

TECHSEINIERS Tech Challenge 2026

Rules & Regulations

Organiser	TECHSEI, Tiruchirappalli
Format	100% Online — submission and presentation
Applications open	20 September 2026
Applications close	05 October 2026
Project submission	10 October 2026
Presentation & results	18 October 2026
Registration fee	Rs. 99 per entry

Eligibility & Format

- **Junior category:** Grades 2–5, theme “Tech in Daily Life.”
- **Senior category:** Grades 6–8, theme “Tech for Real-World Problems.”
- The entire challenge is conducted online — project submission and project presentation both happen online. No travel is required.
- Registration fee is Rs. 99 per entry.

Project Examples — Junior (Grades 2 to 5)

Theme: “Tech in Daily Life.” These are examples to understand the type of project expected. Students are free to develop their own ideas.

1. Smart Dustbin

A dustbin that detects when someone is nearby and automatically opens its lid.

Possible technologies: Ultrasonic sensor + Servo motor + Arduino

2. Automatic Night Light

A light that automatically turns ON when the surroundings become dark.

Possible technologies: Light sensor/LDR + LED + Arduino

3. Smart Plant Monitor

A device that checks whether a plant needs water and gives an indication to the user.

Possible technologies: Soil moisture sensor + LED/Buzzer + Arduino

4. Smart Door Alert

A simple system that detects when a door is opened and gives an alert.

Possible technologies: Magnetic/reed switch + Buzzer + Microcontroller

5. Obstacle-Avoiding Robot

A small robot that detects obstacles and changes direction automatically.

Possible technologies: Ultrasonic sensor + Motors + Motor driver + Arduino

6. 3D-Designed Helpful Object

Students can design a useful everyday object using 3D design software and create a physical prototype.

Examples:

- Pencil organiser
- Cable holder
- Phone stand
- Bag hook
- Desk organiser

7. Technology for Observation

Students can explore how drones can be used for simple observation or assistance applications.

Examples:

- Checking hard-to-reach areas
- Basic aerial observation
- Environmental monitoring concept

Junior Challenge Focus

For Junior participants, the complexity of the technology is not the main objective.

We want to see: **A GOOD IDEA + SIMPLE IMPLEMENTATION + CLEAR EXPLANATION.**

A simple project that solves a real everyday problem can be a strong project.

Project Examples — Senior (Grades 6 to 8)

Theme: “Tech for Real-World Problems.” These are examples of possible directions. Students are not limited to these projects.

1. Smart Agriculture System

Develop a system that monitors plant or soil conditions and helps farmers make better decisions.

Possible features:

- Soil moisture monitoring
- Automatic irrigation concept
- Temperature monitoring
- Plant/environment monitoring

Possible technologies: Sensors + Arduino/ESP32 + IoT

2. Health Monitoring Prototype

Create a prototype that monitors selected health-related parameters and provides an alert or display.

Possible technologies: Sensors, microcontroller, display, data monitoring

Important: projects should be presented as educational prototypes, not as certified medical devices or diagnostic systems.

3. Smart Safety System

Design a technology solution that can detect a potentially unsafe situation and provide an alert.

Examples:

- Restricted-area alert
- Fire/smoke alert
- Intrusion detection
- Emergency notification concept

4. Water Monitoring System

Build a prototype that monitors water-related conditions and provides useful information.

Possible features:

- Water-level monitoring
- Water-quality parameter monitoring
- Automatic alert system
- Usage monitoring

5. Smart Traffic Concept

Design a prototype that demonstrates how sensors, automation or AI could improve traffic management.

Examples:

- Smart traffic signal concept
- Vehicle detection
- Emergency vehicle priority concept
- Parking availability system

6. AI-Based Object Detection

Use AI/computer vision to detect or classify objects.

Examples:

- Waste classification
- Object recognition
- Safety monitoring
- Plant/leaf classification

7. Drone-Based Solution

Explore how drones can be used to address real-world applications.

Examples:

- Agricultural monitoring
- Environmental observation
- Mapping concept
- Inspection of difficult-to-access locations

Students should follow all applicable safety and legal requirements for any physical drone activity.

8. 3D-Designed Assistive Product

Identify a practical problem and design a physical product to address it.

Examples:

- Accessibility aid
- Ergonomic tool
- Organising device
- Protective enclosure
- Custom educational tool

Key Dates — 2026

20 September 2026	Applications open
05 October 2026	Applications close
10 October 2026	Online project submission
18 October 2026	Online presentation & results

Evaluation Criteria

The challenge is about more than a working model. Students should be able to explain each of these in their online presentation:

1. **Problem** — What problem are you trying to solve?
2. **Idea** — What is your proposed solution?
3. **Design** — How did you design your solution?
4. **Build** — What did you actually build?
5. **Technology** — What technology did you use, and why?
6. **Testing** — What worked? What didn't work?
7. **Improvement** — What would you improve in future?
8. **Presentation** — Can you clearly explain your project?

General Rules

- The idea, project development and presentation should primarily reflect the student's own work and understanding. Parents may help with understanding the challenge, arranging materials, providing a workspace, and logistics/submission — not with building the core idea.
- A working prototype is encouraged but not mandatory — evaluation also weighs the idea, design process and understanding, not only technical complexity.
- Students are not required to use the example projects shared in this guide — original ideas are encouraged.
- Health-related projects must be presented as educational prototypes only, not as certified medical or diagnostic devices.
- Any drone-based project must follow all applicable safety and legal requirements for physical drone activity.
- Arduino, Raspberry Pi, ESP32 and similar boards, and 3D-printed components, may all be used provided the student can explain how the technology works and it is relevant to the project.

Prizes & Scholarship

1st – 3rd Place

50% Scholarship on course fee

4th – 10th Place

25% Scholarship on course fee

Scholarships apply to course fees only. Kit charges are not included.

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