STEM REVIEWED #46788206
STEM ACCREDITED #39786611
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

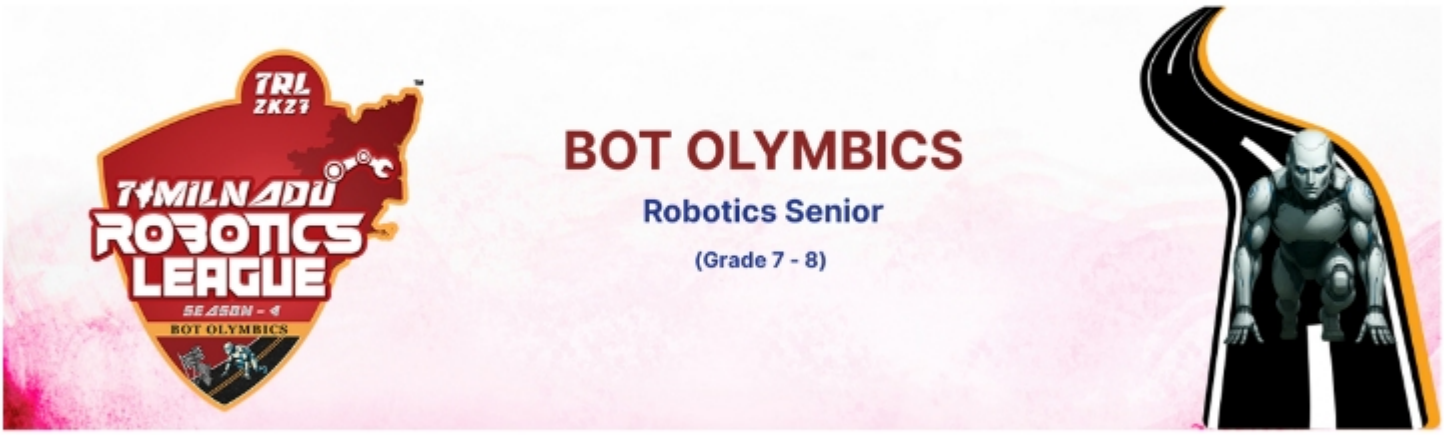
- Winner
- First Runner
- Second Runner
- **Best Use of Technology:** Awarded to the project that utilizes technology in the most effective and advanced manner.
- **Most Innovative Solution:** Recognizes the most creative and unique approach to solving a problem.
- **Emerging Innovator Award:** For the 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:– Robotic Basketball Challenge



Senior students will design and operate robots to play a **Basketball Match.** The game involves color sorting, transporting balls over color-coded ramps using robots, and launching them into matching-colored baskets. The activity demands precise robot control, mechanical design, and projectile understanding, promoting a deep connection between robotics, physics, and strategic coordination.

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 Roles and Tasks

Stage 1: Ball Collection (Player 1 – Ball Sorter)

- Red and green balls are scattered in the **Collection and Dispatch Zone.**
- **Player 1** must collect and place red balls in the **Red Box** and green balls in the **Green Box** correctly.
- Only once sorting is complete, Player 2 can activate the robot.

Stage 2: Ball Transport – Red Balls (Player 2 – Robot Operator)

- The robot starts from the **Start Location.**
- Player 2 uses the robot to collect **red balls from the Red Box,** without touching them by hand.
- The robot must **climb the Red Slope,** reach the **Launch Deck,** and **drop the red balls** there.
- **Balls dropped before reaching the Launch Deck will be left as invalid.**
- Player 2 may carry **one or multiple balls per attempt,** depending on robot design.

Stage 3: Ball Launch – Red Balls (Player 3 – Launch Operator)

- In the **Launch Deck,** Player 3 loads the balls into the launcher.
- Two **red balls** must be launched and successfully land in **any red-colored basket(s).**
- Multiple attempts are allowed until two balls are scored.

Stage 4: Repeat for Green Balls

- Player 2 now picks up **green balls** from the Green Box, climbs the **Green Slope,** and drops them in the **Launch Deck.**
- Player 3 launches the green balls into the **green baskets.**
- Multiple attempts are allowed until two balls are scored.

End of Task

- The task is considered **complete only when all 4 balls (2 red + 2 green)** are scored successfully, or when 4 minutes are over.
- The **final score** will depend on:

Scoring Criteria

Task	Marks Scored
Robot has Olympic rings symbol on it	10
Robot has a name visibly written on it	10
Ball Sorting Activity completed correctly	10
Red Ball 1 reached Launch Deck via Red slope	10
Red Ball 2 reached Launch Deck via Red slope	10
Green Ball 1 reached Launch Deck via Green slope	10
Green Ball 2 reached Launch Deckvia Green slope	10
Red Ball 1 successfully launched into Red Basket	10
Red Ball 2 successfully launched into Red Basket	10
Green Ball 1 successfully launched into Green Basket	5
Green Ball 2 successfully launched into Green Basket	5
Total Marks	**100**

Note: The exact demo video demonstrating how the arena can be solved will be given to all registered participants 15 days before the competition. Meanwhile, students can build the robot, practice its controls, and understand the problem statements.

