGINEERING. AUTOMATION & CONTROL BY THEIR VERY NATURE DEMAND A CROSS-FERTILIZATION OF THESE FACULTIES.

AUTOMATION MEANS "THE TECHNIQUE OF MAKING AN APPARATUS, A PROCESS, OR A SYSTEM OPERATE AUTOMATICALLY." WE DEFINE AUTOMATION AS "THE CREATION AND APPLICATION OF TECHNOLOGY TO MONITOR AND CONTROL THE PRODUCTION AND DELIVERY OF PRODUCTS AND SERVICES."

SOCIETY IN ITS DAILY ENDEAVORS HAS BECOME SO DEPENDENT ON AUTOMATION THAT IT IS DIFFICULT TO IMAGINE LIFE WITHOUT AUTOMATION ENGINEERING IN ADDITION TO THE INDUSTRIAL PRODUCTION WITH WHICH IT IS POPULARLY ASSOCIATED, IT NOW COVERS A NUMBER OF UNEXPECTED AREAS. TRADE, ENVIRONMENTAL PROTECTION ENGINEERING, TRAFFIC ENGINEERING, AGRICULTURE, BUILDING ENGINEERING, AND MEDICAL ENGINEERING ARE BUT SOME OF THE AREAS WHERE AUTOMATION IS PLAYING A PROMINENT ROLE. AUTOMATION ENGINEERING IS A CROSS-SECTIONAL DISCIPLINE THAT REQUIRES PROPORTIONAL KNOWLEDGE IN HARDWARE AND SOFTWARE DEVELOPMENT AND THEIR APPLICATIONS.

IN THE PAST, AUTOMATION ENGINEERING WAS MAINLY UNDERSTOOD AS CONTROL ENGINEERING DEALING WITH A NUMBER OF ELECTRICAL AND ELECTRONIC COMPONENTS. THIS PICTURE HAS CHANGED SINCE COMPUTERS AND SOFTWARE HAVE MADE THEIR WAY INTO EVERY COMPONENT AND ELEMENT OF COMMUNICATIONS AND AUTOMATION. AUTOMATION IS THE KEY TO MODERNIZATION AND HAS BEEN CONCEPTUALLY UNDERSTOOD AS A WAY TO INCREASE EFFICIENCY AND TO IMPROVE PRODUCTIVITY.

VISION

TO CONTRIBUTE TOWARDS CREATING INTERDISCIPLINARY ENGINEERS IN THE FIELD OF AUTOMATION AND ROBOTICS WHO STRIVE TOWARDS APPLYING THEIR KNOWLEDGE FOR THE PROGRESS OF THE SOCIETY.

MESSAGE FROM DEPARTMENT

MR. KADER SHAIKH
ASSISTANT PROFESSOR
DEPT.OF AU&RO

AUTOMATION IS NO LONGER A BUZZWORD–IT IS A REALITY RESHAPING THE MANUFACTURING ENVIRONMENT. INCREASING LABOR COSTS, SHRINKING TIME TO MARKET, COMPETITIVE MARKETS, RIGID PROFIT MARGINS, ETC., ARE FORCING MANUFACTURERS TO IDENTIFY AND INCORPORATE EFFICIENT AUTOMATION SYSTEMS AND PRODUCTION PRACTICES.

THE INCREASING DEMAND FOR AUTOMATION IN THE MANUFACTURING SECTOR HAS OPENED UP VARIOUS JOB AND ENTREPRENEURSHIP OPPORTUNITIES FOR FRESH AND EXPERIENCED ENGINEERING GRADUATES. THE CURRENT SCENARIO MANDATED US TO RECHRISTEN THE DEPARTMENT WITH A NEW NAME AND A FOCUS ON IMBIBING THE LATEST SKILLS IN OUR STUDENTS. WORKSHOPS WITH HANDS-ON SESSIONS, WORKSHOPS BY INDUSTRY EXPERTS, INDUSTRIAL VISITS, EXPERT LECTURES, ALUMNI INTERACTION SESSIONS, ETC., ARE ORGANIZED ON A REGULAR BASIS TO FOSTER THEORETICAL UNDERSTANDING AND PRACTICAL PROFICIENCY.

AS THE WORLD MOVES TOWARDS INDUSTRY 5.0, THE NEW MANTRA FOR THE STUDENTS IS TO ADAPT AND EVOLVE WITH THE ENVIRONMENT. LEARN THE FUTURE TECHNOLOGIES, IMPROVE SKILL SETS, AND BE INDUSTRY-READY BY THE END OF THE COURSE.

LEST ALIGN WITH THE MOTTO OF CREATING A SYMBIOTIC RELATIONSHIP BETWEEN HUMANS AND ADVANCED TECHNOLOGIES. ENVISION A WORLD IN WHICH HUMANS AND MACHINES COLLABORATE TO REACH UNPRECEDENTED HEIGHTS, SURPASSING WHAT THEY COULD ACCOMPLISH INDIVIDUALLY.

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ORIENTATION SESSION

THE DEPARTMENT OF AUTOMATION & ROBOTICS HAS ARRANGED AN PARENTS TEACHER MEETING (PTM) ON NEW EDUCATION POLICY (NEP) FOR SE PARENTS ON 31/08/2024 AT COLLEGE AUDITORIUM.VESIT

AGENDA OF THE MEETING:

- INTERACTION BETWEEN PARENTS AND TEACHERS FOR CREATING AWARNESS OF NEP WHICH IS ADOPTED BY COLLEGE
- SYLLABUS SCHEME,EXAM SCHEME, HONORS/ MULTIDISCIPLING MINOR & ALSO AWARNESS ABOUT PLACEMENT & INTERNSHIP
- TO INFORM PARENTS REGARDING EXAM PATTERN AND ATTENDANCE RULES.
- DEPT.LAB TOUR
- FEEDBACK WILL BE GIVEN BY PARENTS.

IN SAID MEETING HOD MADAM AND ALL TEACHING FACULTIES WERE PRESENT TO WELCOME AND ADDRESS ALL THE PARENTS WHO JOINED THE MEETING.APPROXIMATELY 80-90 PARENTS AND STUDENTS JOINED THIS MEETING


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RESEARCH PAPER PUBLICATION

- MRS. DEEPTI KHIMANI, DR.MACHHINDRANATH PATIL, MR.PRASAD GODSE, MR.RAKESH BARAI. HAS PUBLISHED A RESEARCH PAPER IN "A SUPER-TWISTING CONTROL DESIGN FOR SHELL AND TUBE HEAT EXCHANGER" ON DECEMBER 2024.(JOURNAL OF ELECTRICAL SYSTEMS)

- MRS. DEEPTI KHIMANI, DR.MACHHINDRANATH PATIL,MR.RAKESH BARAI. HAS PUBLISHED A RESEARCH PAPER IN "PRACTICAL IMPLEMENTATION OF SLIDING MODE AND SUPER-TWISTING CONTROL FOR FLOW CONTROL SYSTEM" ON DECEMBER 2024.(JOURNAL OF ELECTRICAL SYSTEMS)

NPTEL CERTIFICATION

- ENHANCE KNOWLEDGE AND SKILLS: NATIONAL PROGRAMME ON TECHNOLOGY ENHANCED LEARNING (NPTEL) OFFERS COURSES IN VARIOUS FIELDS, ALLOWING FACULTY AND STUDENTS TO STAY UPDATED WITH THE LATEST ADVANCEMENTS IN THEIR DISCIPLINES OR EXPLORE NEW AREAS OF EXPERTISE.
- IMPROVE TEACHING METHODS: NPTEL COURSES OFTEN INCORPORATE INNOVATIVE TEACHING METHODS THAT FACULTY AND STUDENTS CAN INTEGRATE INTO THEIR OWN CLASSROOMS, ENHANCING STUDENT ENGAGEMENT.
- OUR DEPARTMENT FACULTIES ALSO TAKING INITIATIVE TO ENHANCE THE SKILLS AND KNOWLDGE THROUGH NPTEL.

