

General Rules

Version: 14 April 2025



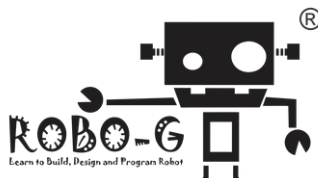
ROBO Adventures

INNOVATORS | TECHIES

SEASON 2025

ONLINE MODE

Organized By



Indian Robotics Olympiad 2025

General Rules



ROBO Adventures

INNOVATORS | TECHIES
SEASON 2025

ONLINE MODE

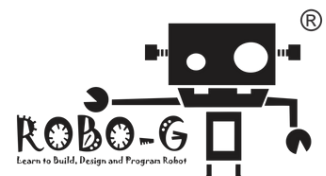


Table of Contents

1. Team and Age Groups definitions.....	5
2. Responsibilities and team's own work.....	5
3. Robot material & regulations.....	6
4. Challenge mat and equipment.....	8
5. How to create my video for IRO.....	8
6. How to submit my video for IRO.....	9
7. Awards.....	10

1. Team and age groups definitions

- 1.1 Students can participate individually or in teams of two.
- 1.2 Each student or team must be guided by a coach.
- 1.3 A team can consist of one student and one coach.
- 1.4 A student may only participate in one of the IRO categories and modes during a season.
- 1.5 A student may only be a part of one team.
- 1.6 The minimum age for a coach is 18 years old.
- 1.7 Coaches are allowed to work with more than one team.

Explorers: students 5-7 years old in season 2025: [born years 2018-2020](#)

Innovators: students 7-10 years old in season 2025: [born years 2015-2018](#)

Techies: students 10-15 years old in season 2025: [born years 2010-2015](#)

2. Responsibilities and team's own work

- 2.1 Students should play fair and show respect towards other teams, coaches, judges, and competition organizers.
- 2.2 The construction and coding of the robot must be done solely by the team members.
- 2.3 The judge has the final say in all decisions.

3. Robot material & regulations

3.1 Innovators category

- 3.1.1 Each team builds **one robot** to solve the challenges on the field.
- 3.1.2 The maximum dimensions of the robot before it starts a run are **250 mm x 250 mm x 250 mm**. After the robot has started, its dimensions are no longer restricted.
- 3.1.3 Teams must use only the **Arduino Alvik kit** for building their robots. No additional electronic components—such as external motors or sensors—are allowed.
- 3.1.4 Students must work exclusively with the built-in **sensors, motors, and wheels** provided in the Arduino Alvik kit.
- 3.1.5 Students are allowed to use only **LEGO®-branded**, non-electric elements to build attachments for the robot used in the missions.
- 3.1.6 The robot must be **autonomous or semi-autonomous** and must complete the missions by itself.
- 3.1.7 Any form of radio communication, remote control, or wired control systems is not allowed while the robot is running.
- 3.1.8 In case of semi-autonomous robots, teams are not allowed to use a **laptop, tablet, or any other device to transfer code** once the robot run has started. All programs must be uploaded to the robot beforehand.
- 3.1.9 During an attempt, the team is allowed to touch or grab the robot only when any part of it—such as a wheel—touches the **Home Area**.
- 3.1.10 Teams are allowed to move the robot from **one Home Area to another**, but only the robot may be moved—not any challenge objects.
- 3.1.11 During an attempt, team members are not allowed to touch any **challenge object** outside the Base Areas.
- 3.1.12 When placing the robot in the Home Area to begin a challenge, the robot must be **completely inside** the Home Area.
- 3.1.13 Only **mBlock software** may be used to code the Alvik robot. Teams can prepare the code in advance before recording the final robot run.
- 3.1.14 Teams can assemble the robot and keep it ready before the recording. They do not need to re-build the robot during the video recording.
- 3.1.15 The maximum time allowed for the robot run is **3 minutes**.

3.2 Techies category

- 3.2.1 Each team builds **one robot** to solve the challenges on the field.
- 3.2.2 The maximum dimensions of the robot before it starts a run are **250 mm x 250 mm x 250 mm**, including cables. After the robot has started, its dimensions are no longer restricted.
- 3.2.3 Teams are allowed to use only the **LEGO® Education NXT kit, LEGO® Education EV3 kit, or LEGO® Education SPIKE Prime kit**, along with their official motors, sensors, and batteries to build the robot.
- 3.2.4 Only **LEGO®-branded** elements are allowed in the construction of the robot.
- 3.2.5 The number of motors and sensors that can be used is not restricted.
- 3.2.6 A team is allowed to use only **one controller** during the robot run.
- 3.2.7 The robot must be **autonomous** and complete the missions by itself.
- 3.2.8 Any form of radio communication, remote control, or wired control systems is not allowed while the robot is running.
- 3.2.9 A team is not allowed to perform any actions or movements to interfere with or assist the robot after it has started its run.
- 3.2.10 Any software may be used to code the robot, and teams can prepare the code before recording the robot run.
- 3.2.11 Teams can assemble the robot and keep it ready before the recording. They do not need to re-build the robot during the video recording.
- 3.2.12 The maximum time allowed for the robot run is **2 minutes and 30 seconds**.

