



VEL TECH HIGH TECH

Dr. RANGARAJAN Dr. SAKUNTHALA ENGINEERING COLLEGE
An Autonomous Institution

Approved by AICTE, New Delhi | Affiliated to Anna University,
Chennai



REPORT ON EVENT-7

**Three days Ideation Workshop on Rapid Prototyping through
design thinking with Arduino**
(22.12.2025 - 24.12.2025)



VEL TECH HIGH TECH - AICTE-IDEA LAB

VEL TECH HIGH TECH

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AICTE IDEA LAB – COORDINATOR

Prof. Dr. R. SURESH

AICTE IDEA LAB – CO-COORDINATOR

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Tech Guru

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Mr. M. PARTHIBAN

Tech Guru

EVENT APPROVAL



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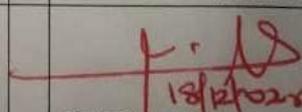
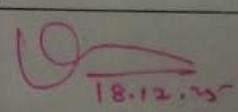
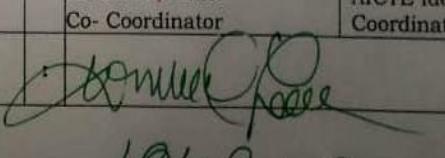
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AICTE IDEA LAB

Proposal for Three days Ideation Workshop on Rapid Prototyping through Design Thinking with
 Arduino
 (AY2025-2026) Even Semester

1	Name of the event	:	Three days Ideation Workshop on Rapid Prototyping through Design Thinking with Arduino						
2	Event scheduled date	:	22.12.2025 To 24.12.2025						
3	Name of the resource person	:	Dr. V. R. Ravi						
4	Details of the guest speaker	:	Dean Academics, VTHT						
5	Resource person profile attached	:	Yes						
6	Venue	:	Computer Lab						
7	Faculty in-charge for the event	:	Dr.G.Mahalakshmi, Associate Professor/AI&DS HTS 1766, 9786704881 A/C: 75330100041587 BOB -VELTECH Branch, IFSC: BARBOVJVELT						
8	No. of Students	:	30						
9	Refreshment and Hospitality	:	35 Tea and Refreshment						
10	Objective of the event	:	<ul style="list-style-type: none"> • Introduce the fundamentals of Design Thinking and Innovation Methodology • Provide hands-on experience in rapid prototyping using Arduino. 						
11	Outcome of the event	:	<p>Students will be able to:</p> <ul style="list-style-type: none"> • Design and develop basic Arduino-based prototypes • Develop an innovation mind-set and readiness for product development and start-ups. 						
12	Budget	:	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th colspan="2" style="text-align: center;">Expenses Budget</th> </tr> </thead> <tbody> <tr> <td style="width: 50%;">Certificate, Banner & Report</td> <td style="width: 50%;">Rs.1500.00</td> </tr> <tr> <td style="text-align: right;">Total</td> <td>Rs.1500.00</td> </tr> </tbody> </table>	Expenses Budget		Certificate, Banner & Report	Rs.1500.00	Total	Rs.1500.00
Expenses Budget									
Certificate, Banner & Report	Rs.1500.00								
Total	Rs.1500.00								
13	Website updation	:	8						
14	Photography & Video Required	:	Yes						
15	Event No	:	VTHT IDEA LAB /2025-26/07						
		 18.12.2025 AICTE Idea Lab Co- Coordinator	 18.12.2025 AICTE Idea Lab Coordinator						
16	Approval from principal	:	 18.12.2025						

WORKSHOP BROCHURE

Vel Tech High Tech
Dr. Rangarajan Dr. Sakunthala Engineering College
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Three days Ideation Workshop on
Rapid Prototyping through Design Thinking with
Arduino



December 22nd - 24th, 2025
Venue : IOT Lab

Organized by
VEL TECH HIGH TECH
AICTE IDEALAB

P.No: 07

FOR REGISTRATION SCAN ME 

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01 | ABOUT INSTITUTION
Vel Tech High Tech Dr. Rangarajan Dr. Sakunthala Engineering College (An Autonomous Institution) was established in 2002 by Col. Prof. Vel. Dr. R. Rangarajan and Dr. Sagunthala Rangarajan, who have been devoted to the field of education for over three decades. The institution is approved by AICTE, New Delhi, and affiliated with Anna University, Chennai, Tamil Nadu. The college has been accredited with an 'A' Grade and a CGPA of 3.27 by NAAC and by NBA for its Biotechnology, Chemical, ECE, and IT programs. The college boasts state-of-the-art infrastructure that provides students with practical, hands-on learning experiences, enabling them to develop essential employability skills and secure placements in top MNCs. The institution has been sanctioned an AICTE IDEALAB with a grant of ₹90 lakhs under the AICTE's national initiative to promote Innovation, Design Thinking, and Entrepreneurship among students and faculty members. Vel Tech High Tech offers nine undergraduate programs (B.E./B.Tech) — AIDS, CSE (AIML), CSF, ECE, IT, Chemical, Biotechnology, Mechanical, and Civil Engineering — along with postgraduate programs in M.E. Structural Engineering and MBA.

02 | ABOUT WORKSHOP
The Three Days Ideation Workshop on Rapid Prototyping through Design Thinking with Arduino is designed to provide participants with hands-on experience in transforming innovative ideas into functional prototypes. The workshop integrates the principles of Design Thinking with practical Arduino-based prototyping, enabling participants to identify real-world problems, develop creative solutions, and build working models. Through interactive sessions, team-based activities, and guided mentorship, the workshop fosters innovation, critical thinking, and technical skills essential for modern engineering and product development.

03 | WORKSHOP HIGHLIGHTS

- Expert-led interactive sessions
- Hands-on Arduino programming and hardware interfacing
- Real-time problem identification and solution development
- Team-based mini project and prototype development
- Live demonstrations and case studies
- Mentorship and technical guidance from industry/academic experts
- Prototype and idea pitching sessions

04 | WORKSHOP OBJECTIVES
The key objectives of the workshop are to:

- Introduce the fundamentals of Design Thinking and Innovation Methodology
- Develop problem-solving and creative thinking skills among participants
- Provide hands-on experience in rapid prototyping using Arduino
- Enable participants to convert ideas into working prototypes
- Promote teamwork, collaboration, and entrepreneurial thinking

05 | KEY TOPICS COVERED

- Introduction to ML, DL & TensorFlow ecosystem
- Data preprocessing and feature engineering
- Artificial Neural Networks (ANN) basics
- Convolutional Neural Networks (CNN) for image processing
- Recurrent Neural Networks (RNN) & LSTM for sequence modeling
- TensorFlow Model Deployment basics (TFLite, web-edge deployment)
- Case studies and real-world engineering applications
- Model optimization, tuning & evaluation techniques

06 | Expected Outcomes
Participants will be able to:

- Apply Design Thinking principles to solve real-world problems
- Design and develop basic Arduino-based prototypes
- Interface sensors and actuators effectively
- Write and debug Arduino programs confidently
- Work effectively in teams and present innovative solutions
- Develop an innovation mind-set and readiness for product development and start-ups

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CHIEF PATRONS
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Founder President & Chairman

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VEL TECH HIGH TECH - AICTE IDEALAB

08 | OBJECTIVE
The AICTE-IDEA Lab is dedicated to fostering a dynamic ecosystem that promotes innovation, nurtures creativity, and advances technological progress in both education and society. Recently, VTHT has been sanctioned with fund of ₹90 lakhs by AICTE, New Delhi, to establish this state-of-the-art facility. The primary objective of the IDEALab is to transform innovative ideas into functional prototypes, which can subsequently be developed into market-ready products through startup ventures.

09 | KEY FEATURES

- Common Facility:** IDEALab is designed as common facility within our institute, accessible to all students, faculty, and nearby Industries.
- 24/7 Availability:** The IDEALab is intended to be available 24/7 for students to use.
- Equipped with Resources:** IDEALab provides a range of sophisticated equipment and tools, including 3D printers, 3D scanners, Drones, AR/VR equipments, Embedded Edge devices with varieties of sensors, AI Edge devices, IoT kits, CNC laser cutters, and computer workstations.
- Industry Collaboration:** IDEALab collaborates with nearby industries to leverage their resources and expertise, fostering a symbiotic relationship between academia and industry.

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STATE-OF-THE-ART LABORATORIES

- Internet of Things (IoT) Lab
- Arduino Lab
- Artificial Intelligence Lab
- Advance Manufacturing Lab
- Additive Manufacturing Lab
- Design Thinking Lab
- Reverse Engineering Lab
- AR and VR Lab
- Laser Technology Lab
- Robotics Lab
- PCB Design Lab
- Drone Lab

STATE-OF-THE-ART EQUIPMENT

- WIPRO 3D PRINTER
- WEGRST PCB MILLING MACHINE
- LASER CUTTING MACHINE
- Industrial 3D Scanner
- DRONE
- ROBOT



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Three days Ideation Workshop on Rapid Prototyping through design thinking with Arduino

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Three days Ideation Workshop on Rapid Prototyping through design thinking with Arduino

AGENDA

Day 1 (22.12.2025): Design Thinking & Problem Ideation

Objective:

Introduce participants to Design Thinking methodology and enable them to identify real-world problems suitable for Arduino-based rapid prototyping.

