STEM REVIEWED #46788206
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STEM CERTIFIED #46766422

Propeller Technologies
Research & Development Pvt Ltd.

TRL 2K21™

TAMILNADU ROBOTICS LEAGUE

SEASON - 4

BOT OLYMBICS

TAMILNADU ROBOTICS LEAGUE

INDIA'S BIGGEST ROBOTICS COMPETITION

SEASON - 4

THEME - BOT OLYMBICS

CHENNAI

For More:

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EVENTS AND REGISTRATION

Introduction

Welcome to the 4th Season of the Tamil Nadu Robotics League!
Inspired by the triumphs of the 2024 Olympics and celebrating the excitement of the upcoming 2028 Olympics, this year's theme, **"Bot Olymbics,"** brings the Olympic spirit into robotics. A platform where the spirit of champions meets the creativity of young innovators through robotics and STEM learning! Students from across the state will bring their robots to take on exciting and fun-filled challenges.
Just like the real Olympics, these tasks test speed, strength, teamwork, and smart thinking.Children will design and build their own robots to solve problems using creativity and logic. It's a wonderful way to explore science and technology while having fun. Through these engaging activities, the league not only celebrates the Olympic spirit but also promotes innovation and STEM learning among young minds.

Events

1. **Robotics Junior**: To solve the arena based on the problem statement

2. **Robotics Senior**: To solve the arena based on the problem statement

3. **Robotics Super Senior:** To solve the arena based on the problem statement

4. **Young Scientist**: Design a (Me & My Innovation) concept using your own creative ideas

Registration

> **The registration fee per student per event is Rs. 699/-**

> **Each team must consist of a minimum of 3 and a maximum of 4 members.**

> **You can contact the below-mentioned mobile numbers to initiate the registration process: 7540040071 / 7540040079 / 8248038462**

Event Venue & Date

Event Venue: Chennai

Event Date: January , 2027

AWARDS AND RECOGNITIONS

Robotics Junior

- Winner
- First Runner
- Second Runner
- Best Robot Design
- Best Rider
- Best Team
- Emerging Innovator Award

Robotics Super Senior

- Winner
- First Runner
- Second Runner
- Best Robot Design
- Best Rider
- Best Team
- Emerging Innovator Award

Robotics Senior

- Winner
- First Runner
- Second Runner
- Best Robot Design
- Best Rider
- Best Team
- Emerging Innovator Award

Special Category Awards

EMPOWERING EXCELLENCE AWARD

A school that encourages the maximum number of students to participate in competitions for broader exposure.

OVERALL CHAMPIONSHIP

The Overall Championship is awarded to the school with the most winning teams in various categories, celebrating their excellence and teamwork.

Young Scientist

- Winner
- First Runner
- Second Runner
- **Best Use of Technology:** Awarded to the project that utilizes technology in the most effective and advanced manner.
- **Most Innovative Solution:** Recognizes the most creative and unique approach to solving a problem.
- **Emerging Innovator Award:** For the best project by a team with members below a certain age, encouraging young participation.
- **Best Design:** Recognizes the project with the most aesthetically pleasing and functional Design.

TAMILNADU ROBOTICS LEAGUE - 2K27

India's Biggest Robotics Competition

Propeller Technologies

Problem Statement:- Tug of War Challenge



Junior students will design and operate robots to participate in a **Tug of War Challenge.** Inspired by the traditional Olympic event, the challenge requires the robot to pull a weighted opponent robot across designated lines—testing the robot's strength, torque, traction, and control.

Minimum Number of Participants: 3

Maximum Number of Participants:4

Time Limit: Complete all tasks within 4 minutes

Challenge Flow: Once the 4-minute timer starts, the challenge will unfold in the following stages:

Participant Tasks

Stage 1: Olympic Rings Assembly

- **Player 1** enters the **Activity-1 Area** and assembles the **Olympic rings** correctly.
- Only after successful completion, the next phase can begin.

Stage 2: Robot Tug Challenge

- **Player 2** starts operating the robot from the **Start Area.**
- The robot must follow the given path to reach the Tug Station.
- Once the robot reaches the Tug Station, the **jury will attach a rope** to the robot, which is tied at the other end to a **robotic vehicle with 2 kg weight.**

- The robot must pull the vehicle across **three lines** in sequence:

1. Battle Line
2. Neutral Line
3. Victory Line

- Once the robot crossed the victory Line the timer will be stopped and scores will be recorded.

