



# INTRA COLLEGE TECHFEST

## ROBO RALLY

### Problem Statement:

You need to make a robot which is capable of traversing various terrains and is capable of dragging or pushing objects as well, in the shortest time interval.

### General Rules:

- A team may consist of a maximum of 4 members.
- An individual should not be a member of more than one team for a particular event.
- A robot should not be shared by more than one team for a particular event.
- The robot should fit into a box of (25cm \* 25cm \* 25cm)  $\pm$  5% tolerance.
- Power source specifications: 24 volt (maximum).
- Any or all the rules are subject to change at any point of time.
- The decision of the coordinators will be final and binding.
- Any damage done to the arena will lead to direct disqualification of the team for all robotics events.

### Event Rules:

The event will be conducted in two rounds:-

- 1. Beat the clock.
- 2. Knockout.

## Beat the clock (Rules):-

- This is the preliminary round where every robot will have to traverse the entire arena while dodging obstacles.
- Every robot will start their respective run from the start position. Time taken (in seconds) to reach the Finish position will be the score of each team.
- Each team can take any number of hand touch. On taking a hand touch, the robot will be placed at the last checkpoint that the robot has crossed during its run. A penalty of 20 seconds will be added to the final score on taking each hand touch.
- Each team may skip a maximum of two obstacles during its run. A penalty of (50-100) seconds will be added to the final score depending on the obstacle.
- A total of 2 time-outs of 2 minutes each will be given to each team during which they can repair their respective robots. A penalty of 1 min will added to the total score on taking a time-out. After the end of time-out the bot will be placed at the last check point crossed by the robot.
- 1 restart will be given to every team. On taking a restart the robot will be placed at the start position to start its run again, penalty of 4 minutes will be added to the total time if a restart is taken. An additional of 1 min will also be provided to each team for repairing their robots if required on taking a restart.

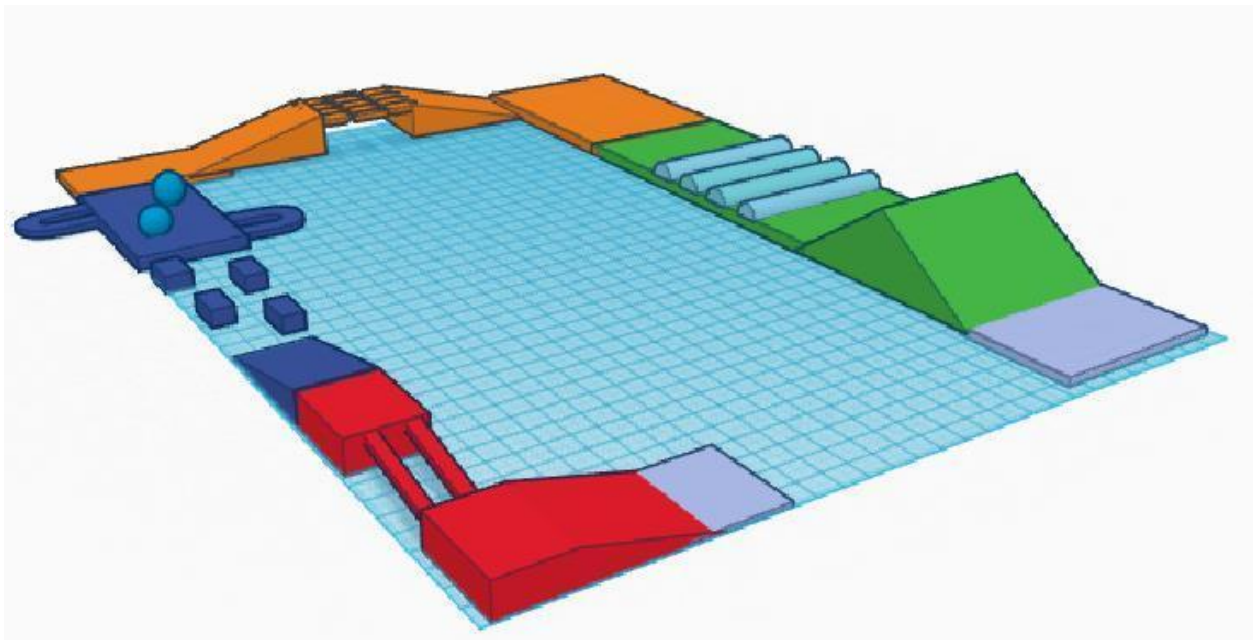
\*\*The teams with the least total score will qualify for the next round\*\*

## Knockout (Rules):-

- This is a knockout round where two teams will compete against each other. Both teams will start together from the starting point together, traverse the arena and the one to reach the finishing point will win the round.
- The team which loses the match gets directly eliminated from the competition.
- Coordinators will take care of the wires and make sure that they do not get entangled.
- Failing to comply with the given rules, a team may also get disqualified directly.

\*\*There will be slight changes in the arena for the second round which will be disclosed during the event\*\*

## Arena and description:-



\*The different colors (red, blue, yellow, green) indicate the various zones of the arena. The last block of each zone is a check point. The empty spaces will be filled with obstacles like sand, pebble, oil, water etc. There will also be bonus point for the 1<sup>st</sup> round which will be disclosed during the time of the event.

## **EVENT COORDINATORS:**

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