Concepts & Topics:

- Introduction to Design Thinking and its relevance in engineering innovation
- Design Thinking stages: Empathize, Define, Ideate, Prototype, Test
- Identifying societal, industrial, and campus-based problem statements
- User-centric problem analysis and need identification
- Converting real-world problems into engineering design challenges
- Basics of rapid prototyping and product development lifecycle
- Overview of Arduino ecosystem and its role in prototyping

Hands-on Activities:

- Empathy mapping and stakeholder analysis
- Brainstorming techniques: SCAMPER, Mind Mapping, Crazy-8
- Problem statement formulation using “How Might We” (HMW) framework
- Team formation and idea pitching
- Selection of problem statements for prototyping

Tools & Resources:

- Design Thinking canvas
- Ideation templates
- Case studies of successful Arduino-based innovations

Expected Outcomes:

- ✓Clear understanding of Design Thinking
- ✓Validated problem statements
- ✓Team-based ideation proposals

Day 2 (23.12.2025): Arduino Fundamentals & Rapid Prototyping

Objective:

Provide hands-on exposure to Arduino hardware and programming, enabling participants to build functional prototypes.

Concepts & Topics:

- Introduction to Arduino Uno – architecture and features
- Arduino IDE installation and programming basics
- Digital &analog I/O concepts
- Sensors and actuators overview
 - Temperature, IR, Ultrasonic, LDR, Gas, Motion sensors
 - LEDs, buzzers, relays, DC motors, servo motors
- Interfacing sensors and actuators with Arduino
- Basics of circuit design and power management
- Introduction to rapid prototyping techniques

Hands-on Activities:

- Writing and uploading Arduino programs
- Interfacing LEDs, sensors, and motors
- Reading sensor data and controlling outputs
- Building basic functional modules
- Testing and debugging Arduino circuits

Tools & Resources:

- Arduino Uno boards
- Breadboards, jumper wires
- Sensors and actuator kits
- Arduino IDE, Fritzing (for circuit visualization)

Expected Outcomes:

- ✓Ability to program Arduino
- ✓Hands-on experience with sensors and actuators
- ✓Working hardware modules for final prototype

Day 3 (24.12.2025): Prototype Development, Testing & Demonstration

Objective:

Enable participants to develop, test, and present a complete Arduino-based prototype using Design Thinking principles.

Concepts & Topics:

- Integrating hardware modules into a complete system
- Prototype refinement and iterative improvement
- Testing, validation, and troubleshooting techniques
- User feedback and design iteration
- Documentation and presentation of prototypes
- Introduction to product commercialization and start-up ecosystem
- IPR, patent filing basics, and innovation funding opportunities

Hands-on Activities:

- Final prototype development
- System testing and performance evaluation
- Preparing project documentation
- Prototype demonstration and pitching
- Feedback session and improvement suggestions

Evaluation & Certification:

- Prototype functionality
- Innovation and problem relevance
- Team collaboration and presentation
- Participation and hands-on involvement

Expected Outcomes:

- ✓ Completed Arduino-based prototype
- ✓ Enhanced problem-solving and innovation skills
- ✓ Exposure to product development and entrepreneurship
- ✓ Readiness for hackathons, IDEA Lab projects, and start-ups

CHIEF GUEST PROFILE



Dr. V. R. Ravi is a distinguished academician and researcher with over **three decades of combined academic and industrial experience**. He earned his **Bachelor's Degree in Instrumentation and Control Engineering** from **Bharathiar University** in 1988, followed by a **Master's Degree in Applied Electronics** from the prestigious **PSG College of Technology** in 1995. He obtained his **Doctorate in Process Control** from **MIT CAMPUS-Anna University, Chennai**, in 2013.

With **28 years of teaching** and **8 years of industry experience**, Dr.V.R. Ravi currently serves as a **DEAN ACADEMICS** at **Vel Tech High Tech Dr. Rangarajan Dr. Sakunthala Engineering College, Chennai**. His career reflects a deep commitment to academic excellence, research innovation, and industry–institute collaboration.

Dr.V. R. Ravi has successfully executed **Six Funded projects** worth of **Rs 1.25 Crores** sponsored by the **All India Council for Technical Education (AICTE)** and **seven industry-sponsored consultancy projects**, demonstrating his ability to translate academic research into industrial applications. In addition, he has completed **four innovative projects** worth of **Rs 8.0 Lakhs** funded by the **Department of Science and Technology (DST)** under the **Innovation and Entrepreneurship Development Centre (IEDC)** scheme.

He has made notable scholarly contributions with **11 research papers published in international journals** and **34 papers presented at international and national conferences**. His industrial exposure includes specialized training at reputed organizations such as **South India Viscose - Coimbatore**, **SPIC - Tuticorin**, **Seshasayee**

Paper & Boards Limited - Erode, Madras Refinery Limited – Chennai and National Instruments -Bangalore.

Dr.V. R. Ravi's areas of expertise encompass **Process Control, Robotics and Automation, Embedded System Design, Soft Computing, Machine Learning, Internet of Things (IoT), and Image Processing**. His research interests focus on the integration of intelligent systems with real-time control and automation solutions.

He has been instrumental in organizing numerous **national-level workshops, seminars, short-term training programs (STTPs), and faculty development programs (FDPs)** sponsored by premier agencies such as **AICTE, DRDO, ICMR, and BRNS**. He has also delivered more than **24 invited lectures** at various engineering institutions across **Tamil Nadu, Karnataka, and Andhra Pradesh**, sharing his expertise with the academic community.

In addition to academic initiatives, Dr.V.R.Ravi has designed and conducted **value-added courses** and hands-on training programs in **Lab VIEW (Core I & II), MATLAB programming, Arduino-based applications, and Raspberry Pi-based embedded systems**, fostering skill development among students and faculty.

His excellence has been recognized through several prestigious honors, including the **National Merit Scholarship** from the **Ministry of Education and Social Welfare, Government of India**, and the **First Prize in the State-Level Best Project Award** from the **Directorate of Technical Education (DOTE), Tamil Nadu**, in 1988. He was also conferred with a **Gold Medal** and inducted as a **Premier Member of the "India Lab VIEW Developer League" by National Instruments, Bangalore**, in 2010.

Dr. V. R Ravi's sustained contributions to bridging academia and industry earned him special appreciation from **DST-Texas Instruments** for fostering an ecosystem of **innovation, collaboration, and entrepreneurship** through the **India Innovation Challenge Design Contest (IICDC)** in 2018.

Three-Day Ideation Workshop on Design Thinking and Engineering Applications Using Arduino

DETAILED REPORT

1. Introduction

This report presents a comprehensive and detailed account of the Three Days Ideation Workshop on Rapid Prototyping through Design Thinking with Arduino, conducted from 22.12.2025 to 24.12.2025. The workshop was meticulously designed to provide participants with an experiential and immersive learning environment that integrates design thinking principles, engineering ideation techniques, and hands-on Arduino-based prototyping.

The programme aimed to bridge the gap between theoretical knowledge and real-world engineering practice by enabling participants to identify user-centric problems, conceptualize innovative solutions, and translate ideas into functional working prototypes. By combining creative thinking with embedded system fundamentals, the workshop aligned strongly with the objectives of AICTE IDEA Lab and NEP 2020.

2. Objectives of the Workshop

The primary objectives of the workshop were:

- To introduce Design Thinking as a systematic methodology for engineering problem-solving
- To develop ideation skills for identifying real-world and societal problems
- To provide hands-on training in Arduino programming and hardware interfacing
- To promote rapid prototyping and iterative design approaches
- To enhance teamwork, creativity, communication, and innovation skills
- To motivate participants towards product development, start-ups, and research

3. About the Institution and AICTE IDEA Lab

The institution is committed to excellence in technical education, innovation, and research. The AICTE IDEA Lab serves as a dedicated innovation ecosystem that encourages students and faculty to design, develop, and deploy technology-driven solutions.

The lab provides access to prototyping tools, embedded systems kits, mentoring support, and an interdisciplinary environment to nurture innovation and entrepreneurship.

4. Workshop Planning and Methodology

The workshop was planned with a balanced mix of:

- Expert lectures
- Interactive discussions
- Live demonstrations
- Hands-on hardware sessions
- Team-based ideation and challenges
- Guided prototype development and evaluation

Participants were divided into multidisciplinary teams to foster collaborative learning and peer-to-peer knowledge exchange.

5. Day 1: Inauguration, Design Thinking & Arduino Fundamentals (22.12.2025)

5.1 Registration and Inaugural Session

The first day of the workshop commenced with participant registration, during which attendees were briefed about the objectives, schedule, and expected outcomes of the programme. The inaugural session was formally inaugurated by the Principal and Chief Mentor, AICTE IDEA Lab, who welcomed the participants and emphasized the importance of innovation-driven learning in modern engineering education.

In his address, he highlighted the role of the AICTE IDEA Lab in nurturing creativity, design skills, and hands-on technical competence among students. He stressed that engineering education must move beyond conventional classroom teaching and focus on problem identification, solution ideation, and prototype development. His motivational address inspired participants to actively engage in the workshop and make optimal use of the learning opportunity.

5.2 Introduction to Design Thinking Philosophy

The first technical session introduced participants to the Design Thinking philosophy, a human-centered approach to innovation widely adopted in industry and academia. The resource person explained the five stages of Design Thinking—Empathize, Define, Ideate, Prototype, and Test—and discussed their relevance to engineering problem-solving.

Participants learned how understanding user needs and societal challenges forms the foundation of effective engineering solutions. Through illustrative examples and case studies, the session demonstrated how Design Thinking helps engineers develop sustainable, user-friendly, and impactful products.