Stage 3: Optional Challenges (If Robot Fails to Pull the Weight)

➤ **If the robot fails to pull the 2 kg vehicle:**

The team may **call the jury** to initiate **Activity-2:**

- **Player 3** proceeds to the **Continent Identification Activity.**
- The player must **identify all the 5 continents** represented in the **Olympic Games** from the outline of the continents given.
- Upon correct identification, **1 kg of weight will be reduced** from the robotic vehicle (now only 1 kg needs to be pulled).
- However, **5 marks will be deducted** from the final score.

➤ **If the robot still fails to pull the 1kg vehicle, then Activity-3 begins:**

- **Player 3 or 4** enters the **Continent Ring Matching Activity.**
- The player must **correctly place the continents** as per their **Olympic ring color representations.**
- Upon success, the final **1 kg is removed,** making the tug task possible without weight.
- **An additional 5 marks will be deducted** from the final score.

End of Task

- The challenge ends as soon as the **Victory Line is crossed,** or the **4-minute timer** runs out.
- The **final score** will depend on:

Scoring Criteria

Task	Marks Scored	Marks Minus
Robot has Olympic rings symbol on it	10	-
Robot has a name visibly written on it	10	-
Activity 1 completed (Olympic Rings Assembly)	10	-
Robot reaches Tug Station	10	-
Robot pulls vehicle across Battle Line	20	-
Robot pulls vehicle across Neutral Line	20	-
Robot pulls vehicle across Victory Line	20	-
Alternate Activity 2 attempted (Continent ID task)	-	5
Alternate Activity 3 attempted (Ring Matching task)	-	5
Total Marks	**100**	

Note:

- **The robot contains an additional weight of 2 kg; however, the robot itself weighs approximately 1 kg.**
- The exact demo video demonstrating how the arena can be solved will be given to all registered participants 15 days before the competition. Mean while, students can build the robot, practice its controls, and understand the problem statements.

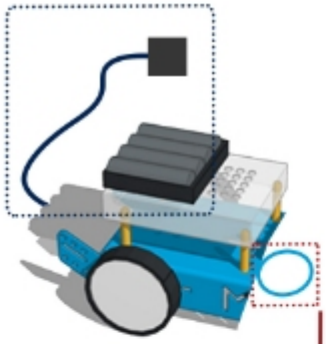
Robot Criteria

The robot should be a wired robot which is capable of pulling a robotic vehicle in front of it.

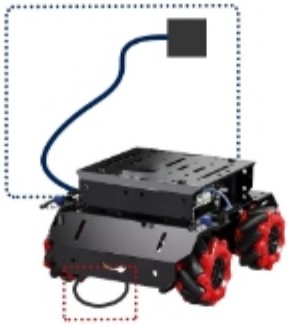
Dimensions of the Robot

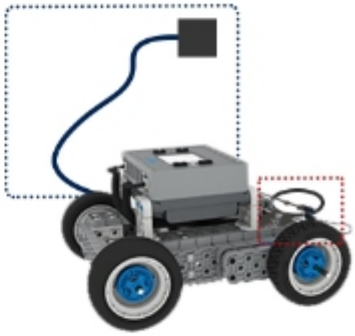
Length	Breadth	Height
9 Inch (Maximum)	9 Inch (Maximum)	(No Limit)