Elite

NPTEL ONLINE CERTIFICATION

(Funded by the MoE, Govt. of India)

Skill India
कौशल भारत - कुशल भारत

This certificate is awarded to

VENKATA RAMYA T

for successfully completing the course

Python for Data Science

with a consolidated score of **75** %

Online Assignments	24.25/25	Proctored Exam	50.25/75

Total number of candidates certified in this course: **11133**

Prof. Andrew Thangaraj
Chair
Centre for Outreach and Digital Education, IITM

Jul-Aug 2024
(4 week course)

Prof. Vignesh Muthuvijaya
NPTEL Coordinator
IIT Madras

Indian Institute of Technology Madras

FREE ONLINE EDUCATION swayam
शिक्षित भारत, उन्नत भारत

Roll No: NPTEL24CS68S241901743 To verify the certificate No. of credits recommended: 1 or 2

NPTEL-AICTE
Faculty Development Programme

(Funded by the MoE, Govt. of India)

This certificate is awarded to

JAYASSRE RAMAKRISHNAN

for successfully completing the course

Python for Data Science

with a consolidated score of **69** %

Prof. Andrew Thangaraj
NPTEL Coordinator
IIT Madras

(Jan-Feb 2024)

Roll No: NPTEL24CS54S550300801 Duration of NPTEL course : 4 Weeks

The candidate has studied the above course through MOOCs mode, has submitted online assignments and passed proctored exams.

INTERNSHIP/TRAINING & PLACEMENT (2024)

NO. OF STUDENTS PLACED: 37* NO. OF STUDENTS ELIGIBLE: 62

OUR RECRUITERS

Worley
energy | chemicals | resources
Intecsea
Worley Group

Tecnimont ICB

ExxonMobil

Johnson Controls

thyssenkrupp

TATA

TATA CONSULTING ENGINEERS LIMITED

Galaxy
Global Supplier to Global Brands

BURNS McDONNELL

T.EN TECHNIP ENERGIES

Bharat Petroleum

Sierra

L&T

atul

NICE CONSULTANCY PTE LTD

ENERGY TRANSITION TECHNICAL LECTURE SERIES

(BY TECNIMONT MAIRE GROUP)

Session	Name of the topic	Name of the speaker	Date
1	Green energy / Green Hydrogen / Transition in Energy Sector	Mr. Andreola Stefano	23 September 2024
2	Safety Aspects in Industrial Control	Mr. Cristofori Claudio	27 September 2024
3	Application of Industrial analyzers in process industry / Quality monitoring and control / Pollution control	Bellomo Alberto Enzo,Finardi Matteo	01 october 2024
4	Cybersecurity in Industrial Automation and Control	Cilli Fabrizio	07 october 2024
5	Digitalization of process industry	Ezio Pasqualon,Luigi Viscomi	09 october 2024

The Department of Automation and Robotics at VESIT hosted the first session of the Energy Transition Technical Lecture Series, organized by the MAIRE Group for second, third, and final year students.

A) **Green energy / Green Hydrogen / Transition in Energy Sector**

The first session, held on 23 September 2024, featured Mr. Andreola Stefano from Tecnimont, who introduced the potential of hydrogen, renewable electricity, and sustainable energy innovations.

Mr. Andreola Stefano explained hydrogen's role in decarbonizing industries and emphasized its production through methods like electrolysis and steam methane reforming. He covered the classification of hydrogen (green, gray, etc.), its properties, and its advantages, such as abundant supply, clean energy potential, and storage capability. However, challenges like low transport efficiency, high production costs, and safety concerns were also highlighted.

The lecture discussed hydrogen's role in the hydrogen economy, its use in electric vehicles, and how it could help reduce emissions. Additionally, the speaker covered safety measures for hydrogen projects and the global trends in low-cost hydrogen production in regions like Australia, South Africa, and the Middle East. This session provided students with a clear understanding of hydrogen's potential to drive the energy transition and combat climate change.

B) Safety Aspects in Industrial Control

The second session was conducted on 27 September 2024 by Mr. Cristofori Claudio from the Tecnimont group. The lecture was focusing on the critical intersection of safety and security in Operational Technology (OT) environments. The session emphasized that safety and security are intertwined; a breach in security can directly compromise safety protocols, underscoring the importance of integrated risk management strategies.

The instructor highlighted the necessity of holistic approaches to safeguarding critical infrastructure, encompassing physical, cyber, and operational layers. This comprehensive perspective ensures resilience against various threats, particularly as vulnerabilities in OT systems grow.

A significant portion of the lecture was dedicated to the evolving role of artificial intelligence in enhancing OT security. AI technologies can significantly improve threat detection and response, allowing organizations to adopt a more proactive security posture.

C) Application of Industrial analyzers in process industry / Quality monitoring and control / Pollution control

From the Engineering, Procurement, and Construction (EPC) perspective, the instructor discussed the importance of incorporating security measures early in the design phase. This "security by design" principle helps mitigate risks throughout the project lifecycle.

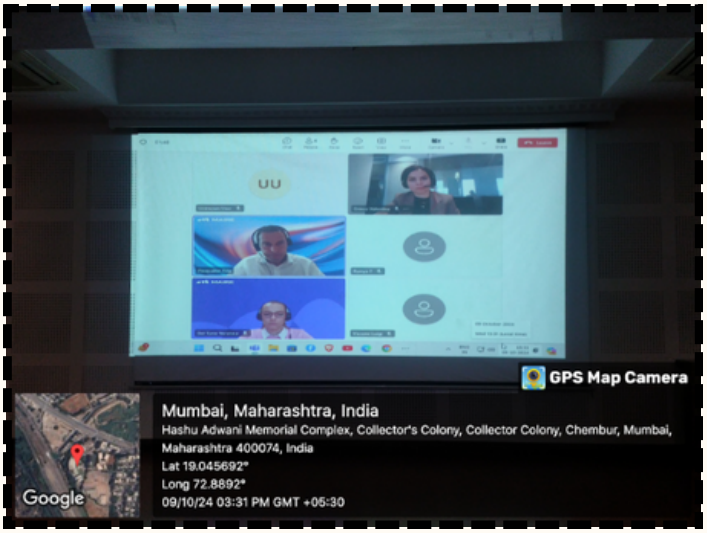
D) Cybersecurity in Industrial Automation and Control

The fourth session of the series held on 07 October 2024 focused on Cybersecurity in Industrial Automation and Control. Mr. Cilli Fabrizio explained about the increased connectivity and the associated risks in digital transformation in OT. The session highlighted the growing risks associated with this connectivity, the importance of safety and security, the increasing role of artificial intelligence (AI) in OT, and the emerging trends in AI-based OT security solutions. He explained how cybersecurity protects systems from malicious threats, safety ensures that processes are controlled to prevent accidents and maintain safe operations.