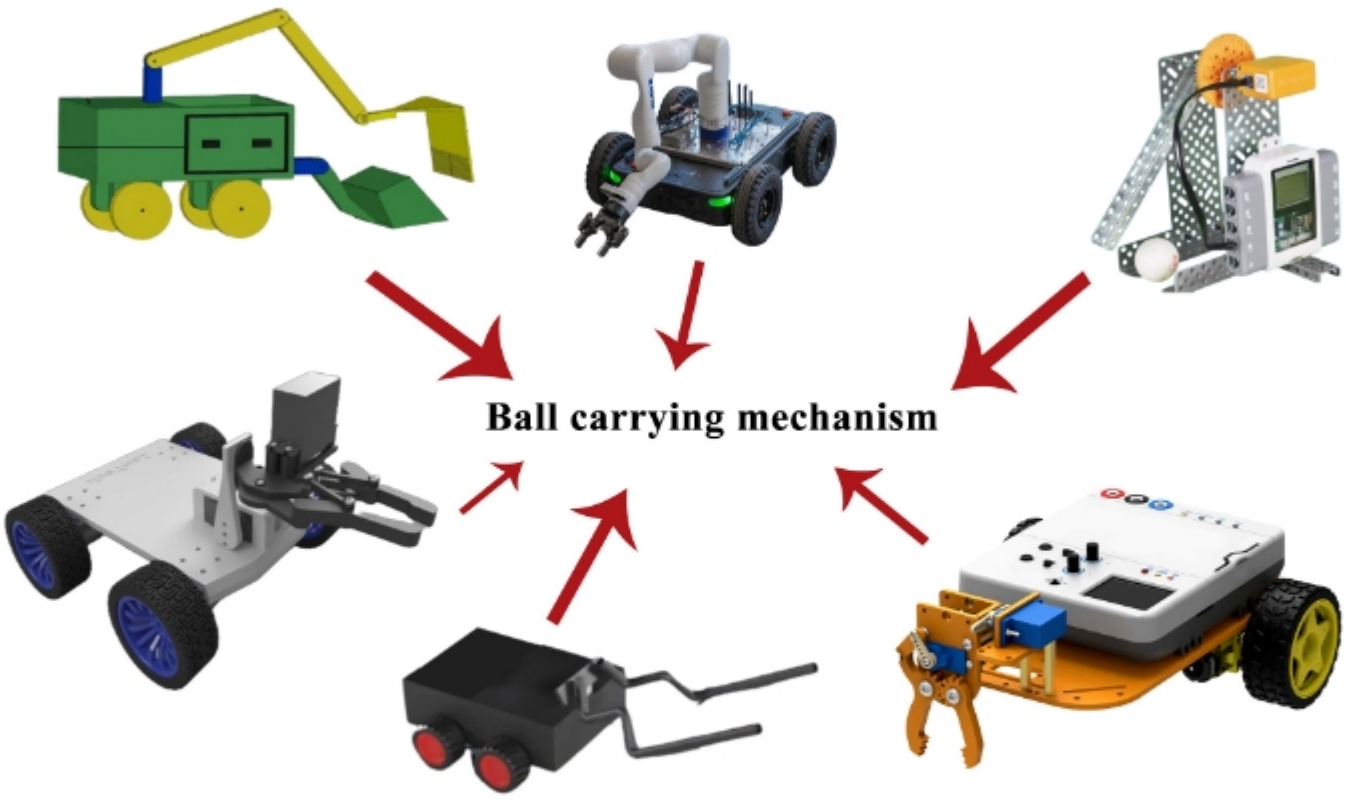
Robot Criteria

The robot should be a wireless robot which is **capable of carrying a ball.** The robot can be controlled by using bluetooth, RF or any other wireless modules.

