
THADOMAL SHAHANI
TSEC
ENGINEERING COLLEGE
ELECTROVERSE.COMM TSEC PRESENTS
TECH-A-THON
2026
HARDWARE HACKATHON
POWERED BY
unstop
THADOMAL SHAHANI ENGINEERING COLLEGE
ELECTRONICS AND TELECOMMUNICATIONS DEPARTMENT

ABOUT THE COLLEGE

Thadomal Shahani Engineering College (TSEC) is a private engineering college in Mumbai, India. Founded in 1983, it is the first and oldest private engineering institute affiliated with the University of Mumbai. TSEC was founded by the Hyderabad (Sind) National Collegiate Board (HSNC Board) in 1983. It is named after one of Mumbai's most respected philanthropists, Dada Kishinchand T. Shahani's father, Thadomal Shahani.

Approved by the Directorate of Technical Education of Maharashtra on 16 September 1983, TSEC is one of the oldest private engineering colleges in India and was among the first institutes in the country to offer undergraduate-level studies in specializations such as computer engineering, information technology, and biomedical engineering. The Department of Biomedical Engineering is one of the oldest in India and was set up in 1983. The first batch of Computer Engineering graduates passed out in 1988. The undergraduate course in Information Technology was started in 1998. The departments of Electronics & Telecommunication Engineering as well as Chemical Engineering were established in 1983, whereas that of Biotechnology was established in 2004. The undergraduate course in Artificial Intelligence and Data Science was started in 2020.

DR. G.T. THAMPI
PRINCIPAL

(CONVENER)

THADOMAL SHAHANI ENGINEERING COLLEGE

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ABOUT THE DEPARTMENT

Department of Electronics and Telecommunication was established in year 2002 with a clear view of a forerunner in the field of Telecommunications, the Department seeks to evolve towards excellence and adapt itself to the rapid advancements in specialized communication related fields. This Department earlier had nomenclature of Electronics Engineering from 1983 to 2001. From 2002 Student intake for E&TC has been 60 students. At the desktop of achievements of the department, lies the award of accreditation given by the National Board of Accreditation since 2008. The Department is accredited by NBA continuously for the past 4 cycles and recently by NAAC. The department has also started a PhD program, with an intake of 10 students from the academic year 2014-15. The curriculum of the program has been designed to cater to the ever changing needs and demands of communication industry. The focus is on holistic learning and empowering students to make significant contributions at all levels. The open elective system gives a handful of choices for students to develop expertise in their area of interest such as Neural Networks, Radar engineering, VLSI, Data compression and encryption, Satellite communication, Image processing, Artificial Intelligence, and Machine Learning etc. It has one of the best state-of-the-art hard ware and software laboratories with special focus on telecommunication.

DR. MANIROJA EDINBURGH
HEAD OF DEPARTMENT
EXTC

(EVENT CO-CONVENER)

PROF MANOJ KAVEDIA
ASSISTANT PROFESSOR

PROF BHARATI INGALE
ASSISTANT PROFESSOR

(EVENT CORDINATORS)

ELECTRONICS AND TELECOMMUNICATIONS DEPARTMENT

THADOMAL SHAHANI
TSEC
ENGINEERING COLLEGE

TECH-A-THON 2026

HARDWARE HACKATHON

PRIZE POOL

₹15,000
1ST RUNNER UP

₹10,000
2ND RUNNER UP

₹25,000
WINNER

THADOMAL SHAHANI ENGINEERING COLLEGE

ELECTRONICS AND TELECOMMUNICATIONS DEPARTMENT

THADOMAL SHAHANI
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TECH-A-THON 2026

Hardware hackathon

We, Electroverse.Comm-TSEC, a Technical Committee of the EXTC Department of Thadomal Shahani Engineering College, Mumbai, Maharashtra, invite you to TECH-A-THON, a 48-hour Hardware Hackathon.

Get ready to swirl in the Vortex of Innovation and showcase your potential to offer feasible solutions for real world problems with a Technical Edge.

DATE

26, 27 & 28 FEB.