E) Digitalization of process industry

The last session of the series held on 09 October 2024 focused on enhancing operational technology through various strategic pillars. The session was led by Pasqualon Ezio and Viscomi Luigi. It provided insights into innovative training and maintenance methodologies. Pasqualon Ezio emphasized the significance of the Board Operator Training Simulator (OTS) and the Immersive Training Simulator (ITS). These tools are designed to enhance operator skills and improve decision-making in complex environments, ensuring a higher level of preparedness for real-world scenarios. The session also focused on Maintenance Improvement, highlighting the importance of a Preventive & Condition-Based Maintenance Suite. This approach aims to optimize equipment reliability and reduce downtime. Additionally, the integration of Digital Field Automation through access to Computerized Maintenance Management Systems (CMMS) enhances asset management and facilitates timely maintenance actions.

Viscomi Luigi introduced advancements in operational control, including Local Control Room Remote Operation, which allows for centralized management of field operations. The introduction of Worker Geotracking improves safety and efficiency by providing real-time location data of personnel. The session also addressed the implementation of digital solutions for the Hail and Gasha projects, showcasing how these technologies can streamline operations and improve project outcomes.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ISA MAHARASHTRA SECTION

- THE INTERNATIONAL SOCIETY OF AUTOMATION (ISA) IS A NONPROFIT PROFESSIONAL ASSOCIATION FOUNDED IN 1945 TO CREATE A BETTER WORLD THROUGH AUTOMATION.
- THE ISA MAHARASHTRA SECTION ORGANIZED PPPA (POWER PETROLEUM PROCESS & AUTOMATION) MEET2025 - "SMART AUTOMATION & INNOVATION" TWO DAYS OF CONFERENCE & EXHIBITION AT CIDCO EXHIBITION & CONVENTION CENTRE, VASHI, NAVI MUMBAI FROM 07-08 FEBRUARY 2025
- OUR DEPARTMENT FACULTY MR.N.GOPALKRISHNAN AWARDED AS BEST FACULTY ADVISIOR
- WE ALSO FEEL TO HAPPY THAT OUR STUDENTS ALSO ACHIEVE BIG ACHIVEMNET IN ISA MAHARASHTRA SECTION.MR.RASHID SARANG & ATISHKAR SINGH AWARDED AS BEST STUDENT WHICH IS PROUD MOMENTS FOR INSTITUTE AS WELL AS DEPT.

Mr. Atishkar Singh

MR.Rashid Sarang

RESEARCH FOROUM TALK

Sr. No	Conducted By	Course description (Orientation Program)	Organized by	Date	Number of days
1	Dr.M.D.Patil (Associate Professor & Head of Research Forum - VESIT)	Discrete-Time LQR Designs	Research Forum - VESIT ,Department of Automation & Robotics & Department of Electronics & Telecommunication In Association with VESIT - IIC & IQAC	08/10/2024	01 Days

DEPT.IQAC & IIC EVENTS

Workshop on Intellectual Property Rights (IPR) & IP Management for Start up

On July 30, 2024, Mr. Rinkesh V Kurkure, a distinguished scientist and entrepreneur, currently serves as the CTO and Cofounder of Psaximo Aerospace Pvt Ltd. With a rich background in both Academia and Industry delivered an insightful workshop on "Intellectual Property Rights(IPR) & IP Management for Start up"The session aimed to introduce participants to the principles of IPR and IP management and its importance to empower participants to protect their innovations effectively and navigate the complexities of the global IPR landscape.

Mr. Rinkesh Kurkure began by highlighting benefits of Patents,difficulties before filing an application,described in detail the PATENT ACT 1970,steps for patenting In India. the core principles of comprehensive strategy for Precise Claim Drafting, which involves scope of claims and avoiding infringement. He explained the importance of each type in safeguarding innovations and creative works was emphasized, along with their role in promoting economic growth. Participants were introduced to the concept of IP portfolio management, including best practices for maintaining and enforcing IP rights. The session highlighted the importance of strategic IP management in building a strong competitive position.The workshop included a review of real-world case studies that showcased effective IPR management and the consequences of poor IP practices. These case studies provided valuable insights into successful IP strategies across various industries, offering practical lessons for participants.

In conclusion,The workshop on IPR Management was a resounding success, achieving its goal of empowering participants with the knowledge and skills necessary to protect and leverage their intellectual property. By providing a thorough understanding of IPR


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Accelerators/Incubation - Opportunities for Students and Faculties Early-Stage Entrepreneurs

On August 26, 2024, Mr.Rajesh Idnani, the Managing Director of QC Acumen Private Ltd., a Global Talent and HR Advisory Company headquartered in Mumbai, India.With a significant contribution to Senior Management Programs in Human Resources, Marketing Specialization, Advertising & Sales Promotion, and Product/Brand Management and a rich background in both Academia and Industry. He delivered an insightful workshop on "Accelerators/Incubation - Opportunities for Students and Faculties - Early Stage Entrepreneurs"

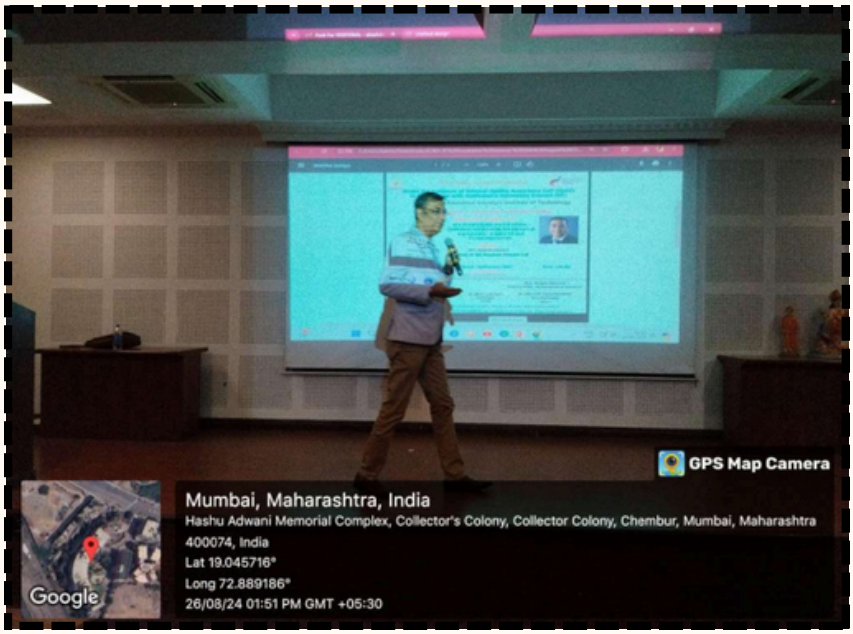
The session aimed to introduce participants to foster Innovation to drive new ideas and solutions, development and market readiness of student initiative startups through intensive support and resources. creating a collaborative and supportive entrepreneurial community.

