

ROBORASHTRA'S

RESOLYMPICS

TASK

- Teams have to build a manually controlled bot that can do simple tasks of gripping objects and putting them in target zones so that it can complete the route by overcoming the hurdles in its path.

BOT SPECIFICATIONS

- To remain eligible in the competition, the robot's dimensions must not exceed XX mm in length, XX mm in width, and XX mm in height, excluding the gripper but including the tires. A margin of error of $\pm 5\%$ is acceptable.
- Manual control of the bot is mandatory for all participating teams.
- Teams are required to employ a wireless control mechanism, choosing from options such as a dual-frequency remote, Bluetooth, or Wi-Fi.
- It's important to note that the dimensions of the remote control device are not counted toward the size restrictions imposed on the robot itself.
- The robot must have an onboard power supply, As this robot is required to move in arena, having stationary power source could create difficulties.
- Participants are strictly prohibited from utilizing off-the-shelf Lego components or pre-made gripping mechanisms. However, they are permitted to use pre-made gear assemblies.
- The robot's control mechanism should be designed to allow operation by a single person.
- Failure to adhere to any of the aforementioned specifications will result in immediate disqualification from the competition.
- The robot should be equipped with camera(minimum 720p) resolution for good visibility and connect to your laptop/screen for monitoring or mobile can be mounted on robot for camera purpose

POWER SUPPLY

- The participants should use an onboard electric or non-electric power supply i.e. the power source should be on the bot itself. The power source must be non-polluting and must satisfy the safety constraints determined by the organizers. In the case of the non-electric power supply, the participants must get it approved by the organizers beforehand via email. Organizers are not responsible for the inconvenience if approval is not sought.
- In the case of an electric power supply, the voltage between any two points should be less than or equal to XX DC at all times during the run.
- AC power supply will not be provided and cannot be used in the competition.

GAMEPLAY

ROUND – 1(DAY 1)

- The bot must start from the ‘**START**’ mark.
- The player will be not allowed to see the path so **camera access** is necessary.
- **Four containers** will be there in different parts of the arena.
- Any one of the container will consist of boxes (mines).
- **Four checkpoints** will be there in area.
- **Two minutes** will be there to complete one checkpoint.
- If you pass each checkpoint flawlessly(without dropping the mines on the floor) more **15 seconds** will be awarded to your time pocket that means You will have 15 seconds more to pass next checkpoint.
- If you can’t pass the checkpoints smoothly(without dropping the mines on the floor)them 15 second be deducted from your next checkpoint time.
- **Ten points** will be awarded as soon as you pick a mine form the container.
- If the mines fall on the ground then 4 points will be deducted.
- If bot collides with obstacles then 2 points will be deducted.
- All mines should be deposited outside the arena.
- The player who can bring all mines outside the arena in less time and with more number of points left will be winner

ROUND – 2(DAY 2 FINAL)

- The bot must start from the ‘START’ mark.
- The player will be not allowed to see the path so camera access is necessary.
- Six containers will be there in different parts of the arena.
- Any one of the container will consist of boxes (mines).
- six checkpoints will be there in area.
- One minute thirty seconds will be there to complete one checkpoint.
- If you pass each checkpoint flawlessly(without dropping the mines on the floor) more 20 seconds will be awarded to your time pocket that means You will have 15 seconds more to pass next checkpoint.
- If you can’t pass the checkpoints smoothly(without dropping the mines on the floor)then 20 second be deducted from your next checkpoint time.
- Ten points will be awarded as soon as you pick a mine form the container.
- If the mines fall on the ground then 4 points will be deducted.
- If bot collides with obstacles then 2 points will be deducted.
- The player who can bring all mines outside the arena in less time and with more number of points left will be winner.

GAME RULES

- The bot would be checked for safety before starting and will be disqualified if found unsafe for other participants.
- Only one team member is allowed to handle the bot. No other team member is allowed to enter the arena.
- The bot will be liable for disqualification if it causes any kind of damage to the arena.
- The bot is not allowed to slide the blocks against the ground except for fine adjustments in the Deposit Zone.
- Any damage done to the blocks will lead to immediate disqualification.