5.3 Engineering Ideation and Problem Identification

This session focused on Engineering Ideation, where participants were trained to systematically identify and analyze real-world problems. Activities such as empathy mapping, stakeholder identification, and need analysis were conducted to help participants view problems from a user's perspective.

Participants worked in teams to observe, analyze, and discuss common challenges faced in daily life, industry, and society. They were guided to convert these observations into clear and concise engineering problem statements using structured frameworks such as “How Might We” questions.

5.4 Arduino Fundamentals: Hardware Architecture

The post-lunch session introduced participants to the Arduino Uno development board. The facilitator explained the microcontroller architecture, pin configuration, clock frequency, power supply options, and onboard components. Participants were familiarized with digital and analog input/output pins and their applications in embedded systems.

The importance of proper power management, grounding, and safe handling of electronic components was also discussed to ensure reliable and safe prototyping.

5.5 Arduino Programming Basics and Hands-on Practice

Participants were introduced to the Arduino Integrated Development Environment (IDE). The structure of Arduino sketches, including the setup() and loop() functions, was explained in detail. Participants learned to write, compile, and upload programs to the Arduino board.

In the hands-on segment, participants interfaced basic components such as LEDs, resistors, buzzers, and push buttons. They practiced fundamental programs using digitalWrite(), digitalRead(), conditional logic, and delay functions. This practical exposure helped participants gain confidence in both hardware connections and embedded programming.

5.6 Outcomes of Day 1

At the end of Day 1, participants gained:

- ✓ A clear understanding of Design Thinking and engineering ideation
- ✓ Ability to identify user-centric problems
- ✓ Foundational knowledge of Arduino hardware and programming
- ✓ Confidence to proceed with advanced interfacing and prototyping

6. Day 2: Ideation Techniques, Sensor & Actuator Interfacing (23.12.2025)

6.1 Recap Session and Team Reflection

Day 2 began with a structured recap of the previous day's sessions. Participants discussed key takeaways from Design Thinking and Arduino fundamentals. This interactive reflection session encouraged peer learning and helped clarify doubts before progressing to advanced topics.

6.2 Advanced Ideation Techniques

The session on advanced ideation techniques introduced tools such as Brainstorming, SCAMPER, Mind Mapping, and Reverse Thinking.

The facilitator explained how these techniques stimulate creativity and help generate multiple solution pathways for a single problem.

Participants applied these techniques in team activities, generating diverse ideas for their chosen problem statements. Teams evaluated ideas based on feasibility, impact, and resource availability, leading to the selection of concepts suitable for rapid prototyping.

6.3 Hands-on Session: Sensor Interfacing

One of the most engaging sessions of the workshop was the hands-on sensor interfacing activity. Participants worked with various sensors, including LM35 temperature sensors, DHT11 temperature and humidity sensors, ultrasonic sensors, and IR sensors.

They learned how to connect sensors to the Arduino board, read sensor values, apply calibration techniques, and display data on the serial monitor. The session also covered threshold-based decision-making, enabling participants to trigger actions based on sensor inputs.

6.4 Real-Time Data Processing and Debugging

Participants were introduced to basic concepts of real-time data processing and debugging techniques. They analyzed sensor data trends, handled noisy inputs, and improved program logic to ensure accurate and reliable readings. This session enhanced their understanding of embedded system behaviour in real-world conditions.

6.5 Actuator Interfacing and Control Techniques

The post-lunch session focused on actuator interfacing, including DC motors, servo motors, stepper motors, relays, and display modules such as 16x2 LCDs. Participants learned about Pulse Width Modulation (PWM) and its application in controlling motor speed and position.

Hands-on exercises allowed participants to control actuators based on sensor inputs, enabling the creation of responsive systems.

6.6 Concept Sketching and System Design

The final session of Day 2 involved concept sketching and system design. Teams prepared block diagrams, circuit layouts, and flowcharts for their proposed prototypes. This activity helped participants visualize system architecture, understand signal flow, and finalize component requirements.

6.7 Outcomes of Day 2

By the end of Day 2, participants achieved:

- ✓ Strong ideation and concept evaluation skills
- ✓ Hands-on experience with sensors and actuators
- ✓ Ability to process real-time data using Arduino
- ✓ Well-defined system designs ready for prototype development

7. Day 3: Prototype Development, Testing & Demonstration (24.12.2025)

7.1 Prototype Development Phase I

Participants began assembling circuits, integrating sensors and actuators, and implementing control logic. Mentors guided teams in debugging hardware and software issues.

7.2 Prototype Development Phase II

Teams refined their prototypes by optimizing code, improving performance, and adding features. Iterative testing ensured reliability and stability of the models.

7.3 Demonstration and Valedictory Session

Each team presented their problem statement, ideation process, system design, and working prototype. The workshop concluded with a valedictory session and certificate distribution.

8. Prototypes Developed

- ✓ Smart Water Level Monitoring System
- ✓ Automatic Street Light Controller
- ✓ Smart Waste Management System
- ✓ Temperature and Humidity Monitoring System

9. Evaluation Methodology

Evaluation was based on innovation, problem relevance, prototype functionality, teamwork, and presentation skills.

10. Outcomes and Impact

The workshop enhanced technical competence, creativity, teamwork, and problem-solving skills. Participants gained confidence in developing real-world engineering solutions.

11. Alignment with NEP 2020 and NBA

The programme promoted experiential learning, innovation, and OBE practices, supporting accreditation requirements.

12. Conclusion

The Three Days Ideation Workshop successfully achieved its objectives by integrating design thinking with hands-on Arduino prototyping. The enthusiastic participation and innovative prototypes demonstrated the effectiveness of the workshop in fostering engineering innovation.

PARTICIPANTS ATTENDANCE DETAILS



VEL TECH HIGH TECH
Dr.RANGARAJAN Dr. SAKUNTHALA ENGINEERING COLLEGE
An Autonomous Institution
Approved by AICTE, New Delhi | Affiliated to Anna University, Chennai



AICTE-IDEA LAB

Three days Ideation Workshop on Rapid Prototyping through design thinking with Arduino

