

# ROBO CONTEST

## ROBO WARS

### DESIGN SPECIFICATIONS

Specifications:

#### Dimensions and Fabrications :

1. The dimensional limitations of the machine **750mm x 750mm x 1000 mm** (l x b x h) at any given point during the match (considering all weapon movement also). The external device used to control the machine or any external tank is not included in the size constraint.
2. The machine should not exceed **40.25\* kg** including the weight.
3. Batteries may be in or out of the bot . Only the weight of remote controller will not be counted.

#### Mobility:

All robots must have easily visible and controlled mobility in order to compete. Methods of mobility include:

1. Rolling (wheels, tracks or the whole robot).
2. Non-wheeled or wheeled : both the types are allowed but no bias judgement
3. Jumping and hopping is allowed (manually operated). However, the maximum height of any part of the machine should not exceed 6ft during any stage of its jumping/hopping and any damage caused due to this mechanism is a responsibility of the team.
4. Flying (using airfoil, helium balloons, ornithopters, etc.) is not allowed.
5. Robots should not secure itself on the ring surface by using, suction cups, diaphragms, sticky treads, glue or other such devices.
6. No firing elements should be included in your bot in order to ensure the safety of audience

#### Battery and Power:

1. The machine can be powered electrically only. Use of an IC engine in any form is not allowed. On board batteries must be sealed, immobilized-electrolyte types (such as gel cells, NiCad, NiMH,).
2. All efforts must be made to protect battery terminals from a direct short and causing a battery fire, failure to do so will cause direct disqualification.
3. Use of damaged, non-leak proof batteries may lead to disqualification.
4. Special care should be taken to protect the on-board batteries. If judges find that the battery is not properly protected, then team will be disqualified immediately.
5. Change of battery will be allowed during the match.

#### Weapon Systems:

Robots can have any kind of magnetic weapons, cutters, flippers, saws, lifting devices, spinning hammers etc. (if they qualify the criteria mentioned below) as weapons.

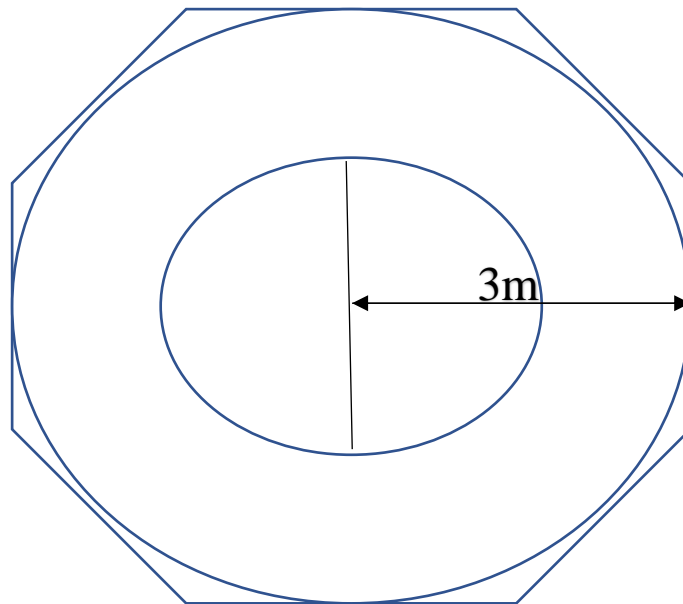
Following weapons are exceptions and cannot be used:

1. Liquid projectiles (Foam, liquefied gases)
2. Any kind of inflammable liquid.
3. Flame-based weapons (Even flammable solids)
4. Weapons causing invisible damage (Electrical weapons, RF jamming weapons and others)

5. The maximum rotational speed of any point on the weapon/body should not exceed **125mph\***.
6. Under no circumstances must a large spring be loaded when the robot is out of the arena or testing area.
7. All springs, flywheels, and similar kinetic energy storing devices must fail to a safe position on loss of radio contact or power.

**JUDGING CRITERIA WILL BE IN CONSPIRACY**

**Arena**



**Circle inscribed in the diameter of 3 m**

# ROBO SOCCER

**Description:** - This is a technical team event. This event will be played by robots of two teams against each other. The main objective of the bots will be to score goals

## **BOT SPECIFICATIONS**

1. Maximum dimension **200×150×180 (l×b×h)** with the tolerance of **5%**
2. Motors : only 2 DC geared motors (Max torque **30kg-cm** & speed **600 rpm**).
3. Controlling mechanism :bluetooth ,wifi ,zigbee or RF.
4. Maximum weight is **4 kg** .

## **General rules:-**

1. This team event. Max of 4 members in each team.
2. Team members may comprise of members from different branches.
3. The matches will be of 10min. 5min of each round.
4. No bots are allowed to incorporate the ball within its body so that it is not playable for the opponent. Neither of the bots allowed to block each other without the ball with either of the bots.
5. Points of each ball will be declared at the time of match.
6. The penalty of blocking the bots and when the ball falls out of arena will be displayed at the arena of the match.
7. The judges decision will be deemed final.
8. Team may be disqualified on disciplinary grounds.
9. Should not blame arena or judgement criteria

## **Arena:-**

- 1) The arena of the soccer will be of length 2440mm x 1220mm.
- 2) The mat will be green floor mat.
- 3) The goal width will be 300mm wide an 200mm in height.