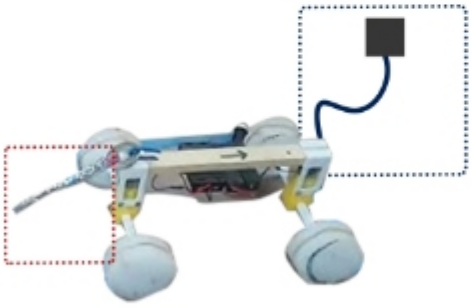
Reference Robot Designs

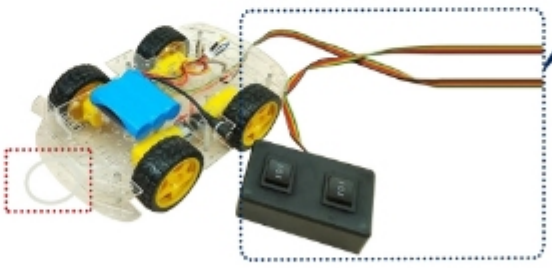


Provision to
Tug the opponent robotic
vehicle with a rope





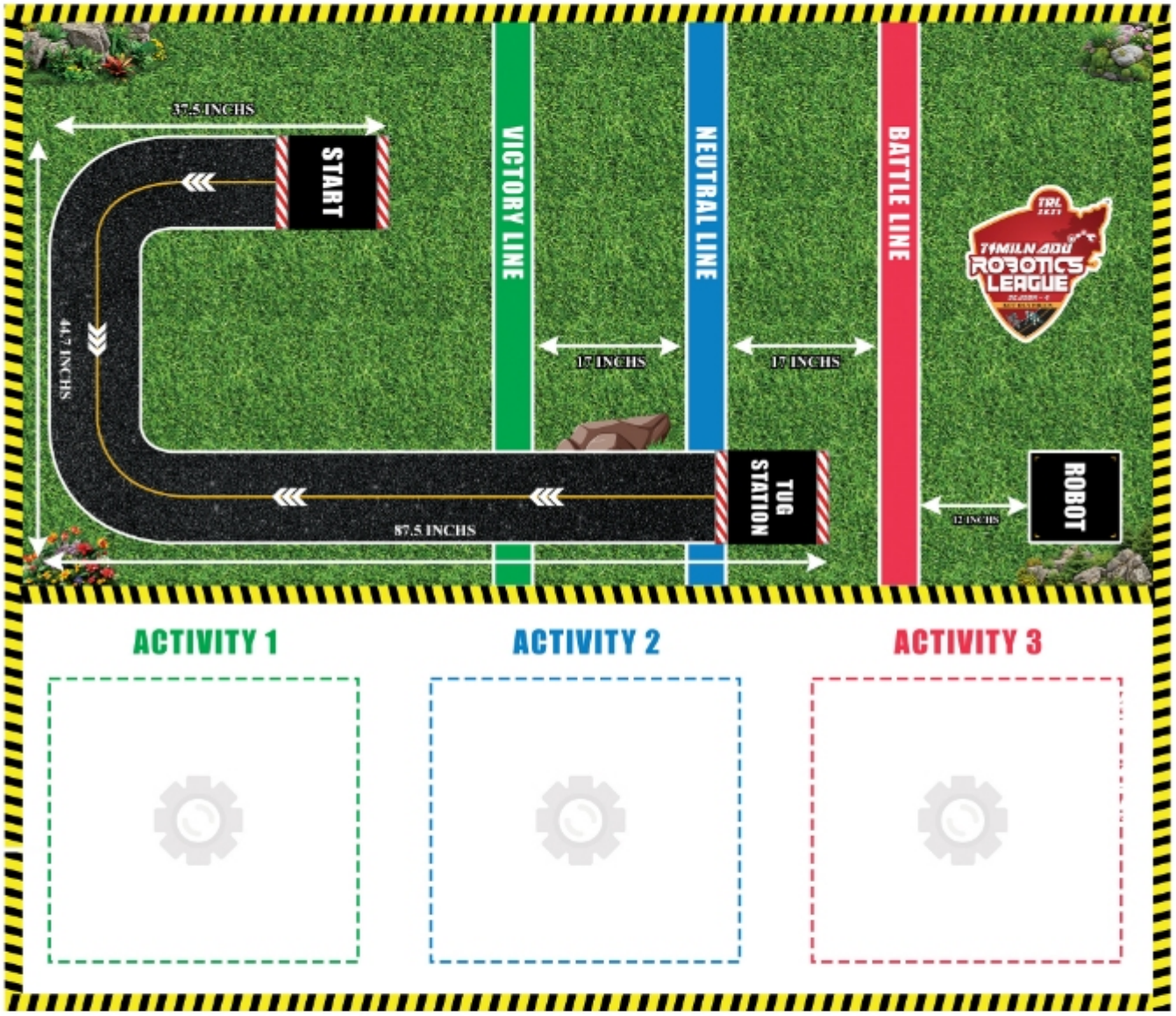




Wired Control
for the robot

Note: The robot must be a wired robot operated only through a **joystick or DPDT switch.** Additionally, all robots must have a strong and secure **provision for tying a rope.**

Arena



Note: Dimension of the opponent robotic vehicle will be revealed in the demonstration video.