VENUE

TSEC NEW BLDG

THADOMAL SHAHANI ENGINEERING COLLEGE

ELECTRONICS AND TELECOMMUNICATIONS DEPARTMENT

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TIMELINE

Registrations start from 10th Jan

Round 1 (Online) from 1st Feb-6th Feb. Shortlisted Teams Qualify for Round 2

Registrations closes on 20th Jan

Round 2 (Final Implementation) Begins on 26th Feb 9:30 Am and ends on 28th Feb 2:00Pm

Top 3 Teams will be declared as Winners.

TECH-A-THON 2026

THADOMAL SHAHANI TSEC ENGINEERING COLLEGE

ABOUT TECHATHON

TECH-A-THON offers students a platform to design and develop innovative solutions for real-world problem statements, strengthening their problem-solving and technical skills. This hardware-focused hackathon emphasizes hands-on ideation, structured evaluation, and rapid execution, enabling participants to transform concepts into functional working models. Participants are encouraged to push the boundaries of innovation by effectively utilizing their technical expertise to build practical and impactful solutions.

Eligibility: Students pursuing B.E. / B.Tech from any Degree College or students from any Technical Diploma College. (Open to all branches)

Team Size: A maximum of 4 members per team

Round 1 – Idea Screening (Online)

Participating teams are required to conceptualize a solution for one of the provided Domains. Teams must present their idea, proposed implementation approach, and a brief overview of the components to be used along with their functionality. This round will be conducted online, with a presentation duration of 10 minutes.
Shortlisted teams will qualify for the next round.

Round 2 – Implementation & Demonstration

The final round focuses on the development and execution of the proposed solution. Qualified teams will build a working hardware/software prototype based on their idea.
Teams will be allotted 48 hours to complete the implementation. Upon completion, the final prototype must be demonstrated and presented to the judging panel.

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WORKING MODEL MUST BE DEVELOPED USING AT LEAST ONE OF THE FOLLOWING COMPONENTS

1 ARDUINO

AN OPEN-SOURCE MICROCONTROLLER PLATFORM WIDELY USED FOR BUILDING ELECTRONIC PROJECTS.

2 RASPBERRY PI

A COMPACT COMPUTING DEVICE COMPATIBLE WITH VARIOUS INPUT AND OUTPUT PERIPHERALS.

3 STM 32

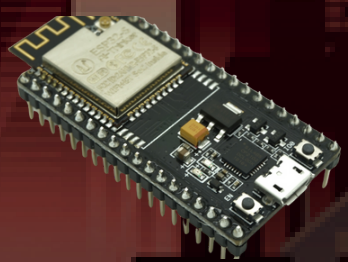
A MICROCONTROLLER FAMILY SUPPORTING SERIAL AND PARALLEL COMMUNICATION WITH DIVERSE ELECTRONIC COMPONENTS.

4 MSP430

A 16-BIT ULTRA-LOW-POWER MICROCONTROLLER SUITABLE FOR SENSING AND MEASUREMENT APPLICATIONS

5 FPGA

A PROGRAMMABLE INTEGRATED CIRCUIT THAT ALLOWS CUSTOMIZATION FOR APPLICATION-SPECIFIC OPERATIONS.



6 ESP32

A LOW-COST SYSTEM-ON-CHIP (SOC) MICROCONTROLLER COMMONLY USED FOR IOT-BASED APPLICATIONS.

NOTE: THE ABOVE LIST IS INDICATIVE. TEAMS ARE PERMITTED TO USE ANY OTHER SUITABLE DEVELOPMENT BOARD AVAILABLE IN THE COMPONENT INVENTORY.

ADDITIONAL INFORMATION

Round 2 will be conducted in Offline mode at Thadomal Shahani Engineering College, Bandra, Mumbai, Maharashtra from 26th February till 28th of February, 2026 The Participating Teams will be required to stay on campus for the entire duration of the Hardware Hackathon. All participants must arrive on campus by 9:30 am on February 26th , 2026.

