

**ROBOVANZA 2023**

# RULE BOOK

**ROBO ROVER  
31ST JANUARY- 1ST FEBUARY**

@ROBOTICS\_CBIT

ORGANIZERS:  
Robotics and Innovation Club, CBIT  
IEEE CBIT

# ROBO ROVER

## Game :

The objective of this contest is to design and test your robot's endurance, might, and strategy on man-made and natural terrains which tests your skills. Starting with designing and building a robot that moves through the curves of the race track might be easy, but making it run on terrains, hurdles, and being an early bird is a tough task. So are you up for the challenge?

## Robot specifications :

- All participants bots must be wireless outside the main body
- The bot must fit inside a 30cm \* 30cm \* 30cm
- maximum weight of the bot should not exceed 3kgs(including batteries)
- Batteries must be sealed , immobilized electrolyte type. The electric voltage anywhere in the machine should not be more than 12v DC At any point in time for each robot
- The bots must not cause any kind of damage to the arena. Any such incident may lead to disqualification, with decision taken by event coordinators or judges being final.
- The bots must not hinder the performance of any other bot. In such cases, decision of event coordinators or judges will be final.
- The robot can only be autonomous (hence Wireless).
- Robots must be constructed and programmed in a way that their movement is not limited to only one dimension and must move in all directions.
- Any robotic parts/building materials can be used as long as the robot meets the above specifications. The design and construction should primarily be the original work of the team. Ready-made robots are not allowed to compete in the competition.
- Any ambiguities in the design and construction of the robot must be clarified with the event managers before the event.



- All robots will be checked for conformity with rules, before their run and maybe disqualified if they do not. The decision of referees or event coordinators will be final in this regard.

#### Team Instructions :

- A team can consist of a maximum of 4 members. Any institution or group of students may form a team or individuals may also participate.
- Members of different institutions can form a team.
- Only 2 members of a team are allowed to stay around the arena (for calibrating and assisting).

#### Qualification round :

- This round consists of 4 zones in a curved zigzag manner.
- To qualify, the robot has to traverse two zones in minimal time.

#### Gameplay :

- The qualification round will be there on the first day of the event.
- Participants completing the qualification round arena are only forwarded to the final round.
- There will be a final round for participants qualified in the qualification round.
- The top qualifying teams will be selected for round 2 (Exact number of teams will be specified during the event by the event managers).
- In case of a tie (same completion time), the time taken by the respective teams for the 1st round will be evaluated.
- The top 3 teams with the minimum runtime in round 2 will be nominated as the winners of the competition.

### Game Zone :

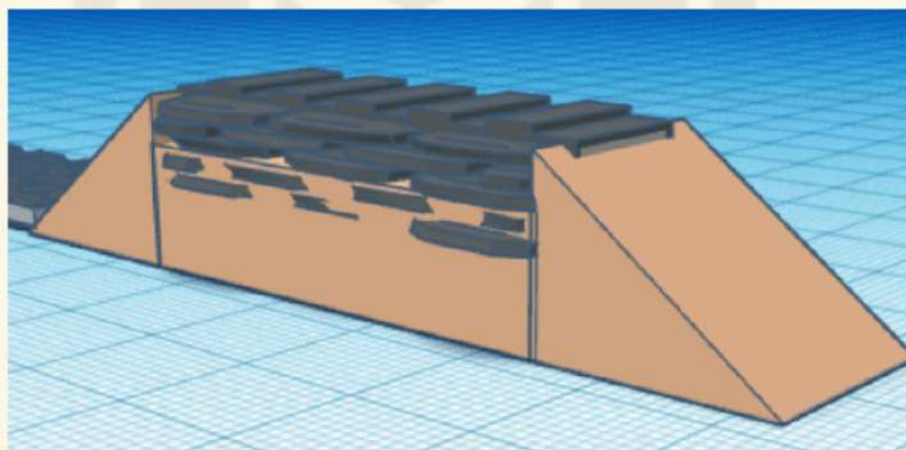
An area around the field will be designated as the GAME ZONE. No one is allowed inside the game zone except the robot handlers and the referees.

### Runtime:

- This round consists of 5 zones in a curved zigzag manner.
- Manual touch will be considered as a penalty.
- Each penalty adds extra time (which will be declared at the event) to the total time.
- To qualify, the robot has to traverse these zones in minimal time.
- In every zone dimension of properties there might be 5% of tolerance.

### ZONE 1:

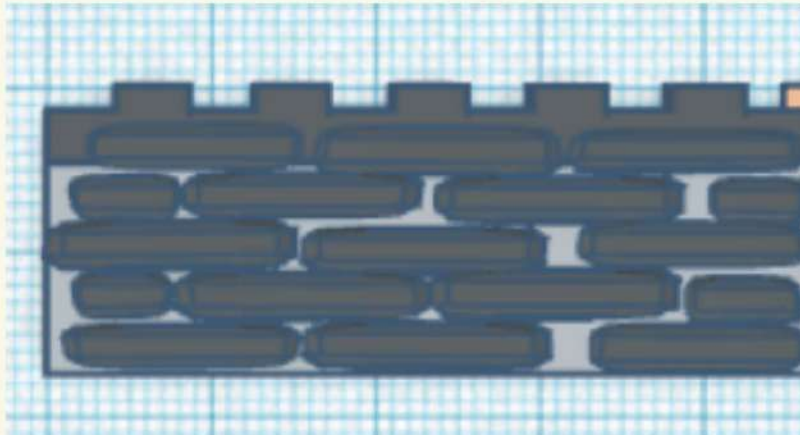
After the start of the robot, there is an inclination with speed breakers that is positioned at an angle of 45 degrees at the beginning which is followed by a uneven flat surface with some bricks on it and then a declination with moulding sand.