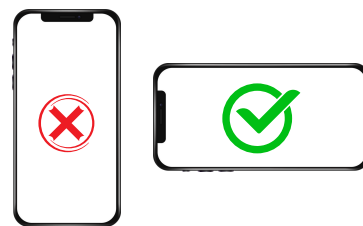
4. Challenge mat and equipment

- 4.1 In this category, the robot solves missions on a field. Each age group has its own mat, as the missions vary by age group.
- 4.2 The dimension of the IRO **Innovators and Techies categories** mats are 2362 mm x 1143 mm each.
- 4.3 The challenge objects are built from the LEGO Bricks.
- 4.4 It is not allowed to damage challenge objects. If challenge object is damaged, a potential score of the challenge object does not count.
- 4.5 Students may place the challenge mat on any flat surface to record their robot run.
- 4.6 **Innovators category:** The robot should start from one of the two home areas and must be completely inside the home area at the start.
- 4.7 **Techies category:** The robot should start from the start and finish area and must be completely inside this area at the start.

5. How to create my video for IRO

5.1 General

- 5.1.1 **Team Members Only:** Ensure that only team members are visible in the video—no coaches or parents.
- 5.1.2 **Landscape Mode:** Record the video in landscape orientation (16:9) for the best viewing experience.
- 5.1.3 **Stable Camera:** Keep the camera steady. Use a tripod if possible to avoid any shaking.
- 5.1.4 **Sound Quality:** Perform a sound check before recording to ensure that your voices are clear and audible.
- 5.1.5 **Lighting:** Check the lighting to ensure that all team members are well-lit and clearly visible.
- 5.1.6 **Natural Speed:** Record at normal speed—do not adjust the video speed during recording or editing.



5.2 Innovators and Techies Category

- 5.2.1 **Setup Preparation:** Ensure the challenge mat and all objects are set up before beginning the video recording.
- 5.2.2 **Randomization (Techies Category):** Complete any required randomization before you start recording.
- 5.2.3 **Time Limit:** The entire video, including the team introduction and robot run, must not exceed 5 minutes. Start by introducing the team members (they can state their names).
- 5.2.4 **Visible Timer:** Place a timer, such as a tablet or smartphone, in view of the camera. Ensure it is clearly visible throughout the video.
- 5.2.5 **Team Visibility:** All team members should remain visible throughout the entire video.
- 5.2.6 **Simultaneous Start:** Begin the robot run and the timer simultaneously. The maximum time allowed for the robot run is 3 minutes for Innovators category and 2 minutes and 30 seconds for Techies category.
- 5.2.7 **Single Member Teams:** If there is only one student in the team, a coach or parent can assist in starting the timer.
- 5.2.8 **Continuous Recording:** Record the video in one continuous sequence without any editing.
- 5.2.9 **Challenge Objects Visibility:** At the end of the robot run, ensure that the final positions of all challenge objects are clearly visible. You may move the camera closer for better visibility.
- 5.2.10 **Score Sheet:** Have a printed score sheet ready. Fill it out based on the final positions of the challenge objects. Show the completed score sheet at the end of the video.

6. How to submit my video for IRO

- 6.1 **Ensure Compliance:** Before posting, double-check that your video meets all the requirements outlined in "How to Create My Video for IRO."
- 6.2 **Upload to YouTube:** Post your video on YouTube. Make sure the video is set to public or unlisted, as private videos cannot be judged.
- 6.3 **Underage Participants:** If you are underage, ask your coach or parent to publish the video on your behalf.
- 6.4 **Submit Your Video:**
 - Click the "Submit Video" button on IRO website to access the Google Form.
 - Fill in the required information in the form.
 - Copy and paste the link to your YouTube video. Please share only one video link.
 - Upload the scanned copy of the score sheet
 - Submit the form.

7. Awards

- 7.1 In each IRO category of online mode—Innovators, and Techies—the teams placing first, second, and third will receive trophies, medals, and ranking certificates. All other participating teams will receive participation certificates.
- 7.2 Based on the final team rankings, we will arrange to send certificates, medals, and trophies to the respective winners via courier. The result will be published on the IRO website.

Indian Robotics Olympiad 2025 Theme