Mr. Idnani began by emphasizing the importance of a support network consisting of various professionals who play pivotal roles in the development of early-stage startups like teachers who provide foundational knowledge on business principles; trainers who develop specific skills like marketing and leadership; and mentors who offer experienced-based guidance and industry insights. and last but not least coaches who focus on personal and professional growth, helping with mindset and resilience.

Mr.Rajesh Idnani highlighted the key distinctions between accelerators and incubators: Accelerators are short-term programs (usually 3-6 months) that focus on rapidly scaling startups through mentorship, funding, and networking opportunities. They often culminate in a demo day where startups pitch to investors.

On the other hand, Incubators provide long-term support, often without a fixed end date. They offer resources like office space, mentorship, and access to industry experts, with a focus on nurturing startups from the idea stage to a viable business. Incubators are less focused on rapid growth and more on building a sustainable business model.

To conclude, this seminar on early-stage entrepreneurship provided a vital roadmap for anyone looking to navigate the challenging yet rewarding journey of starting a business, highlighting the critical role of market analysis and competitive positioning, Enabling participants to make strategic decisions that enhance their chances of success and guiding applying for these programs and clarity on how to secure the necessary support and funding.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ISA-VESIT

ISA-VESIT IS THE OFFICIAL STUDENT SECTION OF THE INTERNATIONAL SOCIETY OF AUTOMATION (ISA) AT VESIT. IT PROVIDES A PLETHORA OF FACILITIES THAT GIVE EXPOSURE TO ALL THE VARIOUS DOMAINS WHICH IN TURN BENEFIT THE STUDENTS OF VESIT THROUGH ITS VARIOUS PROJECT-ORIENTED WORKSHOPS, TECHNICAL EVENTS, INITIATIVES, INTERNATIONAL CONFERENCES, AND LOTS MORE.

TECHNICAL WORKSHOPS

3D Printing WORKSHOP:

ON 1ST AND 2ND AUGUST 2024, ISA-VESIT HOSTED A "3D MODELLING WORKSHOP" DESIGNED TO INSPIRE AND EQUIP PARTICIPANTS WITH ESSENTIAL 3D MODELLING TECHNIQUES. HELD AT B42 FROM 3:30 PM TO 5:00 PM ON BOTH DAYS, THE WORKSHOP COVERED A WIDE RANGE OF 3D MODELLING TECHNIQUES, FROM BASIC TO ADVANCED LEVELS. THE SESSIONS WERE LED BY KAUSTUBH NATALKAR, JUNIOR TECHNICAL OFFICER AT ISA VESIT, ENSURING AN INTERACTIVE AND ENGAGING LEARNING EXPERIENCE FOR ALL ATTENDEES.

THE FIRST DAY BEGAN WITH AN INTRODUCTION TO 3D MODELLING, WHERE PARTICIPANTS LEARNED ABOUT THE FUNDAMENTALS AND VARIOUS APPLICATIONS OF 3D MODELLING. KAUSTABH PROVIDED AN OVERVIEW OF BASIC PRINCIPLES AND TECHNIQUES. FOLLOWING THIS, PARTICIPANTS ENGAGED IN A HANDS-ON SESSION WHERE THEY CREATED A RASPBERRY PI CASE USING FUSION 360. THIS PRACTICAL EXERCISE HELPED THEM GRASP THE BASICS OF 3D MODELLING AND UNDERSTAND HOW TO BRING THEIR IDEAS TO LIFE DIGITALLY.

ON THE SECOND DAY, THE WORKSHOP DELVED INTO ADVANCED 3D MODELLING TECHNIQUES. KAUSTABH GUIDED ATTENDEES THROUGH DETAILED MODELLING METHODS AND DEMONSTRATED HOW TO CREATE COMPLEX SHAPES AND STRUCTURES. DURING THE INTERACTIVE SESSION, PARTICIPANTS WORKED ON CREATING A ROVER ON FUSION. THEY RECEIVED REAL-TIME FEEDBACK AND GUIDANCE FROM THE INSTRUCTOR, ENHANCING THEIR LEARNING EXPERIENCE.

THE "3D MODELLING WORKSHOP" RECEIVED POSITIVE FEEDBACK FROM PARTICIPANTS, WHO APPRECIATED THE COMPREHENSIVE COVERAGE OF BOTH BASIC AND ADVANCED TECHNIQUES, THE INTERACTIVE SESSIONS, AND THE OPPORTUNITY TO WORK ON SOME SAMPLE PROJECTS.

Digital Designing with Verilog Workshop

ON SEPTEMBER 14TH AND 15TH, 2024, ISA-VESIT HOSTED A TWO-DAY INFORMATIVE WORKSHOP TITLED "DIGITAL DESIGNING WITH VERILOG," LED BY GAUTAM SINGH, A THIRD-YEAR STUDENT FROM D14A (EXTC). THE SESSIONS TOOK PLACE VIA GOOGLE MEET. THE FIRST DAY RAN FROM 12:00 PM TO 2:30 PM, WHILE THE SECOND DAY WAS HELD FROM 11:00 AM TO 1:00 PM, PROVIDING PARTICIPANTS WITH VALUABLE INSIGHTS INTO VERILOG-BASED DIGITAL DESIGN ON FPGA PLATFORMS.

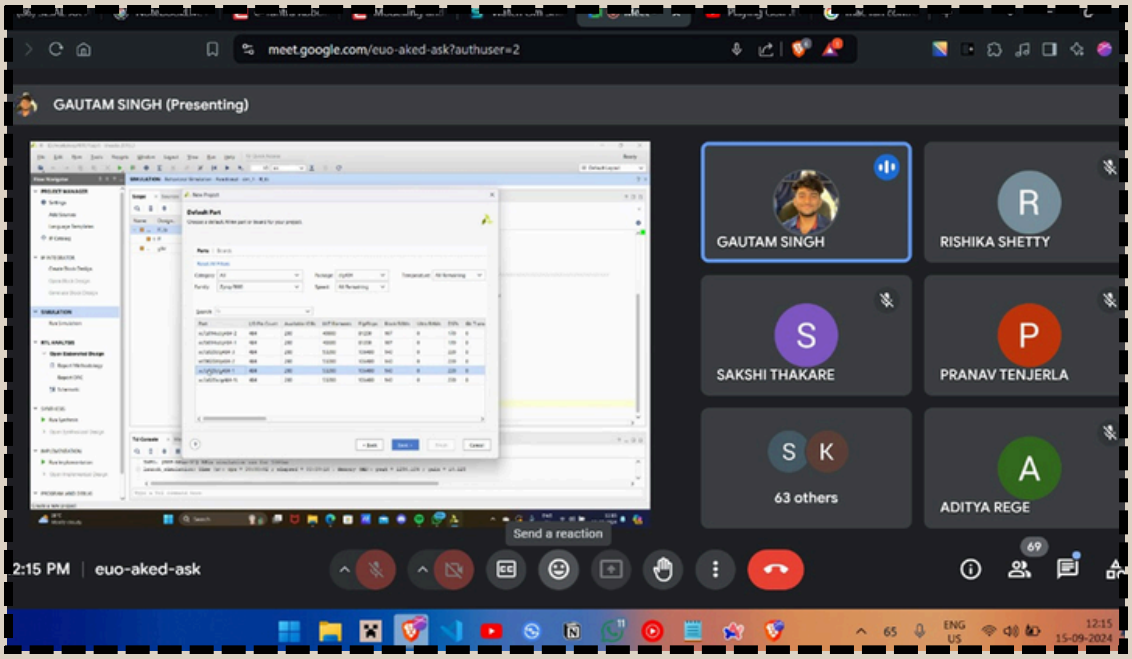
THE WORKSHOP BEGAN WITH AN INTRODUCTION TO VERILOG AND ITS SIGNIFICANCE IN HARDWARE DESCRIPTION LANGUAGE (HDL) PROGRAMMING. GAUTAM INITIATED THE HANDS-ON SESSION BY DEMONSTRATING HOW TO CREATE A MODULE FOR BASIC LOGIC GATES SUCH AS AND, OR, NOT, NOR, NAND, XOR, AND XNOR. HE EXPLAINED HOW THESE FUNDAMENTAL GATES SERVE AS THE BUILDING BLOCKS FOR MORE COMPLEX CIRCUITS.