The Participating Teams will be required to come up with innovative solutions for modern- day problems using specified components. The components required to build the solution are to be informed by the qualified Teams after Round 1. Participants will have access to the available component inventory, if any other components are required, participants will have to arrange them themselves

Component inventory would be provided in the form of a list to all participants. Availability can be confirmed by contacting the any student coordinator

Breakfast, Lunch, and Dinner will be provided . All the teams will be receiving Participation certificates from Thadomal Shahani Engineering College and Some special goodies from the Electroverse.Comm-TSEC Team.

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DOMAINS

Domain #1

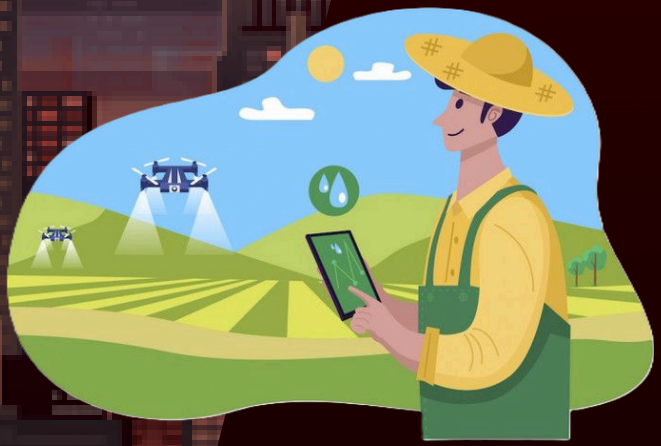
Healthcare and Biomedical Technology

Advanced hardware solutions in healthcare and biomedical technology aim to improve diagnosis, monitoring, and patient care. Innovations such as medical devices, health monitoring systems, and assistive technologies enable accurate data collection and efficient treatment.
These technologies play a vital role in enhancing healthcare accessibility and outcomes.

Domain #2

Agricultural and Rural Development

Hardware-driven innovations in agriculture focus on increasing productivity, sustainability, and rural development. Solutions such as smart irrigation, soil monitoring systems, and automated farming equipment help optimize resource usage and improve crop yield.
Technology-driven agriculture supports food security and empowers rural communities.



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DOMAINS

Domain #3

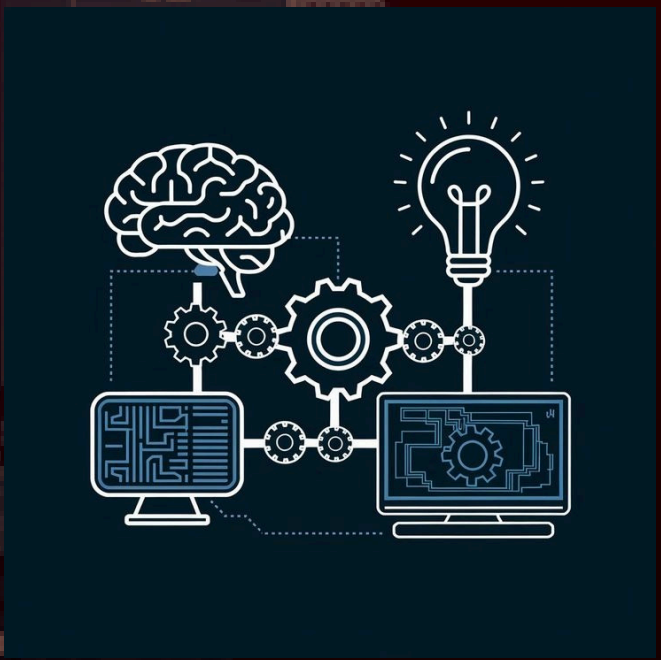
Defence and security systems

Defense and security systems leverage advanced hardware to enhance surveillance, monitoring, and threat detection. Innovations including secure communication systems, sensing devices, and automated defense mechanisms strengthen national and infrastructural security. These technologies ensure improved situational awareness and rapid response capabilities.

Domain #4

Robotics and autonomous systems

Robotics and autonomous systems combine hardware and intelligence to perform tasks with minimal human intervention. Applications include robotic arms, autonomous vehicles, and smart machines designed for efficiency and precision. These systems play a key role in industries such as manufacturing, healthcare, and exploration.



