THADOMAL SHAHANI
TSEC
ENGINEERING COLLEGE

HARDWARE HACKATHON

ELECTROVERSE.COMM PRESENTS

TECH-A-THON'24

48 HRS NON-STOP

DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATIONS

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
Ph.D
Technology
(Convener)

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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 & Co- Conver
Ph.D
Image Processing and Cryptography
(Event Co-convener)

Prof Manoj Kavedia
Professor
Assistant professor
(Event Cordinators)

Prof.Jyoti Kashyap
Professor
Assistant professor
(Event Cordinators)

Prof Uttara Bhatt
Professor
Assistant professor
(Event Cordinators)

DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATIONS

THADOMAL SHAHANI
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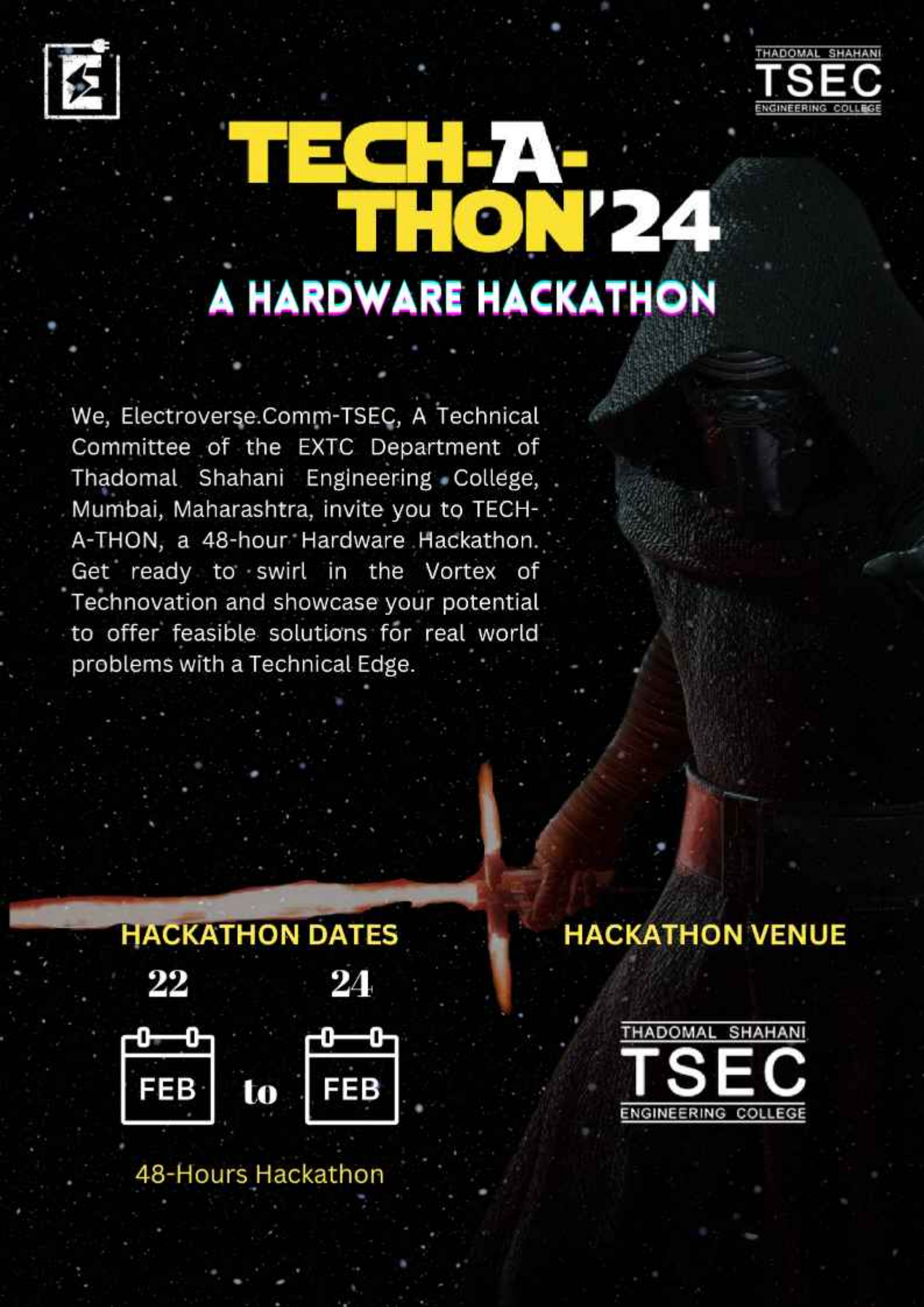
TECH-A-THON'24

A 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 Technovation and showcase your potential to offer feasible solutions for real world problems with a Technical Edge.