USING A SIMPLE RTL (REGISTER TRANSFER LEVEL) DESIGN, PARTICIPANTS IMPLEMENTED AN "ALL GATES" MODULE, ALLOWING THEM TO SIMULATE VARIOUS LOGIC OPERATIONS. THE ATTENDEES WERE ALSO GUIDED THROUGH THE TESTBENCH SETUP, ENSURING THEY COULD VERIFY THEIR DESIGN'S FUNCTIONALITY. EMPHASIS WAS PLACED ON THE IMPORTANCE OF BEHAVIORAL SIMULATION AND TESTBENCH CREATION IN DIGITAL DESIGN.

AFTER COVERING THE BASIC GATES, THE WORKSHOP ADVANCED TO CREATING AN ADDER CIRCUIT, WHICH ADDS THREE BINARY DIGITS TO PROVIDE A SUM AND CARRY OUTPUT. GAUTAM EXPLAINED HOW FULL ADDERS PLAY A CRITICAL ROLE IN ARITHMETIC OPERATIONS WITHIN DIGITAL SYSTEMS. HE GUIDED PARTICIPANTS THROUGH THE RTL CODE AND TESTBENCH SIMULATION, EXPLAINING THE SUM AND CARRY-OUT LOGIC IN DETAIL.THIS SESSION PROVIDED PRACTICAL KNOWLEDGE ON IMPLEMENTING MULTIPLEXERS USING VERILOG, EMPHASIZING THEIR IMPORTANCE IN DATA SELECTION AND ROUTING WITHIN DIGITAL CIRCUITS.

ON THE SECOND DAY, THE WORKSHOP FOCUSED ON MORE ADVANCED DIGITAL DESIGN CONCEPTS. FLIP-FLOPS AND REGISTERS, KEY COMPONENTS IN DIGITAL CIRCUITS THAT STORE AND PROCESS DATA, WERE COVERED. PARTICIPANTS WERE WALKED THROUGH CREATING A D FLIP-FLOP AND THE IMPORTANCE OF EDGE-TRIGGERING IN CAPTURING DATA BASED ON CLOCK SIGNALS.

THE SESSION CONCLUDED WITH AN INTRODUCTION TO FPGA DESIGN USING XILINX VIVADO. THE STEPS TO CREATE A NEW PROJECT, WRITE VERILOG CODE, AND SYNTHESIZE IT INTO A BITSTREAM FOR FPGA IMPLEMENTATION WERE DEMONSTRATED. THE PROCESS OF MAPPING THE LOGIC BLOCKS ONTO THE FPGA ARCHITECTURE AND THE SIGNIFICANCE OF HARDWARE SIMULATION BEFORE DEPLOYMENT WAS THOROUGHLY EXPLAINED.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GAUTAM SINGH (Presenting)
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SAKSHI THAKARE
PRANAV TENJERLA
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GAUTAM SINGH (Presenting)
Day 2: Digital Designing with Vivado
RC Car Controller
GAUTAM SINGH
RISHIKA SHETTY
SAKSHI THAKARE
PRANAV TENJERLA
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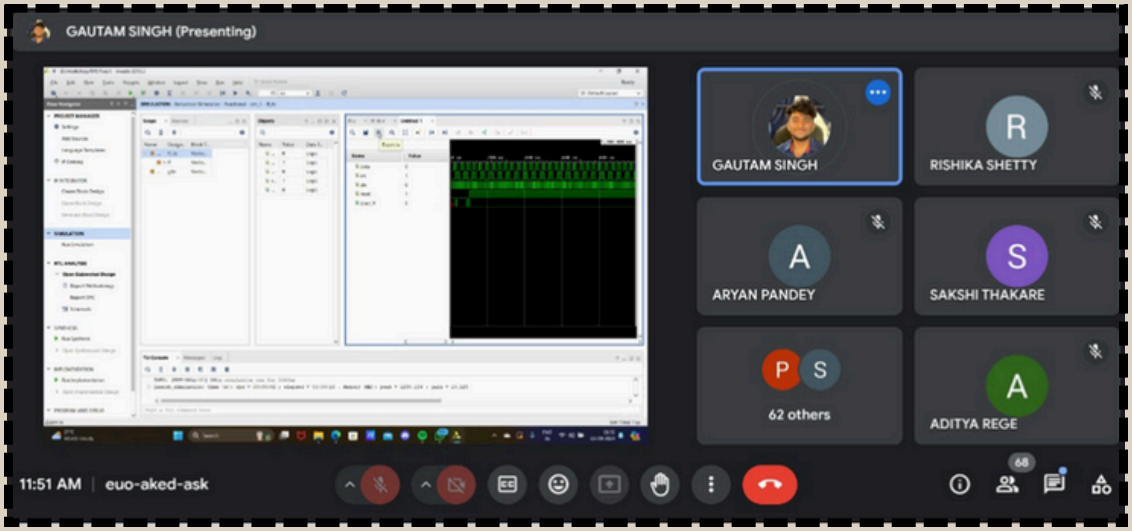
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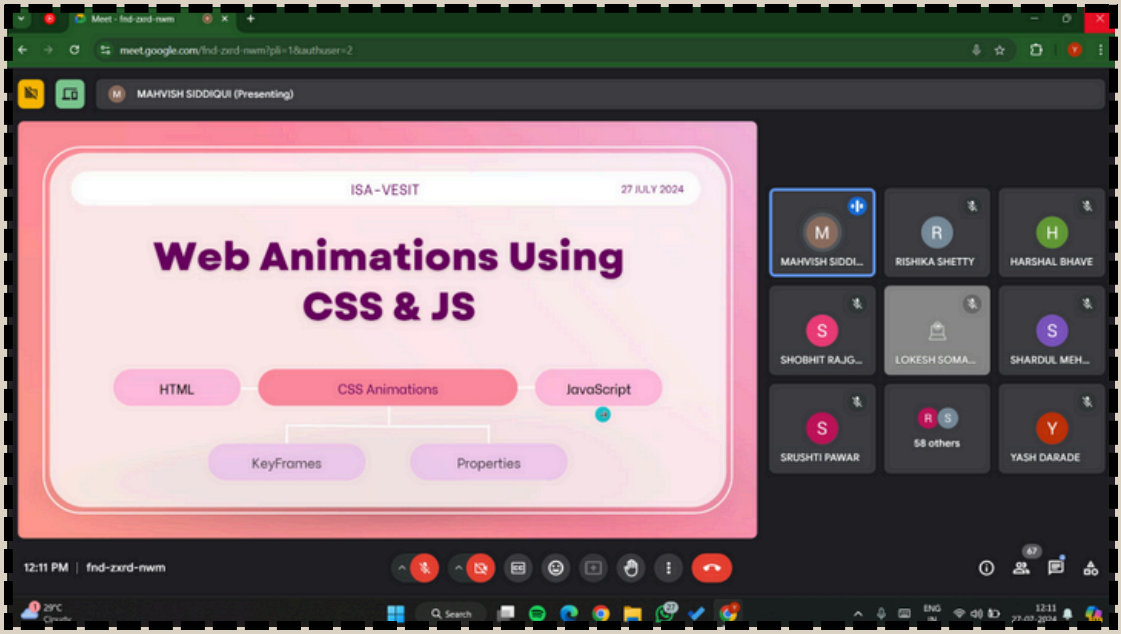
WEB ANIMATION WITH CSS & JS