Attendance Sheet

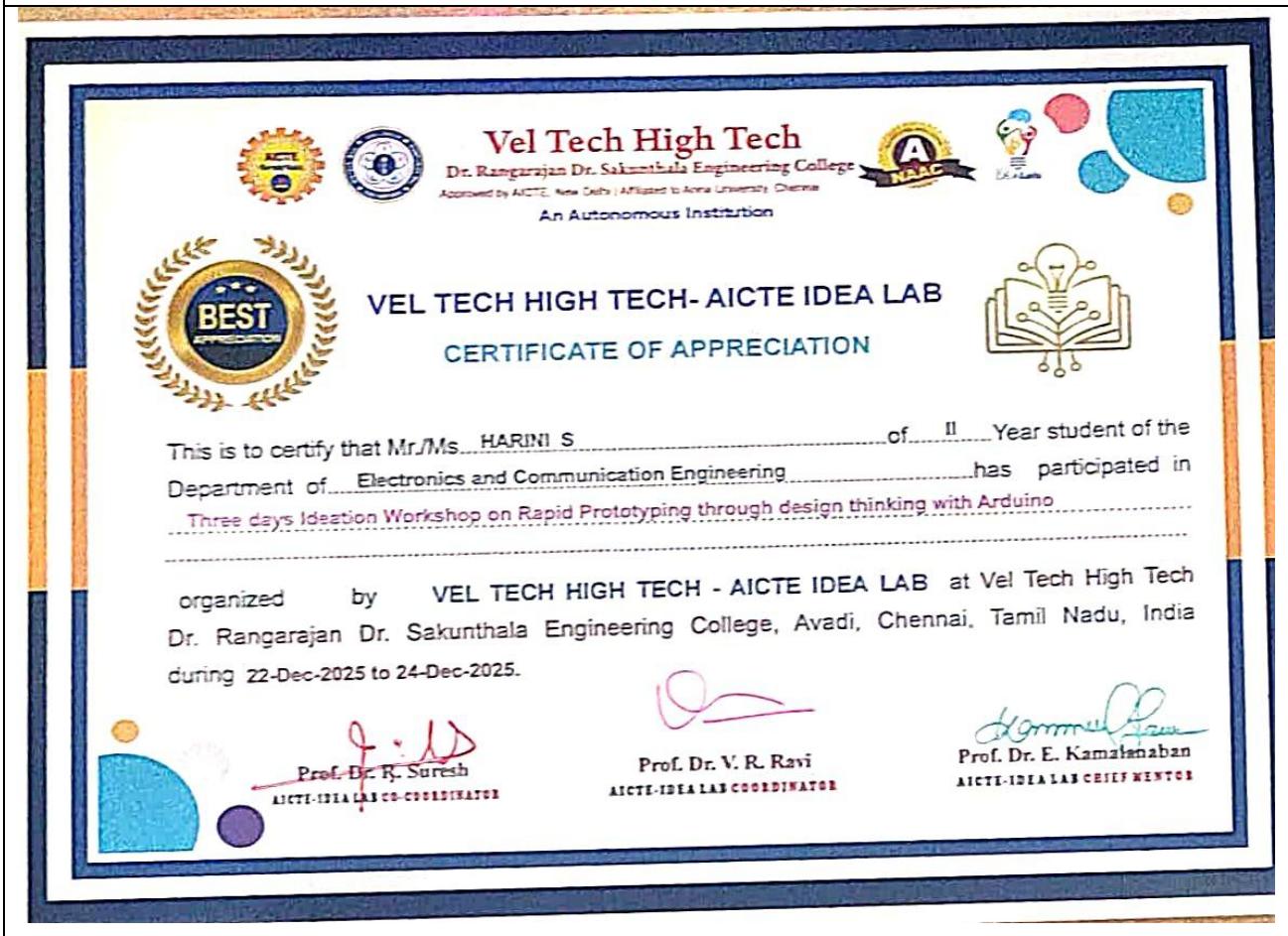
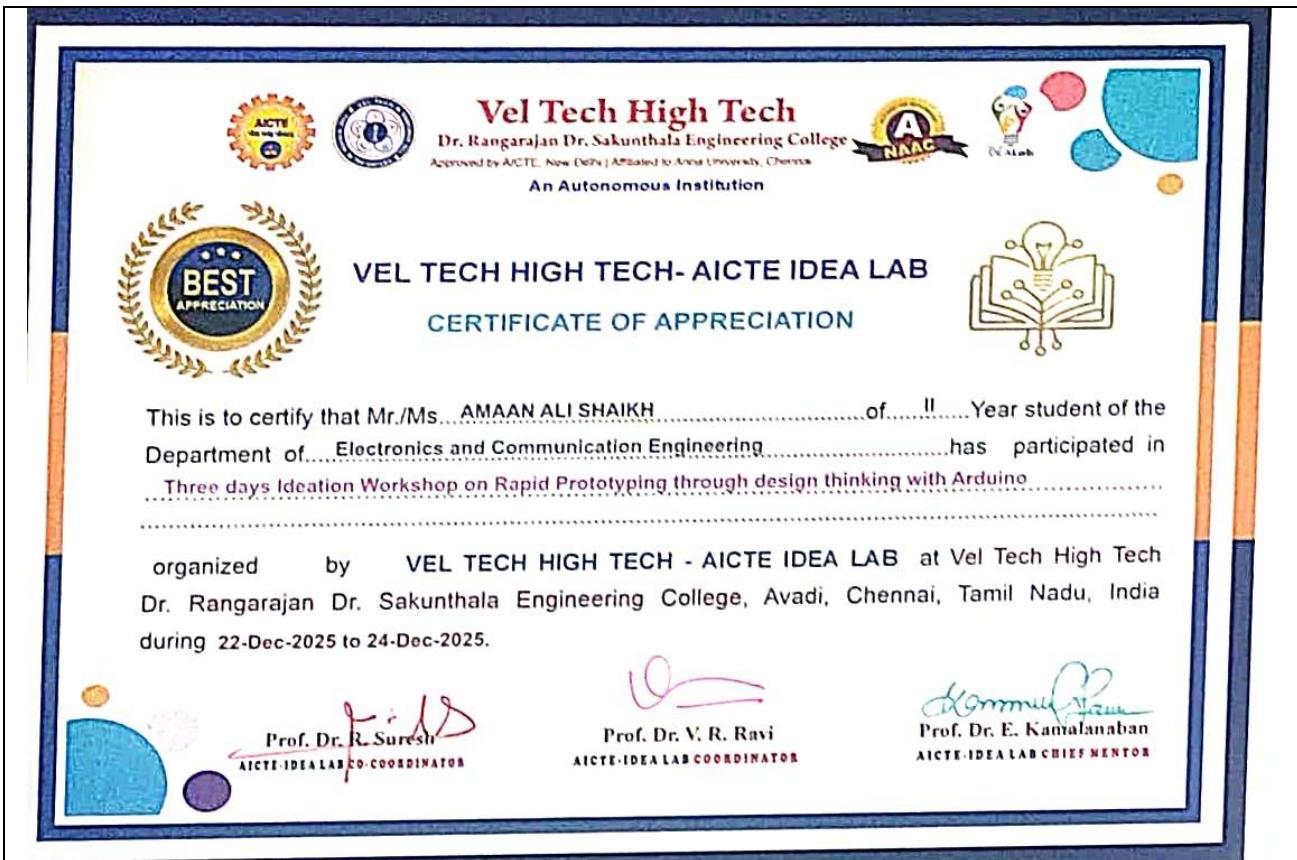
S.No	Student Name	VH Number	Branch	22.12.2025		23.12.2025		24.12.2025	
				FN	AN	FN	AN	FN	AN
1	DHANALAKSHMI S	14239	ECE	<i>Dhanalakshmi</i>	<i>S</i>	<i>Dhanalakshmi</i>	<i>S</i>	<i>Dhanalakshmi</i>	<i>S</i>
2	AMAAAN ALI SHAIKH	14225	ECE	<i>Ammaan</i>	<i>Ali</i>	<i>Ammaan</i>	<i>Ali</i>	<i>Ammaan</i>	<i>Ali</i>
3	HARINI S	14249	ECE	<i>Harini</i>	<i>S</i>	<i>Harini</i>	<i>S</i>	<i>Harini</i>	<i>S</i>
4	CHETANYA S R	14236	ECE	<i>Chetanya</i>	<i>S</i>	<i>Chetanya</i>	<i>S</i>	<i>Chetanya</i>	<i>S</i>
5	AKSHAYA S N	14223	ECE	<i>Akshaya</i>	<i>S</i>	<i>Akshaya</i>	<i>S</i>	<i>Akshaya</i>	<i>S</i>
6	VINCY SHEEBA A	14326	ECE	<i>Vincy</i>	<i>Sheeba</i>	<i>Vincy</i>	<i>Sheeba</i>	<i>Vincy</i>	<i>Sheeba</i>
7	SANJEETHA R	14313	ECE	<i>Sanjeetha</i>	<i>R</i>	<i>Sanjeetha</i>	<i>R</i>	<i>Sanjeetha</i>	<i>R</i>
8	REVATHIPRIYA.R	14336	ECE	<i>Revathy</i>	<i>Priya</i>	<i>Revathy</i>	<i>Priya</i>	<i>Revathy</i>	<i>Priya</i>
9	MONIKA M	14283	ECE	<i>Monika</i>	<i>M</i>	<i>Monika</i>	<i>M</i>	<i>Monika</i>	<i>M</i>
10	MERLIN RIOANA P	14279	ECE	<i>Merlin</i>	<i>P</i>	<i>Merlin</i>	<i>P</i>	<i>Merlin</i>	<i>P</i>

PARTICIPANTS ATTENDANCE DETAILS

CO-CORDINATOR
29/12/2006

COORDINATOR

SAMPLE CERTIFICATES

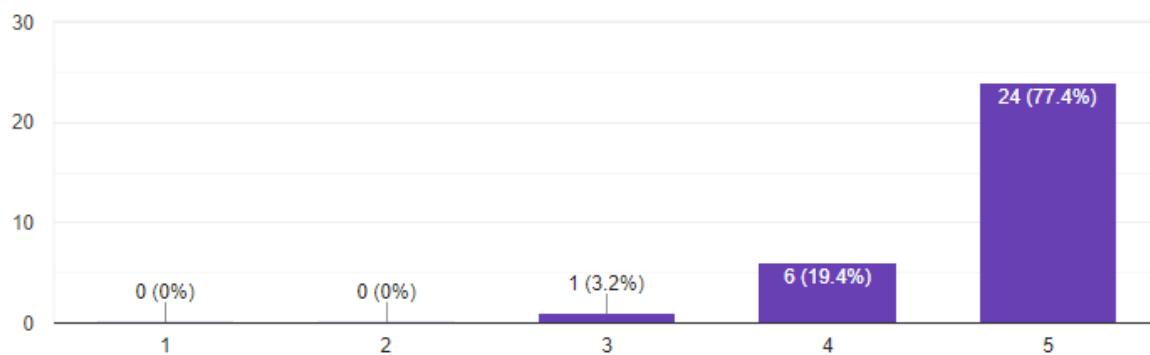
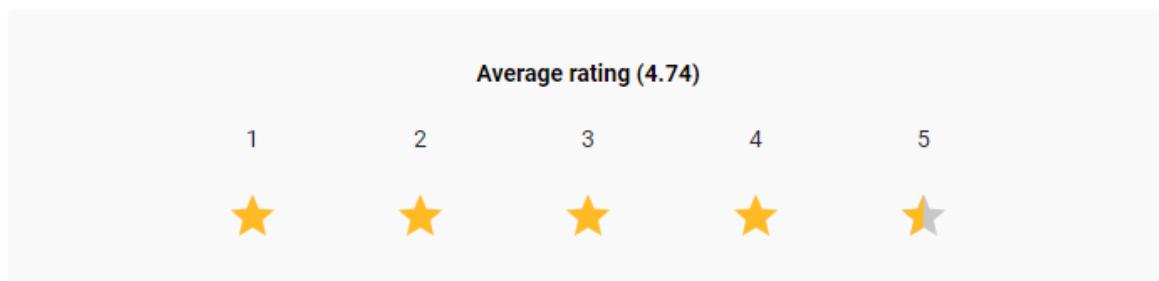


PARTICIPANTS FEEDBACK

1. Clarity of workshop objectives and expected learning outcomes.

[Copy chart](#)