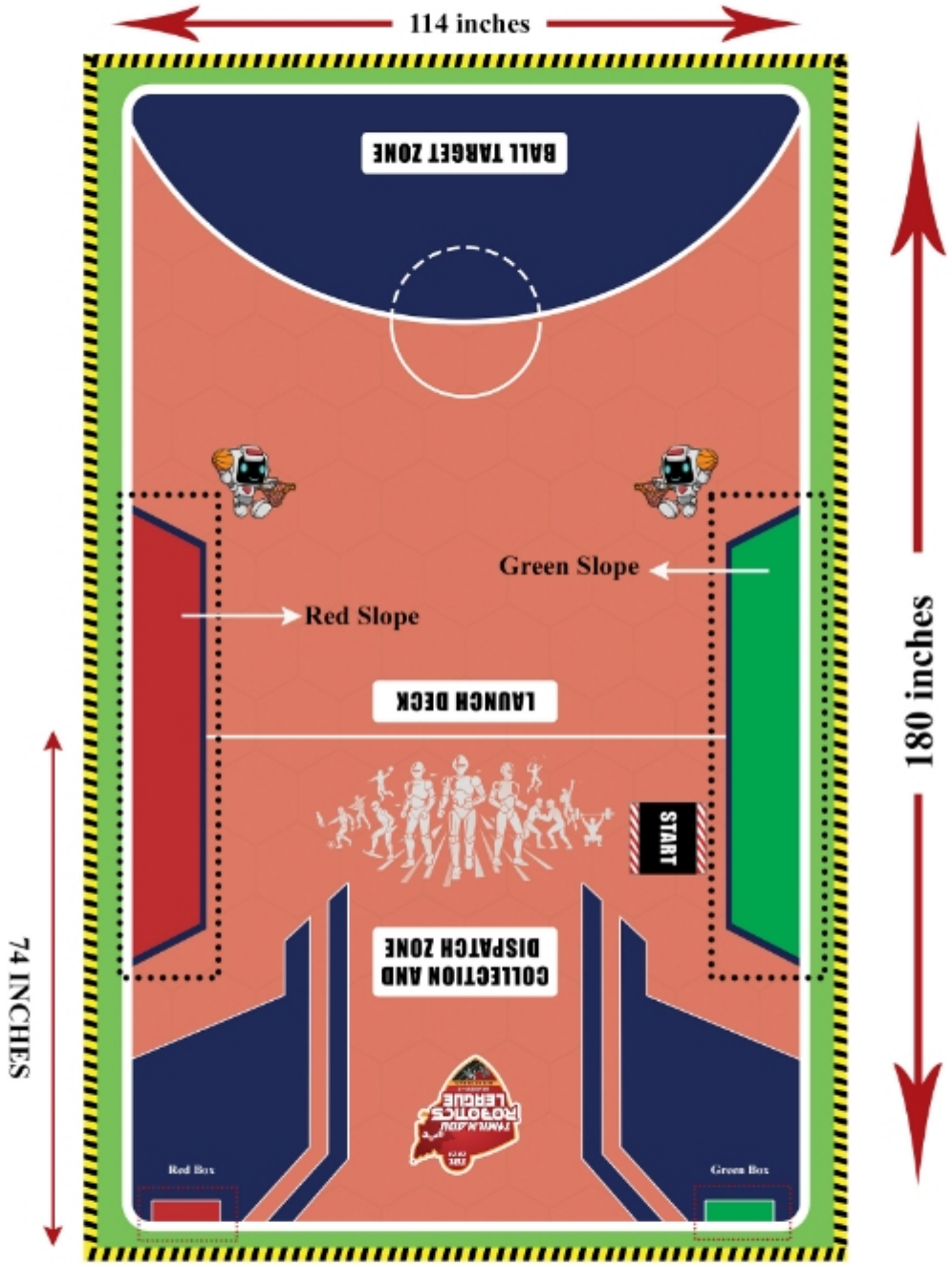
Dimensions of the Robot

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

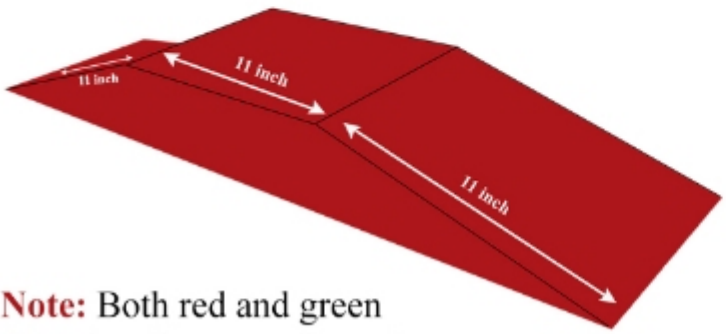
Reference Robot Designs



Arena

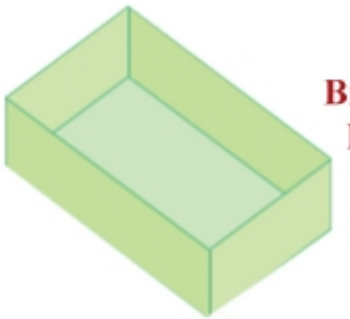


Dimension of the Red and Green Slope:



Note: Both red and green slope has the same dimentions.

Dimension of the Red and Green Box



Lenth: 10 inch
Breadth: 3 inch
Height: 2 inch