On July 27th, Saturday, ISA-VESIT hosted a workshop from 12:00 to 2:30 pm via Google Meet. The workshop aimed to help participants understand how to create dynamic web animations using CSS and JavaScript.

The workshop began with CSS animations. Ms. Mahvish Siddiqui, a Junior Software Developer at ISA-VESIT, demonstrated how to create various effects. She started with an arrow moving up and down using keyframes and then showed how to simulate mechanical movement with rotating gear images. Participants also learned how to make text slide in to enhance web content and apply cursor hover effects to improve user interaction with links.

The workshop then shifted to JavaScript animations. Mahvish started with dynamic text displays featuring rotating keywords. She then explained scroll-based animations using the Intersection Observer API, which makes elements animate into view as users scroll. Participants learned how to create circular progress bars to visually represent skill levels.

After covering the basic gates, the workshop advanced to creating an adder circuit, which adds three binary digits to provide a sum and carry output. Gautam explained how full adders play a critical role in arithmetic operations within digital systems. He guided participants through the RTL code and testbench simulation, explaining the sum and carry-out logic in detail. This session provided practical knowledge on implementing multiplexers using Verilog, emphasizing their importance in data selection and routing within digital circuits.


MAHVISH SIDDIQUI (Presenting)
ISA - VESIT
27 JULY 2024
Web Animations Using CSS & JS
HTML
CSS Animations
JavaScript
KeyFrames
Properties
MAHVISH SIDDI...
RISHIKA SHETTY
HARSHAL BHAVE
SHOBHIT RAJG...
LOKESH SOMA...
SHARDUL MEH...
SRUSHTI PAWAR
58 others
YASH DARADE
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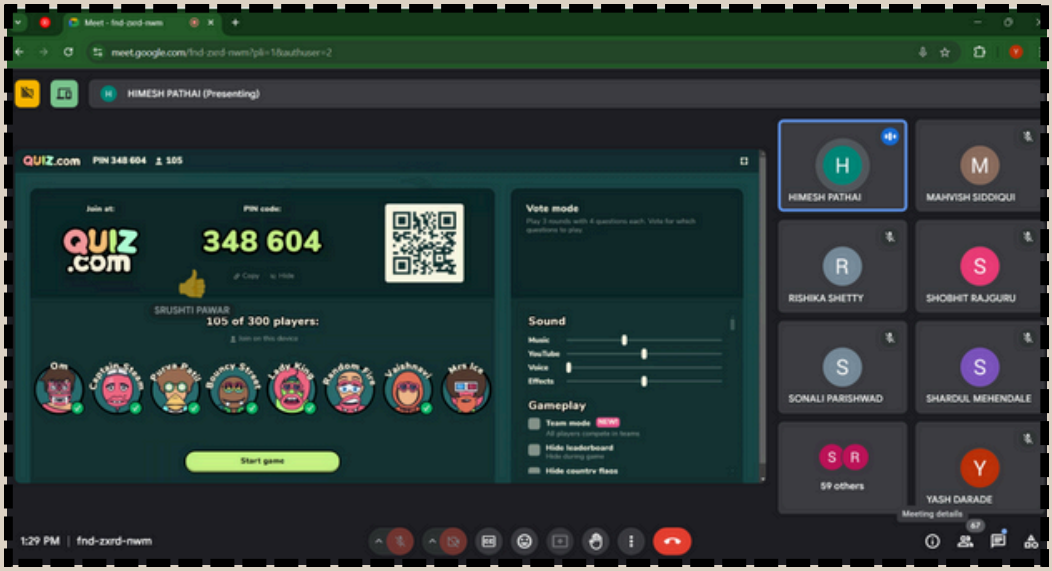
HIMESH PATHAI (Presenting)
QUIZ.com
PIN 348 604
348 604
SRUSHTI PAWAR
105 of 300 players:
Vote mode
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Gameplay
Start game
HIMESH PATHAI
MAHVISH SIDDIQUI
RISHIKA SHETTY
SHOBHIT RAJGURU
SONALI PARISHWAD
SHARDUL MEHENDALE
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YASH DARADE
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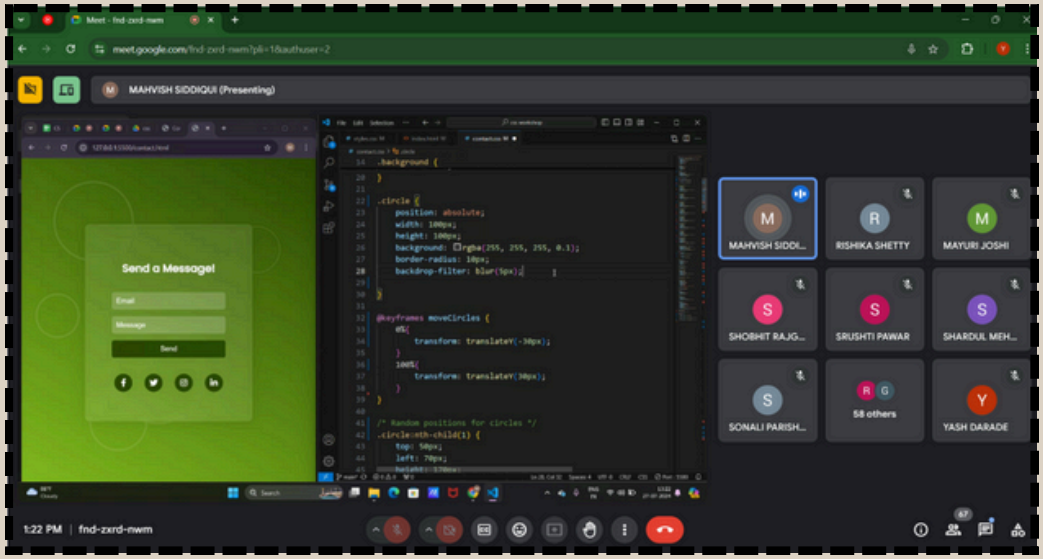
MAHVISH SIDDIQUI (Presenting)
Send a Message!
MAHVISH SIDDI...
RISHIKA SHETTY
MAYURI JOSHI
SHOBHIT RAJG...
SRUSHTI PAWAR
SHARDUL MEH...
SONALI PARISH...
58 others
YASH DARADE
1:22 PM | fnd-zxrd-nwm

ALUMNI MEET

VIVEKANAND EDUCATION SOCIETY'S
INSTITUTE OF TECNOLOGY

V.E.S.I.T.A.A

RUBY JUBILEE CELEBRATIONS

Department of Instrumentation Engineering

ALUMNI MEET !!!