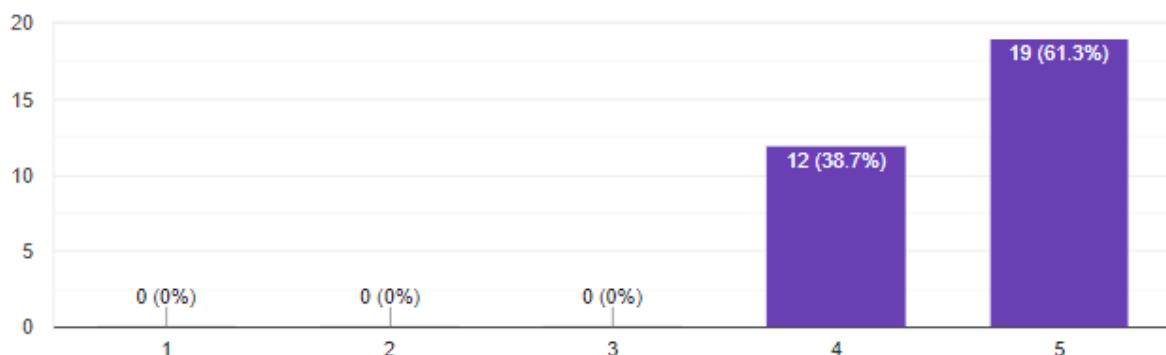
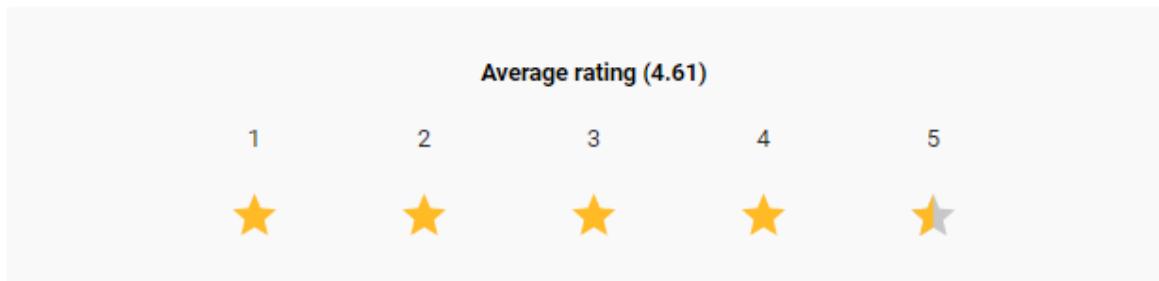
31 responses



2. How would you rate the overall quality of the program

[Copy chart](#)

31 responses

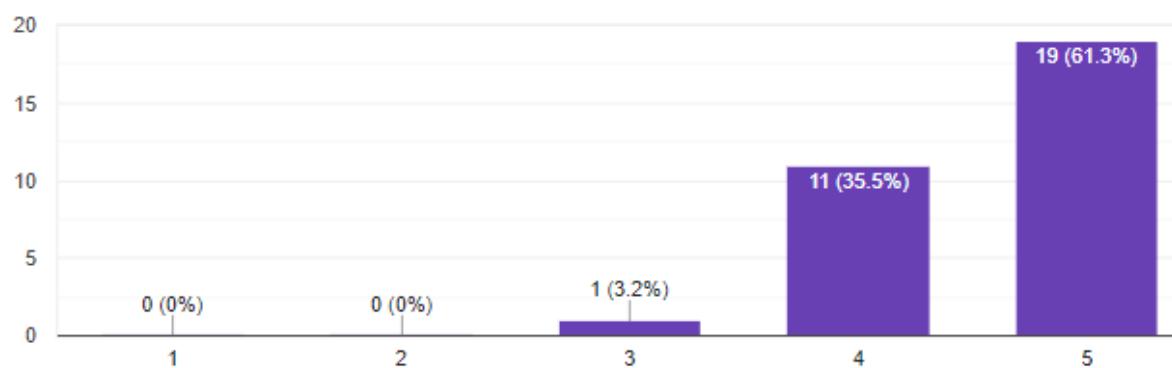
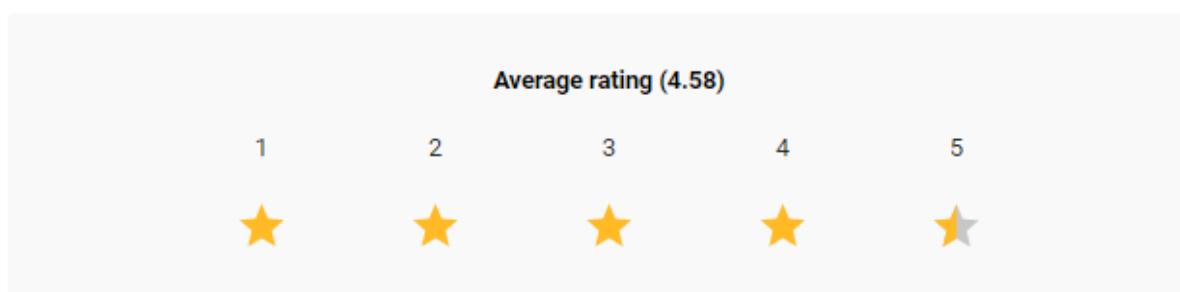


PARTICIPANTS FEEDBACK

3. The topics covered in design thinking with Arduino is relevant and useful.

[Copy chart](#)

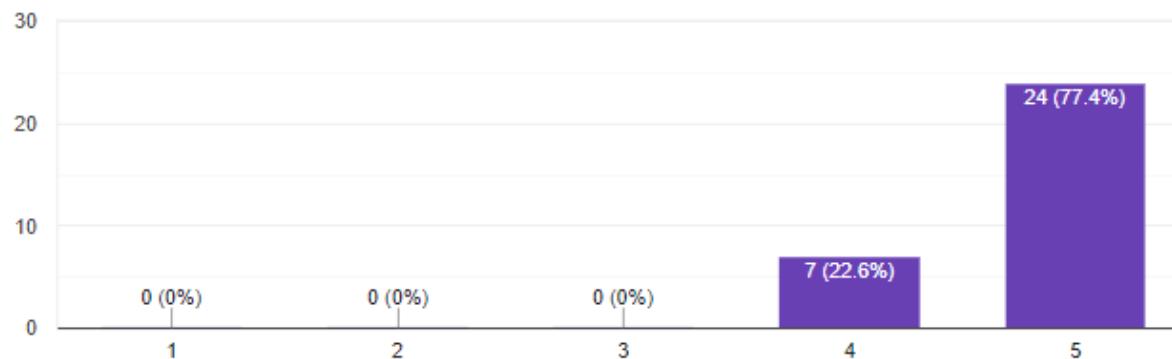
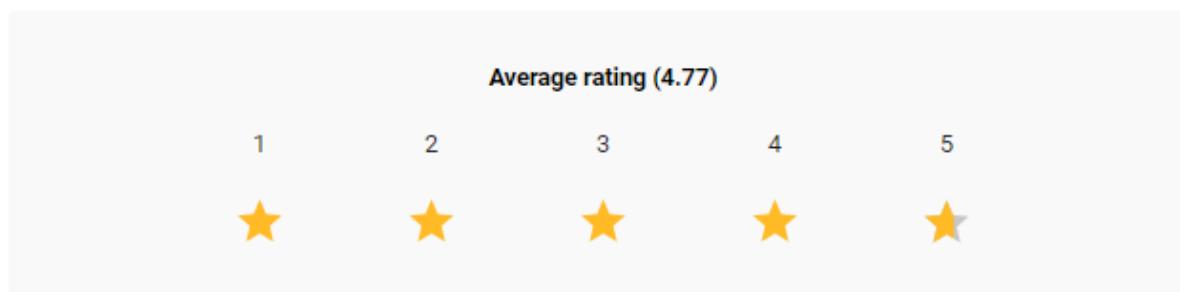
31 responses



4. Rate the clarity and effectiveness of the resource person(s).

[Copy chart](#)

31 responses

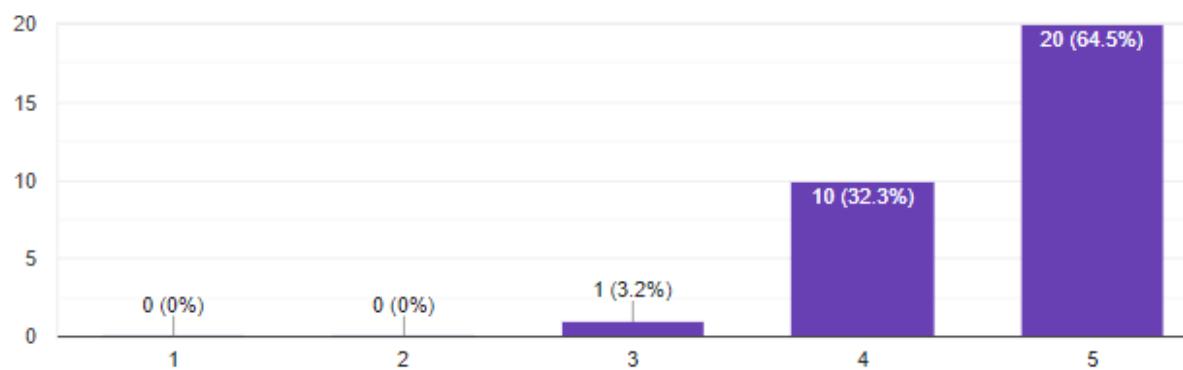
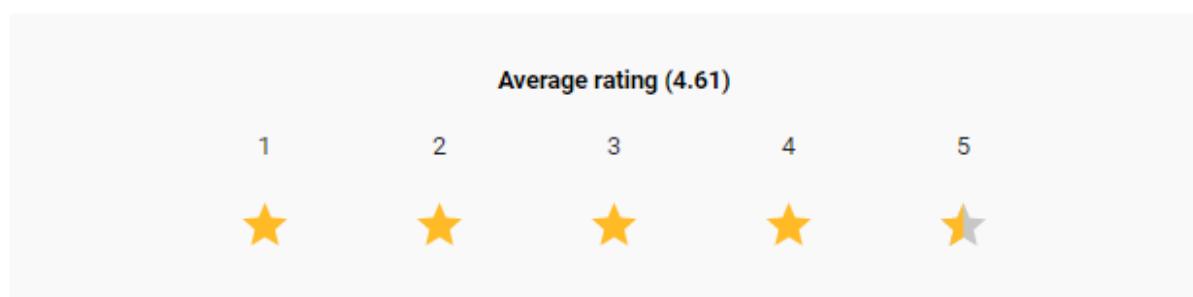