HACKATHON DATES

22 FEB to 24 FEB

48-Hours Hackathon

HACKATHON VENUE

THADOMAL SHAHANI
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ENGINEERING COLLEGE

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TECH-A-THON'24

A HARDWARE HACKATHON

Registration go live

ROUND 1

THE ONLINE PRESENTATION

DATE & TIME IN IST:

3rd February, 10:00 AM onwards

25+ TEAMS QUALIFY FOR ROUND 2

Registration go live

THE TOP 3 TEAMS WILL BE DECLARED WINNERS OF TECH-A-THON 2024

ROUND 2

HARDWARE IMPLEMENTATION

(TSEC CAMPUS)

START DATE & TIME IN IST:

22nd February, 10:00 AM onwards

END DATE & TIME IN IST:

24th February, till 10:00 AM

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TECH-A-THON'24

A HARDWARE HACKATHON

PRIZEPOOL

₹50,000

₹25K

₹15K

₹10K

ALL YOU NEED TO KNOW ABOUT THE TECH-A-THON

A HARDWARE HACKATHON

TECH-A-THON presents you with an opportunity to craft innovative solutions for specified problem statements to ace your Problem-solving skills. Participate in this Trail of Hardware Expedition and let the innovator in you hover through some brainstorming ideas and execute some of the most dynamic solutions for the persisting problems. Redefine your inventive capability by converting your ideas into a working model and making the optimum use of your skills.

Eligibility: Student pursuing B.E. / B.Tech Degree college or any Technical Diploma College (OPEN FOR ALL BRANCHES)

Team Size: Maximum 4 members per Team.

The Hackathon is divided into two phases:

ROUND 1 (Preliminary Round)
In Round 1, Participating Teams would have to formulate their ideas on one of the given Problem Statements and Present on how they would like to implement on the given problem statements and give brief information about the components being used and their utilization in the model via an Online Presentation. Duration: 10 Mins. 25+ Teams qualifying Round 1 will enter Round 2)

ROUND 2 (Prototype Round)
In Round 2, the Implementation round, where the Qualified teams start implementing on a working software/hardware prototype for their Presented idea. Teams will be given 48 hours for the implementation. Once the stipulated period is over, teams are required to present their finished prototype to the judges.

Selection Criteria: It will be based on your approach to the problem, Practicality & Implementation of your Idea according to the given instructions.

WORKING MODEL FOR HARDWARE HACKATHON SHOULD BE CREATED BY USING ONE OF THE SPECIFIED COMPONENTS BELOW

1 ARDUINO

Arduino is a small computer which contains all necessary hardware, it is an open-source platform that helps circuit developers build electronic projects.

2 RASPBERRY PI

Raspberry Pi is interoperable with any input and output hardware device like a monitor, a television, a mouse, or a keyboard .

3 STM 32

STM32 offers serial and parallel communication peripherals which can be interfaced with all kinds of electronic components.

4 MSP430

MSP430 is a 16-bit Microcontroller which uses ultra-low power and consists of analog and digital devices for sensing and measurement applications.

5 FPGA

FGPA is an IC that consists of internal hardware blocks with user-programmable interconnects to customize operation for a specific application.

ALL YOU NEED TO KNOW ABOUT THE TECH-A-THON

A HARDWARE HACKATHON

Task: Groups must come up with creative ideas employing predetermined elements that they will present following Round 1.

Event Information: Round 2 will be conducted in Offline mode at Thadomal Shahani Engineering College, Bandra, Mumbai, Maharashtra from 22th February till 24th of February, 2024.

Snacks and Meals: Served at regular intervals, breakfast, lunch, and dinner are available.

Certificates and Goodies: All teams get participation certificates from the college and special goodies from Electroverse.Comm-TSEC Team.

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TECH-A-THON'24

Domain #1
Social Cause

Participate in transformative technology to address social issues. Whether it's developing innovative solutions for healthcare accessibility, education, or community empowerment, participants in this domain will have the opportunity to create hardware solutions that positively impact lives and contribute to meaningful societal change.

Domain #2
Animal Husbandary

Advanced hardware solutions facilitate precision farming, ensuring optimal conditions for livestock well-being. From smart monitoring devices to automated feeding systems, technology enhances efficiency in managing animal care, promoting healthier and more humane practices. The combination of hardware innovations with animal husbandry not only improves productivity but also underscores a commitment to ethical and sustainable approaches in agriculture.