You are cordially invited to your college to cherish all the joyful moments spent together, to reminisce the memorable experiences and share stories of success

DECEMBER 21, 2024
SATURDAY
09:00 AM - 3 PM

Venue
VESIT Auditorium (Ground Floor)
Hashu Adwani Memorial Complex, Collector's Colony
Chembur, Mumbai.
https://g.co/kgs/U1xJped

'The Alumni Meet: a celebration of our past and a toast to our future.'

The Department of Instrumentation organised the Ruby Jubilee Alumni Meet on 21st December 2024 in the Auditorium. Alumni spanning across four decades, came together to enjoy the event. The 1991 batch of alumni also felicitated Retired faculty members and thanked them for their contribution to the education field. Approximately 89 Alumni came together and witnessed these moments which were memorable.

It was a day filled with excitement, emotions, and nostalgia as the alumni, both recent and older, came together to relive their engineering days and connect with their old classmates and teachers.

The most emotional moment of the event was when the alumni took a tour of their old classrooms and campus, reminiscing about their school days. After the tour, the alumni had a chance to reconnect with their old classmates and teachers over refreshments. It was heart-warming to see the excitement and joy on the alumni's faces as they shared their experiences and memories of their time at the department.

It was indeed a great opportunity for the alumni to catch up with their old friends, network with each other, and build new connections. Many of them were seen clicking photographs with their former classmates and teachers, capturing the memories of the day. The event infused a concoction of emotions as the alumni experienced a wave of nostalgia and camaraderie

LET'S UNITE

POSTER PRESENTATION

Department of Automation & Robotics, conducted Demo Day & Poster Presentation for Third & Final year Students on 27th,28th & 1st March 2025.

Poster Presentation provided an opportunity for students to present their project work and research, in a visual and concise way. It typically consisted of students presenting a large printed poster, which was reviewed by a panel of review members, who also provided them with suggestions and feedback.


GPS Map Camera
Mumbai, Maharashtra, India
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Google

INDUSTRIAL VISIT

The Department of Automation and Robotics arranged industrial visits to give a hands-on understanding of how industries operate in the real world. The students were given the chance to visit various industries as given below:

4.1 CHINO Corporation

The class of third-year automation and robotics had a fun-filled and great industrial visit at Chino Corporation India Pvt. Ltd. The industrial visit was scheduled for the 25th of September 2024. Students were asked to assemble by 09:30 AM outside Chino Corporation. It was our first industrial visit, and we had one of the best experiences ever. It was organized by Professor Dr. Nilima Warke for students who opted for Advanced Sensors.

At Chino Corporation, the actual presentation started at 10:00 AM. Tea and biscuits were served first, followed by a presentation by Mr. Shrinivas Reddy, who has work experience of more than 22 years. This company was established in the year 1913 in Japan, and it is a subsidiary of a Japanese company. In 2009, Chino Corporation India became a 100% subsidiary. The Chino group of companies around the globe is located in Japan, the USA, China, Korea, and Thailand, and there are 11 branches in Pan India. This company has a presence in iron & steel, power generation, chemicals, automobiles, fertilizer, etc. The last slide of the presentation was "KAIZEN," a Japanese word that, in simple words, means continuous improvement. The 5-S of Kaizen are (1) Sort (2) Set in Order (3) Shine (4) Standardize & (5) Sustain.

4.2 IMA-PG India Pvt. Ltd.

On 4th October, as part of the Process Automation course, students had the opportunity to visit IMA-PG India Pvt. Ltd., Mahape , Navi Mumbai, a company with branches in Mumbai and Indore, specializing in pharmaceutical packaging solutions and parking systems.

The industrial visit was organised by the Department of Automation and Robotics under the guidance of Internal Quality Assurance Cell (IQAC) in association with Institutions Innovation Council (IIC) aimed to provide students with a hands-on understanding of advanced packaging machinery and sustainable manufacturing practices. The program included an informative Q&A session, enhancing students' knowledge of industry operations and technological innovations.

The visit to IMA-PG India Pvt. Ltd. provided valuable insights into the innovative and sustainable packaging solutions they offer. Their focus on biodegradable blister packing aligns with the growing global emphasis on environmental responsibility, while their production of pre-filled syringes meets the highest standards of precision and safety for pharmaceutical clients. The company's strong vendor network and commitment to quality make them a key player in the pharmaceutical packaging industry.

4.3 R K Dutt concerns & R.K. Control Instruments Pvt. Ltd.

On 15th February, students visited the R K Dutt concerns & R.K. Control Instruments Pvt. Ltd, a company with branches in Mumbai, specializing in liquid level measuring control instruments and focusing on manufacturing and servicing control valves for various industrial applications respectively.

The industrial visit to R.K. Dutt Concerns & R.K. Control Instruments Pvt. Ltd. and R.K. Controllers provided valuable insights into advanced automation, control systems, and industrial instrumentation. R.K. Dutt specializes in manufacturing high-precision control valves, transmitters, and flanges, ensuring efficiency, accuracy, and reliability in industries like oil & gas, pharmaceuticals, and manufacturing. Their expertise in sensor technology, actuator systems, and process optimization highlights their strong presence in the automation sector.