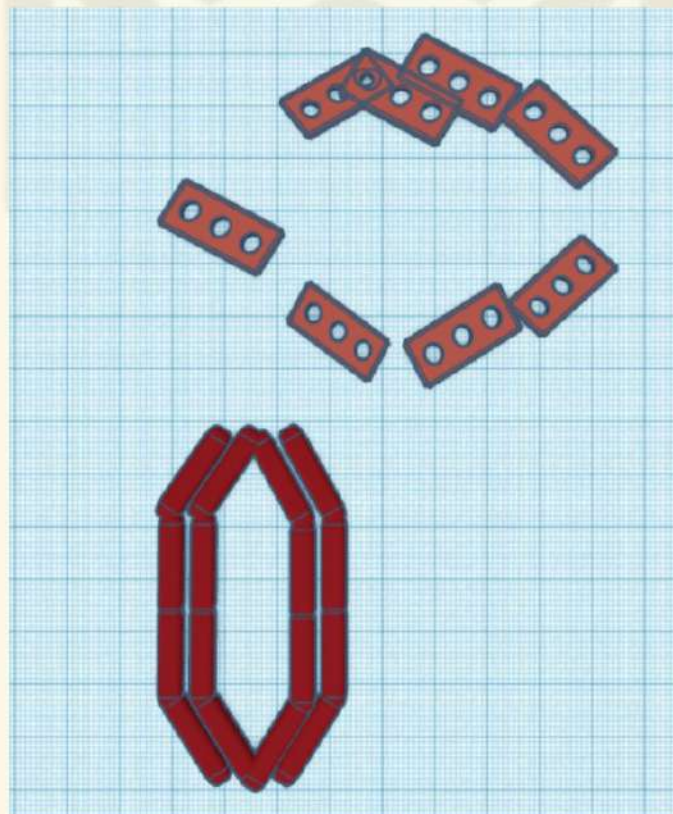


**ZONE 2 :**

This zone consists of uneven path followed by some more obstacles which the bot needs to overcome and enter in to brick path.

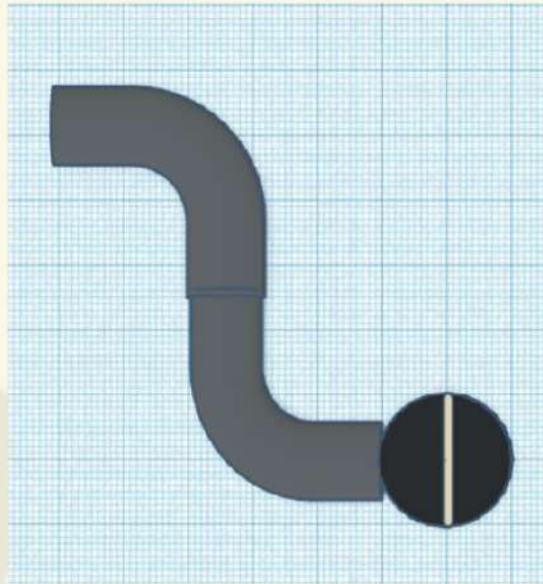
**ZONE 3 :**

This zone consists of brick path through which bot need to be travelled in order to reach disc.



**ZONE 4 :**

This zone consists of a disc obstacle where the rod rotates continuously on it followed by a curved path, once the bot crosses the curved path it reaches the end zone.

**Check points :**

- There are 3 checkpoints in the arena.
- One at the starting of the zone, the other at after declination ramp(zone2) and another at start of the brick path (zone 3).
- The bot is only replaced at its nearest traversed checkpoint.
- Checkpoints are indicated by flags in the arena.

**DISQUALIFICATIONS :**

- Exceeding the bot size beyond maximum dimensions will lead to disqualification.
- Robots should not damage the arena. If it does, the robot will be instantly disqualified.
- If a participant does not comply with the rules of the event he/she will be disqualified from the event.
- Misbehavior of any kind will not be tolerated, and the team will be subjected to disqualification from Roboveda.
- LEGO kits are strictly prohibited and will lead to Disqualification.

**OTHERS :**

- All participants will be given Certificate of Participation.
- Winners and runners will be given Certificate of Merit.
- Member participated from a team cannot participate in another team for the same event
- It's our sincere request to all the participants to go through this rule book thoroughly and not a single point mentioned in this rule book will be compromised under any circumstances. We also request you to have a copy of this book handy during the event..

**Prize money :**

10,000/-

**Event Co-ordinators :**

Karthik - 9515970526

Anirudh - 8897011526