PARTICIPANTS FEEDBACK

5. How helpful were the hands-on practice sessions?

[Copy chart](#)

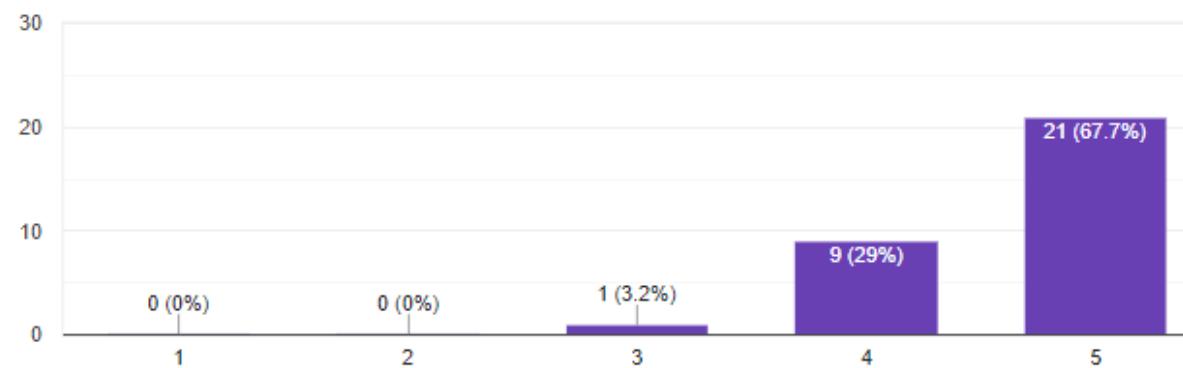
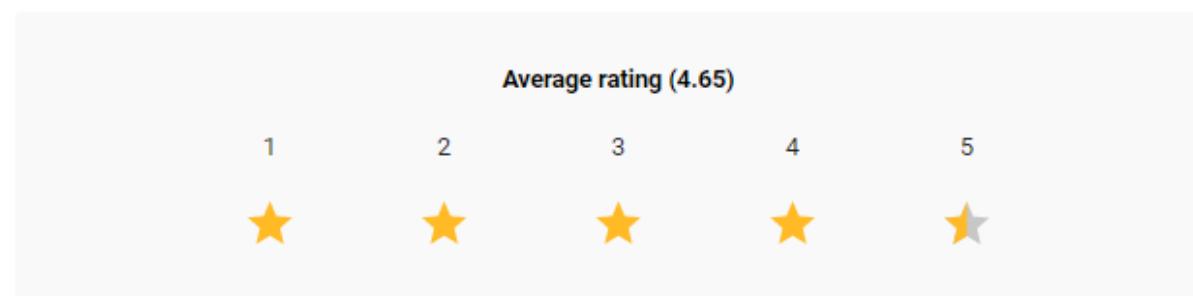
31 responses



6. How do you rate the organization and flow of the training sessions?

[Copy chart](#)

31 responses

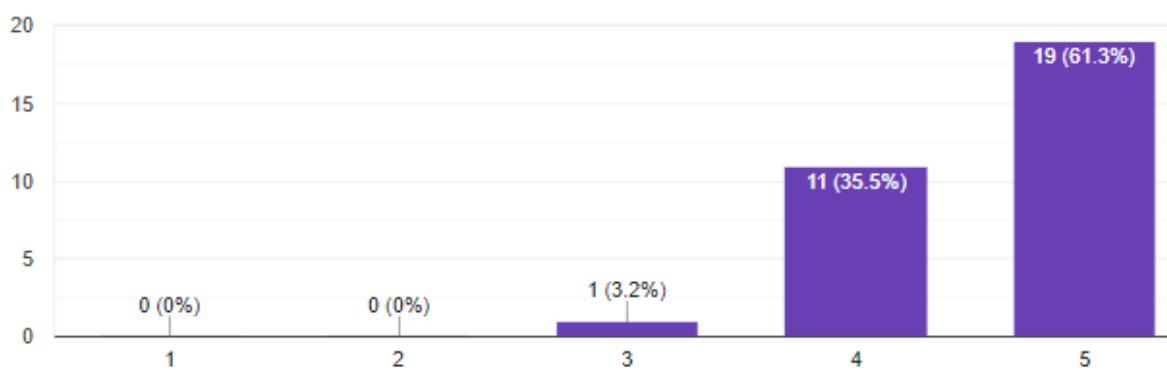
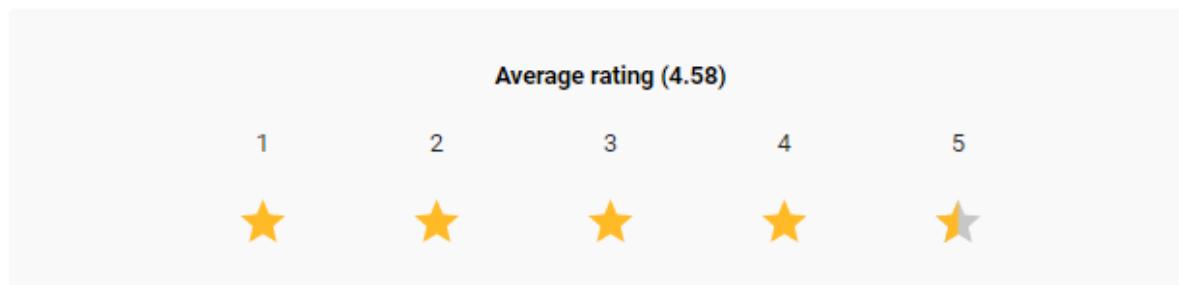


PARTICIPANTS FEEDBACK

7. I am confident in using Arduino for engineering computations after the program.

31 responses

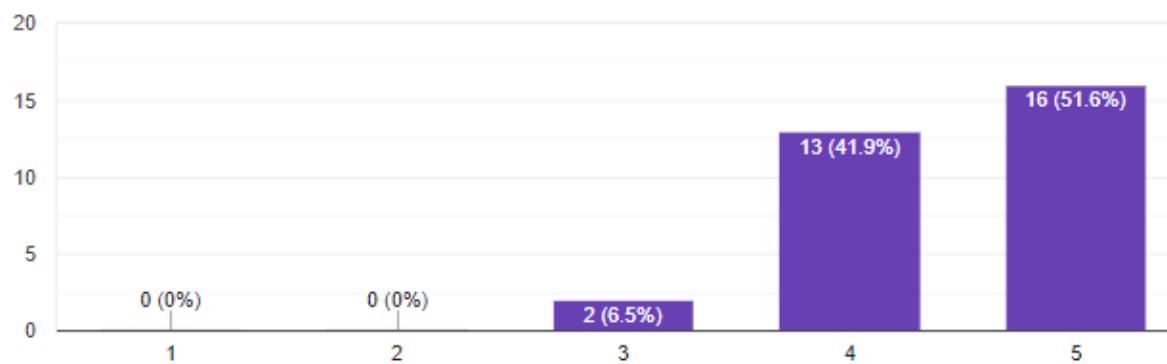
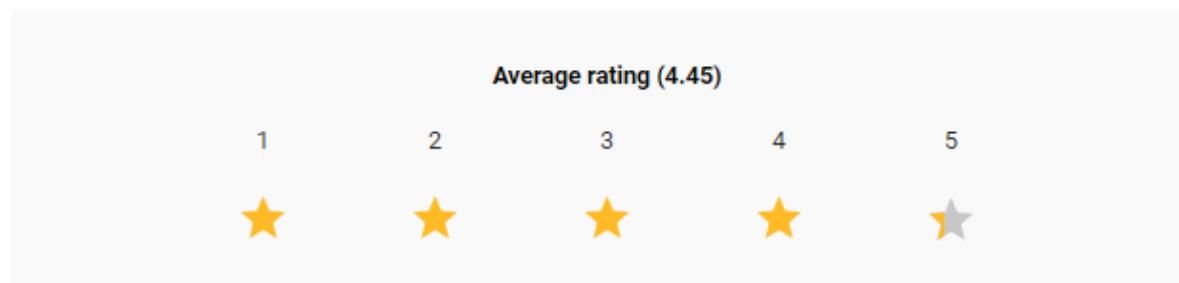
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8. I am confident in using Arduino for simulation and modeling applications.