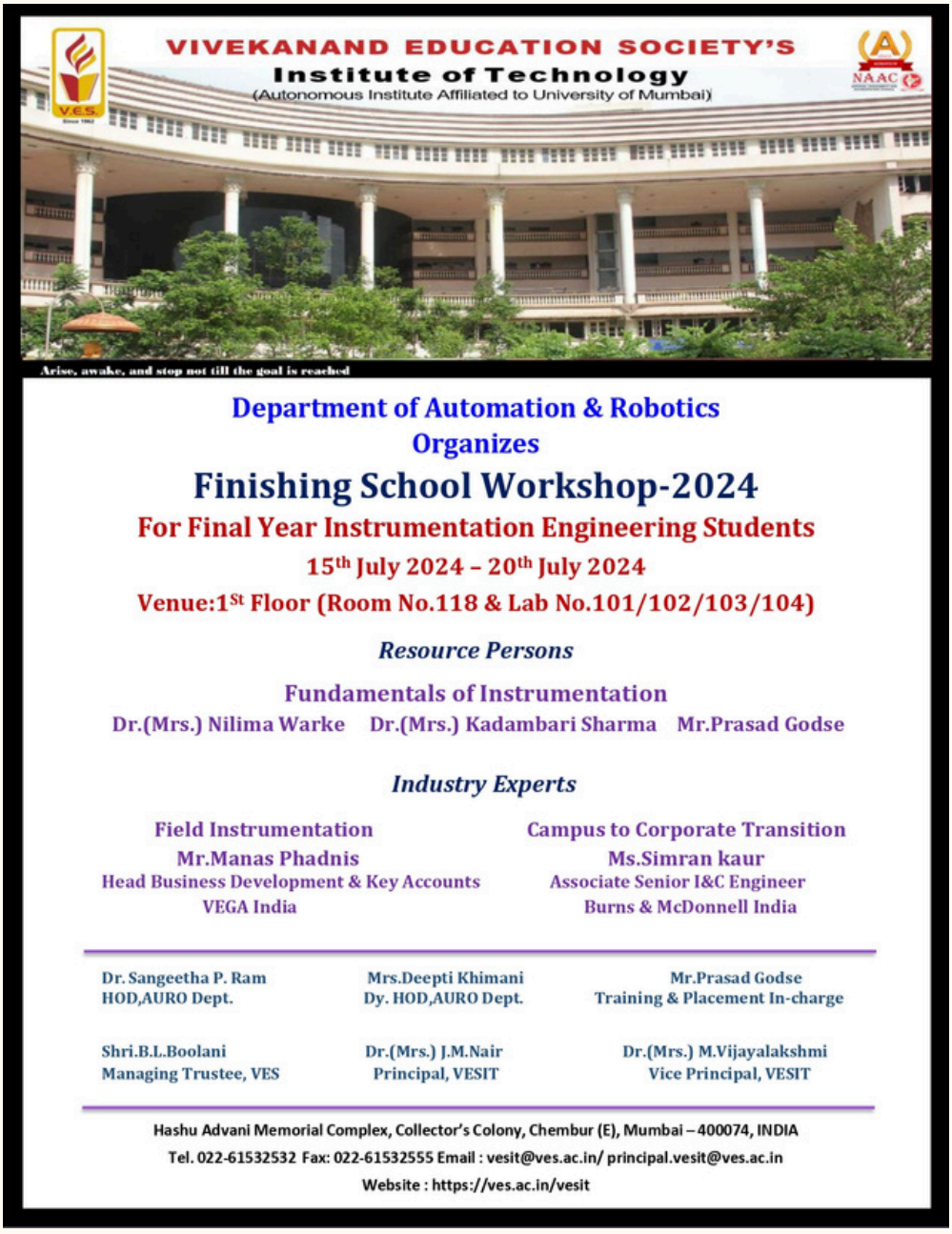
Meanwhile, R.K. Controllers focuses on designing and integrating intelligent control systems, offering solutions that enhance process stability, monitoring, and automation. Their commitment to developing cutting-edge PLCs, SCADA systems, and industrial controllers ensures seamless operation across various industries.

Skill Development Activities

Finishing school Training (Pre-Placement activity)

Finishing school was conducted for students moving from third year to final year during summer 15th July- 20th July 2023, for 06 Days by faculty of the Department & by other Experts. The schedule of the session is given below.

Students were briefed about all the important topics they have covered till their third year which are essential for facing interviews and placements. They were also given an extensive hands-on session to prepare themselves for job opportunities.



ALUMNI SPEAKS

"EXPLORING THE WORLD OF INSTRUMENTATION AT VESIT"

DEVANSHI SHAH
Batch passout - 2023

My journey as an Instrumentation student at VESIT was truly transformative. The curriculum provided a perfect blend of theoretical knowledge and practical exposure, allowing me to gain hands-on experience with various field instruments and PLCs. Actively participating in technical events like ISA not only deepened my understanding of the field but also connected me with industry professionals and like-minded peers. Additionally, serving as a placement coordinator honed my leadership and organizational skills, preparing me for the professional world. The se collective experiences played a crucial role in shaping my career path, ultimately helping me secure a position at my dream company, Aker Solutions.

MANSI ADMANKAR
Batch passout - 2020

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The college has very impressive and unique architecture with all the facilities like laboratories, library, auditorium and much more. I was able to perform to best of my abilities and successfully achieve average 9.24 CGPA of all four years of completing B.E. in instrumentation engineering because of the professors and mentors at VESIT, who are very thorough and knowledgeable in their respective subjects. Even the elective subjects I got to choose are helpful for my career now. College encourages students to perform extra curricular activities also. Though I was not very active in cultural events during my days, I definitely have taken advantage of workshops, seminars and guest lectures arranged through technical committees like ISA, E-cell and Placement cell. During my 3rd year of BE I was placed it one of the core companies that had come for placements at vesit campus. I am very grateful to vesit as I have got my first job through campus placements. I got support and guidance from Seniors and Teachers during the entire procedure of placement. I have many fond memories of my college and the friends and made here. Unfortunately students of my batch had to persue last year of college online due to the covid pandemic, but even during those tough times, teachers were supportive and they wanted to help students with the syllabus. The transition from physical classrooms to digital classrooms was new for both the students and teachers , but eventually everyone was successful coping with situations.

To summarise my journey at college I would say, VESIT holds important share of my career growth as well as shaping me as an individual. It is a great place to be for hardworking students seeking opportunities.

Mr. Rahul Patil
Batch passout : 2023

Hello everyone, I am Rahul Sanjay Patil, a proud alumnus of the Instrumentation Branch, 2019-23 batch, VESIT. My time at VESIT has been a remarkable journey filled with learning, growth, and memorable experiences.

The faculty in the Instrumentation department played a pivotal role in shaping my academic journey. Their expertise, dedication, and constant support empowered me to tackle challenging concepts and stay motivated throughout my studies. Additionally, the college offered numerous opportunities to participate in technical competitions and events. These experiences helped me build confidence, develop problem-solving skills, soft skills and gain valuable exposure to the industry.

The well-structured labs, including the Process Lab, Automation Lab, and others, along with our lab assistants provided a strong foundation for practical learning. These facilities allowed me to apply theoretical concepts to real-world scenarios, fostering a deeper understanding of the subject.

My journey at VESIT has been an enriching and unforgettable chapter of my life, preparing me for the challenges ahead and leaving me with cherished memories and lifelong lessons.

Ms. Shikha Negi
Batch Passout : 2023

Hello readers,

I am Shikha Negi from the Instrumentation Branch, 2019-23 batch, VESIT. My time at this institution has been a truly transformative journey. The Process Lab, Automation Lab, and other technical labs, provided invaluable hands-on experience. These resources bridged the gap between theoretical learning and practical application, enhancing my understanding and skills in the field.

The faculty of the Instrumentation branch deserve immense appreciation for their dedication and guidance. Even during the challenges of the pandemic, they remained committed to teaching and empowering students. Their support extended beyond academics, equipping us with technical expertise as well as professional and interpersonal skills needed for future challenges.

VESIT also provided exceptional exposure to technical competitions, which allowed me to grow as an engineer, collaborator, and problem solver. Moreover, guest lectures and industrial visits organized by the college offered valuable insights into real-world applications and opportunities to connect with our alumni network.

My time at VESIT has been a holistic growth experience, filled with knowledge, guidance, and lasting friendships.These experiences have not only shaped my professional path but also left an indelible mark on my life, gifting me treasured memories, invaluable lessons, and a sense of confidence to embrace the future.

EDITORIAL TEAM

MR. AKASH KOYALKAR

MS. SEJAL SABLE

MS. SHRADDHA KHARATMOL