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DOMAINS

Domain #5

Immersive and Educational Technology

Immersive technologies enhance learning experiences through interactive and engaging hardware solutions. Innovations such as virtual labs, simulation systems, and smart educational tools improve understanding and skill development. These technologies make education more accessible, experiential, and future-ready.

Domain #6

Energy and Environmental Stability

Sustainable hardware innovations focus on efficient energy generation, storage, and environmental monitoring. Solutions such as renewable energy systems, smart grids, and pollution monitoring devices promote responsible resource utilization. These technologies contribute to reducing environmental impact and supporting a greener future.

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DOMAINS

Domain #7

Industrial Automation and Control Systems

Industrial automation utilizes hardware-based control systems to improve productivity, precision, and safety in manufacturing processes. Technologies such as sensors, controllers, and monitoring systems enable efficient operation and real-time decision-making. Automation plays a crucial role in modern industrial transformation.

Domain #8

Student Innovation

This domain encourages students to explore creative and unconventional hardware solutions beyond predefined categories. Participants can present original ideas addressing real-world problems through innovation and experimentation. Student Innovation promotes creativity, interdisciplinary thinking, and practical implementation.

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INSTRUCTIONS

- The hackathon will span 48 hours, during which teams must propose a solution within one of the seven provided domains. Teams may choose any problem statement within their selected domain; however, once the Round 1 presentation is completed, the chosen domain and problem statement will be considered final and cannot be changed.
- Teams may use any components to develop their solution. This includes (but is not limited to):

  1. Controllers: Arduino, Raspberry Pi, STM32, MSP430, FPGA, 8051, etc.
  2. Sensors: Proximity, humidity, IR, haptic, audio, photosensors, etc.

  Qualified teams must submit their required component list after Round 1 via a Google Form. Components available in the college inventory will be provided, while any additional components must be arranged by the teams themselves.
  Any unavailability will be communicated to the teams well in advance.

- Internet facilities will be provided at the venue. Participants are free to refer to any online platforms, documentation, or resources to aid in the development of their solution.
- Eligibility: Participants can be students of any year pursuing B.E. / B.Tech from any Degree College or students from any Technical Diploma College. (Open to all branches)
- The event shall take place in two rounds:

  Round 1 – Preliminary Presentation (Online)
  Teams will present their selected domain, problem statement, proposed solution approach, and tentative components.
  Shortlisted teams will advance to the next round.
  Registration Fee: Rs.200 per Team (Non-Refundable)
  Round 2 – Hackathon & Final Demonstration
  Qualified teams will participate in a 48-hour on-campus hackathon to develop and implement their solution, followed by a final prototype demonstration and evaluation by the judging panel.
  Registration Fee: Rs.600 per team for 2–3 members
  Rs.800 per team for 4 members (Rs.600 + Rs.200 additional member charge)

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STUDENTS CODE OF CONDUCT

- Each participant must have their college identity (ID) card with them while on campus. They are required to carry their registration band at all times.
- Participants are expected to follow the timing as specified in the schedule and arrive at the venue on time to avoid any hassle.
- It is mandatory for all the participants to stay on campus for the entire duration of the event.
- Participants are expected to read and follow notices and updates posted on our website and Instagram from time to time.
- Be polite and respectful towards staff (teaching, non-teaching, and administrative), organizers, and fellow participants.
- Participants must help to keep the campus neat and clean. Do not scribble on the desks, the bulletin boards, or the walls or trees of the college. Spitting, smoking, and throwing bits of paper on the premises are prohibited.
- Misuse or unauthorized use of the institute premises or items will lead to disciplinary and penal action.
- Participants shall do nothing, either inside or outside the institute, that will in any way interfere with its orderly conduct and discipline.