31 responses

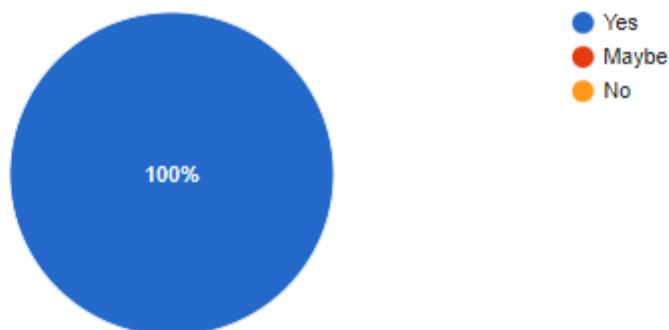
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PARTICIPANTS FEEDBACK

9. Would you recommend this program to others?

31 responses



10. Overall usefulness of the program in enhancing your technical and design skills

31 responses

 Copy chart

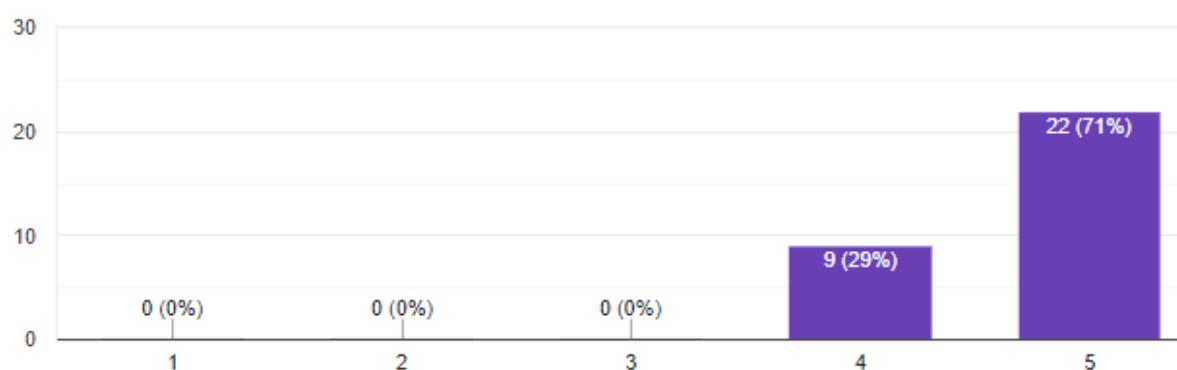
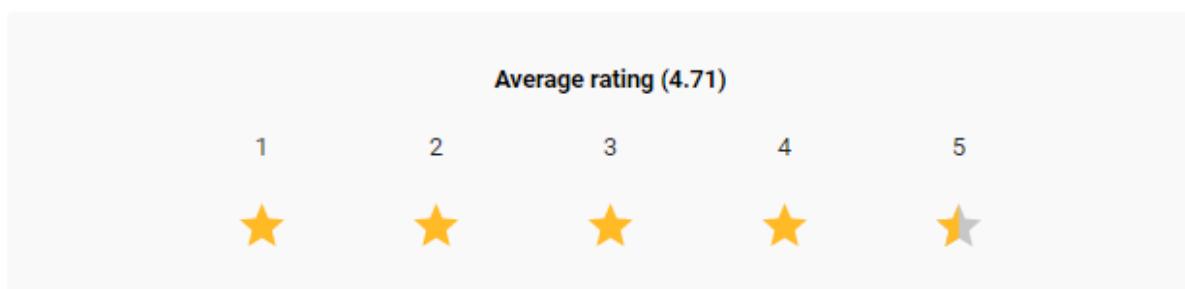


PHOTO GALLERY



PHOTO GALLERY

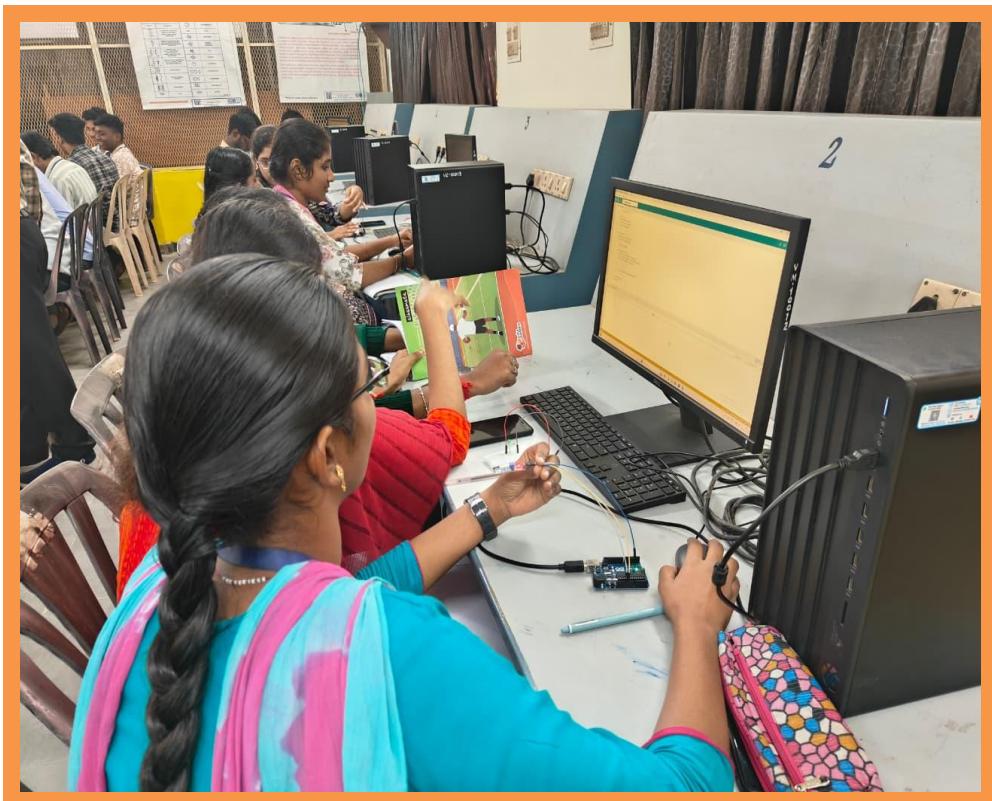
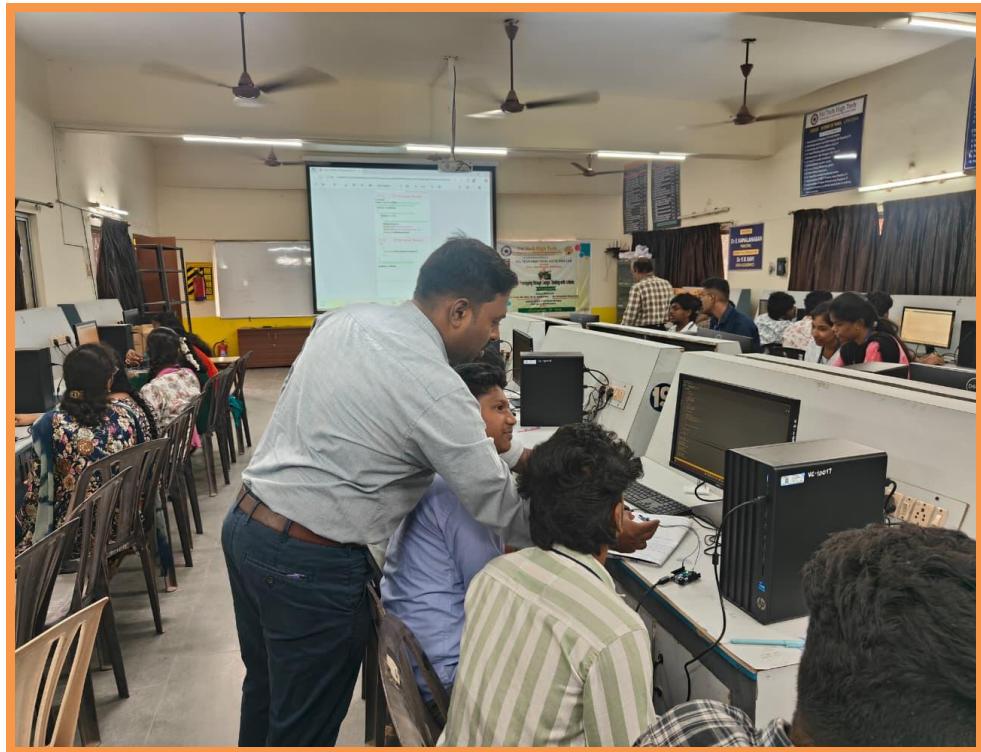
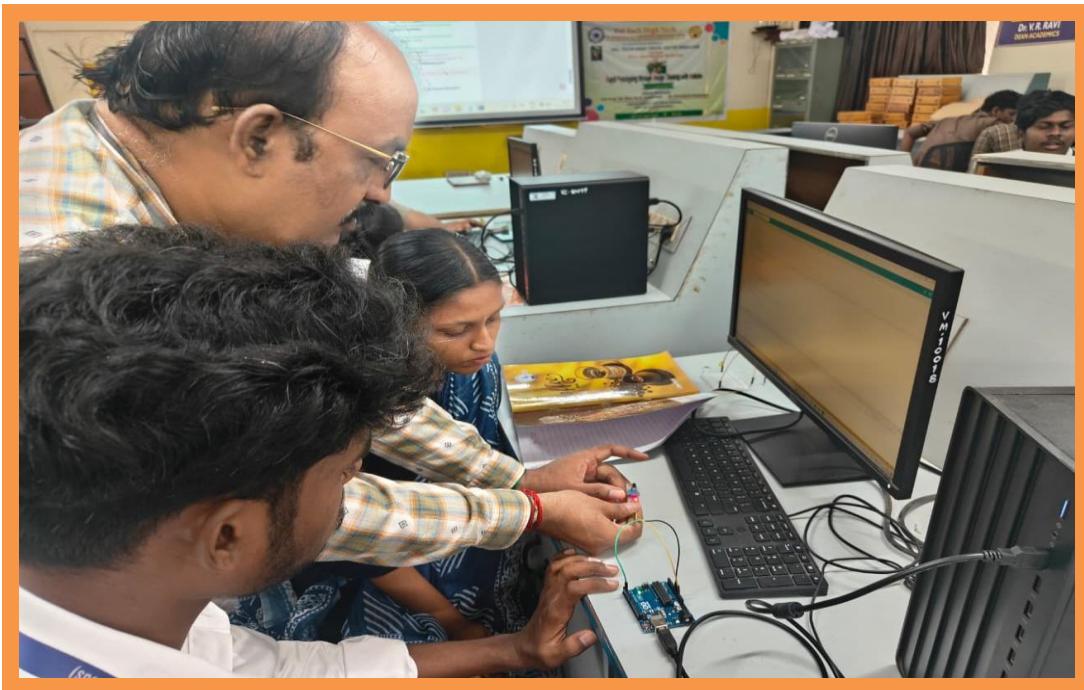
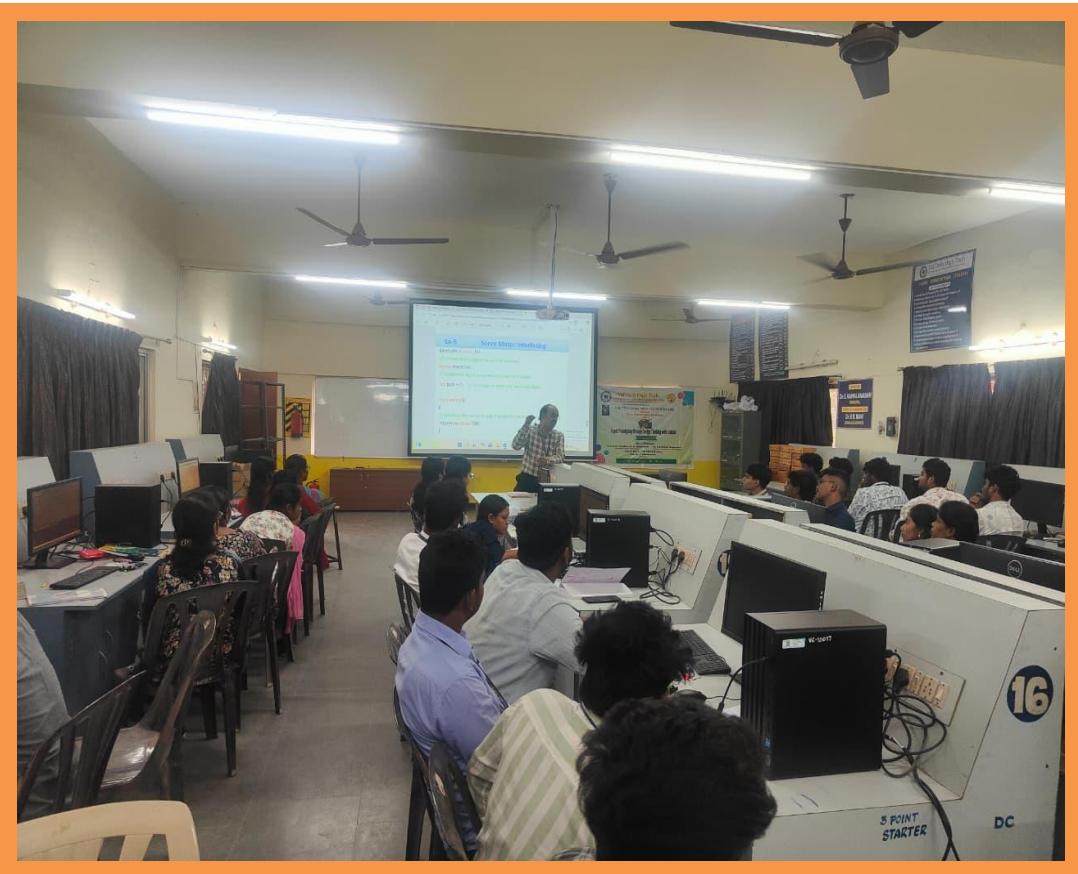