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Domain #3
Innovative Ideas

Cutting-edge hardware prototypes and development kits are the engines that turn innovative ideas into tangible products, from wearables to IoT devices. These hardware innovations bring creative visions to life, shaping the technology landscape and fueling a cycle of creativity and implementation that propels technology evolution in unforeseen directions.

Domain #4
Agriculture Management

"Elevate your farming with our Agriculture Management solutions. We provide efficient tools and strategies for sustainable growth, integrating technology and data-driven insights. From precision farming to supply chain management, we empower farmers to make informed decisions, ensuring a productive and environmentally conscious future."

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Domain #5
Health Care Management

Advanced hardware in healthcare, including imaging devices and wearable trackers, is revolutionizing patient care and diagnostics. These innovations, like automated systems and electronic health records, enhance efficiency, ensuring accurate and timely information for improved outcomes and streamlined medical practices.

Domain #6
Renewable Energy

Advanced hardware, like solar panels and wind turbines, is crucial for a sustainable energy future. Innovations in renewable energy, including smart grids and energy storage solutions, optimize the generation and utilization of clean power. The integration of cutting-edge hardware demonstrates a commitment to reducing carbon footprints and mitigating the impact of climate change.

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Domain #7

Environment Preservation and Development

Dive into the dominion of sustainable technology and environmental awareness. Participants in this domain will explore hardware solutions pitched towards climate change, promoting renewable energy, waste reduction, and biodiversity conservation. Unleash your creativity to build devices that contribute to a greener, healthier planet.

STUDENT CODE OF CONDUCT

1. **Be Ready:** Follow the schedule, bring your college ID and registration band, and make sure you stay for the full event.
2. **Stay Informed:** For updates or notifications, visit the website and Instagram.
3. **Respect Everyone:** Be polite and kind to others, and refrain from writing on or leaving trash on campus to maintain it tidy.
4. **Respect the Rules:** Do not abuse college property or interfere with the discipline and order of the institution.

TECH-A-THON'24

A HARDWARE HACKATHON INSTRUCTION

- The duration of the hackathon will be 48 hours
- The participating team will be required to present a solution for one of the seven domains. The teams will be free to choose any problem statement within the given domains.
- The domain and problem statement shall not be amended once the round 1 presentation is complete i.e the presented topic in round 1 shall be the team's final problem statement
- Any components can be used to develop the solution. To name (but not limited to) a few Controllers: Arduino/ Raspberry Pi/ STM 32/ MSP430/ FPGA/ 8051 etc, Sensors: proximity, humidity, IR, haptic, audio, photosensors, etc. can be used.
- The components required to build the solution are to be informed by the Qualified Teams after Round 1 via Google form, which will be arranged for them by Thadomal Shahani Engineering College.
- Any unavailability of components will be communicated to the participating teams in advance, before the event dates.
- Internet facilities will be provided at the venue.
- Participants have the freedom to refer to any platform or resources on the internet to aid their development of the solution.
- Eligibility: Participants can be students of any year of the B.E. (Bachelor of Engineering)/ B.Tech Degree college or any Technical Diploma College. (OPEN FOR ALL BRANCHES).
- The event shall take place in 2 rounds.

- **Round 1:** will be a presentation round teams will be required to give a short presentation on their selected domain and problem statement
- **Round 2:** Hackathon teams will have to report on campus for this event. 48 hr hackathon where they will be required to develop their solutions and present them at the end of the event for evaluation
- **Registration fee:** 500rs (all participating teams will be required to pay the full amount to appear for round 1.)

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TECH-A-THON'24

A HARDWARE HACKATHON

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. 500 per Team

REGISTER HERE

For more Information:
Check out on Instagram: @electroverse.comm_tsec

FAQS
FOR HARDWARE HACKTHON

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.

THADOMAL SHAHANI TSEC ENGINEERING COLLEGE

HSNC UNIVERSITY MUMBAI

Contact Us -

instagram.com/electroverse.comm_tsec

electroversecommtsec@gmail.com

www.electroverse-comm.in

youtube.com/@tsecextcdepartment8926

For Registration-Related Queries :
Student Co-ordinators

Sumit Umredkar
+91 96534 05508

Chinmay Khanolkar
+91 93725 76519

Address:
W, P. G. Kher Marg, (32nd Road, Marg, Off Linking Rd, TPSIII, Bandra West, Mumbai, Maharashtra 400050

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