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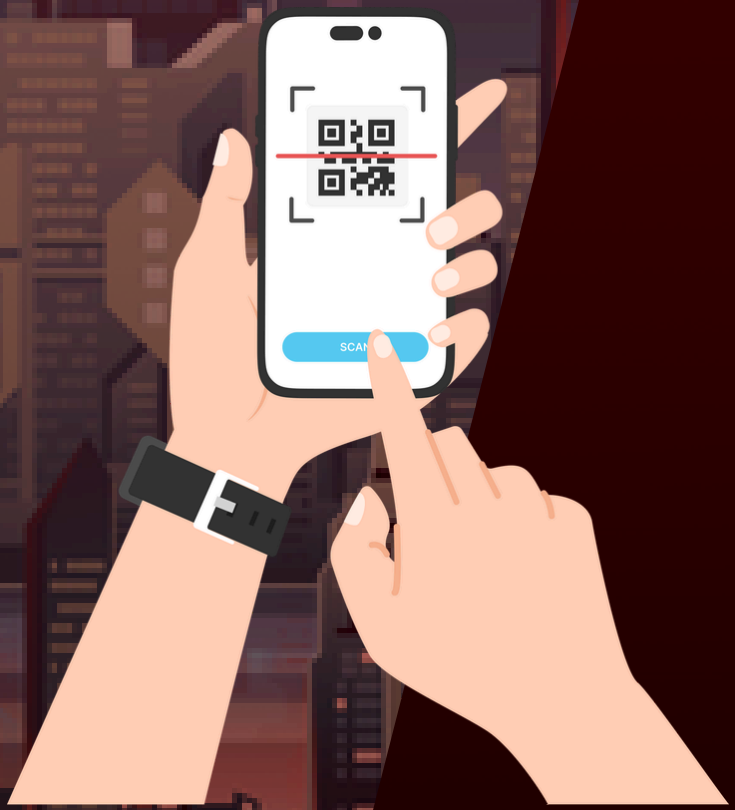
REGISTRATION PROCESS

Think & Take over ! But first,
Remember to Register
Electroverse.Comm-TSEC,
invites all the Tech-Geeks to
register for TECH-A-THON
(The Hardware Hackathon) !

Registration Fees:
Rs. 200 per Team
(Non-refundable)
for 1st Round



REGISTER NOW

REGISTRATION LINK

For more Event related Information,
Check out on Instagram
@electroverse.comm_tsec

FAQ'S

1. Who can participate in this Hackathon? - Participants can be a student of any year of the B.E.(Bachelor of Engineering)/ B.Tech Degree college or any Technical Diploma College.

2. Wrong details are submitted in the registration form, how can they be corrected? - Contact the Student Coordinators (Contact details are mentioned on the next page) or mail to electroversecommtsec@gmail.com

3. Will Food and wireless internet access be provided? - Yes, there will be. However, it is always better to be prepared: If you have a backup option, please feel free to bring it along and Food, Lunch, Snacks, and Dinner will be provided throughout the event.

4. What should teams carry to the Hackathon Venue? - Students are requested to bring their own devices and other necessary equipment required for the event. The components required to build the solution are to be informed by the qualified Teams after Round 1, which will be arranged for them by the Thadomal Shahani Engineering College.

5. What is the benefit of participating? - Self-assess your abilities while coordinating with your team, Get tips from the Experts, enhance social skills, seize the opportunity to win prize money of up to Rs 25,000/- and have fun along with an effective and memorable learning experience.

6. Is it mandatory to form teams with all members from the same college? - No, you can form your team with all members who qualify the eligibility criteria.

(Note - Circuit Diagram Information directly taken from Internet without any Innovation in idea will lead to Elimination.)

THADOMAL SHAHANI TSEC ENGINEERING COLLEGE

HSNC WHERE IDEAS COME TO LIFE

Thadomal Shahani Engineering College Internal Quality Assurance Cell Estd. 2017

INSTITUTION'S INNOVATION COUNCIL (Ministry of HRD Initiative)

CONTACT US

@electroverse.comm_tsec

tsec.electroverse@gmail.com

https://www.electroverse-comm.in/

unstop.com/tech-a-thon-hardware-hackathon

youtube.com/@tsecextcdepartment8926

For Registration-Related Queries Student Co-ordinators

Jainesh Patel
+91 8080732249

Devesh Shelatkar
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Janhavi Chaudhari
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ADDRESS:

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For more Event related Information, Check out on Instagram

@electroverse.comm_tsec