

Robotics Association of Nepal[RAN]

Talchikhel
Lalitpur, Nepal

Yantra International Robotics Competition 2023: Creating Robotics Industry of Nepal by 2030

President's Cup: YANTRA Kids

Robo Race Competition

"From Circuit to Future: Racing for Innovation."

Yantra 9.0

Game Theme:

One of Yantra 9.0's goals is to prioritize children's involvement in technology and to impart knowledge about the developing challenges of climate change. Participants in Yantra Kids must develop a robot that can monitor and optimize energy use in Kathmandu Valley structures, as well as determine how Kathmandu is contributing to climate change and solutions to minimize its consequences.

A design competition will be held in which contestants will construct robots, design various building structures in Kathmandu, and understand various energy sources that contribute to climate change.

1. Introduction

In a world where automation and robotics are shaping our future, this competition offers students the opportunity to be at the forefront of this exciting field. It's a platform where creativity meets engineering, and teamwork takes center stage.

Our Robo Race Competition is more than just a contest; it's an educational journey. It challenges students to design, build, and program their own robots to conquer a variety of challenging racecourses and obstacles. It's a test of technical skill, problem-solving ability, and quick thinking.

2. Purpose

The purpose of the Yantra Kids: Robo Race Competition is to promote the use of robotics among school students. This competition aims to:

1. Foster teamwork and collaboration
2. Encourage critical thinking and problem-solving
3. Introduce students to robotics and automation
4. Provide a platform for students to showcase their innovation
5. Create a fun and engaging learning experience

3. Competition Overview

The competition will challenge teams to design and build manual robots capable of navigating a racecourse while competing against other teams.

4. Team Registration

4.1 Team Composition

- Teams should consist of 4 students.
- Each team must have at least one adult mentor who will guide and support the students throughout the competition.

4.2 Registration Process

- Registration will open on **November 25** and closes on **January 14**.
- To register, please visit our website at **yantra.ran.org.np** and follow the instructions. A registration fee per team is required to participate.
- Teams will receive a confirmation email upon successful registration.

TRACK SPECIFICATION:

- The track surface and course line may have unevenness.
- There will be certain obstacles in the race track which will try to slow down the robot.
- The design and size of the track may vary from that shown in the pictures.
- Arena will consist of Switch Bridge, speed breakers, marble pit, slippery path, rotating ting disc, curve ramp down, seesaw etc.

GAME RULE:

- The competition is based on a time trail system. There will be a qualifying round for each team.
- The top team from the qualifying round makes it to the next round on the basis of time trials.
- If any of the robots starts off before the start up call, the counter would be restarted and the machines will get a second chance. If repeated again then the team will be disqualified.
- Your robot must be ready when a call is made for your team.

- Team members will be allowed only three times to touch or reset their robots position during the run. However, this will lead back to the checkpoint and the timer will not stop during this course of action.
- The robot will be judged on the basis of (in priority):-
 - a. Time to complete the track.
 - b. Number of checkpoints cleared.
- No team will get a second chance after completing the track with a poor score.

6. Eligibility Criteria:

*To Compete in a Robo Race competition, participants must follow the eligible criteria:

- The participants must be School students (classes 4,5,6 7, 8 and 9).
- Participants must come with their coordinator from school.
- The team should have 5 members with at least 1 girl in the team.
- Each team should compulsorily build an app-controlled robot on their own before the event starts.

7. Robot Design Guidelines

- At the time of the Robot, Verification Robot should be 30*30*30 cm in dimension.
- The weight of the robot must be between 2 kg to 5 kg.
- Robots should be manually controlled through Android phones/remote controllers.
- Wired robots are not allowed.
- The use of ready-made toys and ready-made circuits is not allowed.
- Battery Chargers must be brought by the participants.

8. Certificate Policy:

1. Certificates of participation will be given to all the teams.
2. The teams that get disqualified due to disobeying any of the competition rules will not be considered eligible for the certificates.
3. The winner and the first runner-up will get the trophy and the cash prize.

We look forward to seeing you at the Robo Race Competition and witnessing your innovative robots in action! Good luck to all the participants!