PHOTO GALLERY



EXPENSE STATEMENT

S.NO	ITEM DESCRIPTION	DATE	BILL NO	AMOUNT (Rs)
1	Poster	18.12.25	633	71
2	Brochure	19.12.25	638	70
3	Banner	21.12.25	19668	500
4	Certificate	23.12.25	647	390
5	Miscellaneous (Buzzer)	23.12.25	47	240
	Total			1271

Prof. Dr. R. SURESH

AICTE IDEA LAB – CO-COORDINATOR

Prof. Dr. V.R. RAVI

AICTE IDEA LAB – COORDINATOR

Prof. Dr. E. KAMALANABAN

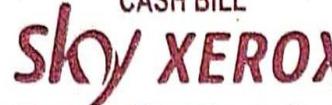
AICTE IDEA LAB – CHIEF MENTOR

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279, C. T. H ROAD											
AVUDI CHENNAI-54											
CELL- 9444400288											
GSTIN-33ANJP5911E2Z5											
BILL NO: 47		DATE: 22/12/25									
ITEM NAME		QTY	PRICE								
BUZER		12NO	20.00								
TOTAL ITEM(S): 1		/QTY: 12.000	240.00								
TOTAL		₹240.00									
GOODS ONCE SOLD CANNOT BE TAKEN BACK OR EXCHANGED WARRANTY FROM MANUFACTURE ONLY											
<p style="text-align: center;">VEL TECH HIGH TECH Dr. RANGARAJAN Dr. SAKUNTHALA ENGINEERING COLLEGE AN AUTONOMOUS INSTITUTION</p> <table border="1" style="margin-top: 10px;"> <tr> <td>IN TIME.</td> <td>8.40</td> </tr> <tr> <td>DATE</td> <td>23.12.25</td> </tr> <tr> <td>SL NO</td> <td>4282</td> </tr> <tr> <td>SIGN</td> <td></td> </tr> </table>				IN TIME.	8.40	DATE	23.12.25	SL NO	4282	SIGN	
IN TIME.	8.40										
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<p style="text-align: center;">STOCK BOOK VERIFIED</p> <p style="text-align: center;">SIGN: _____</p> <p style="text-align: center;">VEL TECH NORTH CAMPUS</p>											
<p style="text-align: center;">MATERIAL RECEIVED</p> <p style="text-align: center;">DATE: _____</p> <p style="text-align: center;">SIGN: _____</p>											
<p style="text-align: center;">VEL TECH NORTH CAMPUS - INWARD</p> <p style="text-align: center;">DATE 23.12.25 IN TIME 8.35AM</p> <p style="text-align: center;">VEHICLE NO By hand</p> <p style="text-align: center;">PO NO _____</p> <p style="text-align: center;">SL NO DBS 2528</p> <p style="text-align: center;">SIGN R</p>											
<p style="text-align: center;">VEL TECH NORTH CAMPUS</p> <p style="text-align: center;">QUANTITY VERIFIED</p> <p style="text-align: center;">NAME Balasubramanian</p> <p style="text-align: center;">SIGN By</p> <p style="text-align: center;">DATE 23.12.25</p>											

CASH BILL					
sky XEROX					
#13, Rani Nagar, Alammal Road, Tiruvallur, Chennai - 600062					
<input checked="" type="checkbox"/> skyxeroxchennai@gmail.com			7339221595		6380477074
GST No. : 33AFBFS4993Q1Z7					
XEROX, PRINTS, BINDING, LAMINATION, STATIONARIES					
Bill No. <u>647</u>			Date: <u>23/12/25</u>		
Mr./Ms. <u>Vel-Tech - high tech</u>					
Customer GST :					
S.No	Qty	Particulars	Rate	Amount	
1	33	Certificate	10	330	
			Amount	330	
			SGST 9%	30	
			CGST 9%	30	
			TOTAL	390	

BILL COPY

CASH BILL				
				
#13, Rani Nagar, Alathalai Road, Tiruvallur, Chennai - 600062				
<input checked="" type="checkbox"/> skyxeroxchennai@gmail.com 7339221595 6380477074				
GST No. : 33AFBFS4993Q1Z7				
XEROX, PRINTS, BINDING, LAMINATION, STATIONARIES				
Bill No. 633		Date : 18/12/2023		
Mr./Ms. Velttech - high tech				
Customer GST : 33AABTY8852A1ZK				
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1	2	Acrylic F/B poster	30	60
				Amount 60
				SGST 9% 5.4
				CGST 9% 5.4
				TOTAL 71



 Thank you

BILL COPY

 19668	T.SARAVANA KUMAR B.E, 99 52 79 79 80 044 - 47777998	T.LAKSHMANA KUMAR B.E, 81 89 90 6004 89 25 71 777 9		
SLK DIGITAL PRINTING SOLUTION 253, N.M ROAD, NEW MUNICIPAL OPP, AVADI-54 slkdigitalG@gmail.com --FLUX-- VINYL-- LIGHTING BOARD --BROUCHERS --, VISITING CARTS --, ACRYLIC WORK				
To..... VB TECH HINH TECH ACD IDA LAB		Date 21/12/2025		
S.NO	DESCRIPTION	QTY	RATE/UNIT	AMOUNT
1	6x4 Dames	2	✓ 500	500
TOTAL				500
Contact 9659741118				
Advance _____				
Cash mode: <input type="checkbox"/> cash <input type="checkbox"/> check <input type="checkbox"/> card <input type="checkbox"/> credit <input checked="" type="checkbox"/> account transfer				
Thank you  SLK DIGITAL				