



# TECNOESIS'18

## ROBOWAR

IT'S BIGGER... BETTER... AND IT'S BACK!

LET THE WARS BEGIN!!!!

### INSIGHT INTO ROBOWAR

The crown jewel of Robotron competition, Robowar.

It is the battle for survival of two robots battling it out in the center to be the last one standing. It presents an opportunity for the competitors to show their robotic knowledge, acumen, and enthusiasm. Teams equip their bots with high torqued industrial motors, protective armour sheets, and well-designed weapons such as drummers, cutters, drill bits etc to take down the enemy bot. Design and construct a remote controlled robot capable of fighting a one on one tournament.

### GAMEPLAY

The event is organized in a knockout style tournament. Each match of the tournament will be played as a one-on-one match in which the winner of the match will proceed to the next round / match. The losing team will be eliminated from the competition. The process will continue until a single team captures the winner's title.

### Arena

The arena will be a square platform with dimensions 16ft x16 ft. The arena base will be either wooden or metallic/concrete with thick wooden sheets all around it for safety purposes. The arena will stay closed and protected during the match and will only open during the entering and exiting of a robot.

### Dimensions and Fabrications

1. The robot should fit in a box of dimension 750mm x 750mm x 300 mm (l x b x h) at any given point during the match.
2. The external device used to control the machine is not included in the size constraint.
3. The robot should not exceed 30 kg including the weight of the batteries on board. Weight of remote controller will not be counted.
4. The robot will be constructed by a light metal sheet.

**\*\*THE DIMENSIONING GUIDELINES MUST BE FOLLOWED STRICTLY\*\***

### Bot Specifications

#### □ Weapons

Robots must have some kind of motor driven weapon like magnetic weapons, cutters, flippers, saws, lifting devices, spinning hammers, drummers etc. with following exceptions:

- 1) Any kind of inflammable weapon.
- 2) Spinning weapons which come in contact with arena floor. In no case should the arena be damaged. Also, they should come to stop within 60 seconds of power disconnection using self-contained braking system

## □ 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. Flying (using airfoil, helium balloons, ornithopters, etc.) is not allowed.

## Team Specifications

1) A team can consist of 4-6 members.

## Eligibility

All students with a valid identity card of their respective educational institutes are eligible to participate in the event.

## General Rules

- 1) The bots will be checked for safety before the run and will be disqualified if found unsafe.
- 2) Measurements and verdicts made by an officiating judge will be deemed final.
- 3) The organizers reserve the rights to change any or all of the above rules as they deem fit. Change in rules, if any will be highlighted on the website and notified to the registered teams.

## Match Rules and Regulations

1. Based on the no. of teams no. of matches in Elimination round will be decided.
2. Duration of each match will be 4 minutes and each match will consists of 3 rounds each of 1 minute with two extra timeout of 30 sec till quarter final and for semifinal and the Finale of Robowar duration for each match will be 8 minutes (3 rounds of 2min+ two timeout of 1min).
3. The aim of every round is to demolish and immobilize the other bot completely.
4. Maximum of 2 time outs are allowed during which teams can relocate their bots, but are not allowed to make any changes in the bot.
5. Participants can use both attacking and defensive weapon.
6. Striking should be done to the body parts only, communication cable or motor should not be attacked. Direct hit to the motors and communication cable of the opponent's bot is not allowed.
7. If communication cables of both bots get entangled and both bots can't move, then time out will be given to both teams to straighten wires and bots will be placed back in same positions.
8. If after completion of the round, no bot is able to demolish or immobilize the other bot; winner will be decided by marking which will be evaluated on the basis of the damage incurred to both the bots.
9. Any change in the rules by the judge shall be intimidated to the teams in the arena.

## □ Criteria for Victory

1. A robot is declared victorious if its opponent is immobilized.
2. A robot will be declared immobile if it cannot display linear motion of at least one inch in a timed period of 10 seconds.
3. A robot that is deemed unsafe by the judges after the match has begun will be disqualified and therefore declared the loser.
4. Points will be given on the basis of aggression, damage, control and strategy.

**NOTE: Qualification of a robot to next level is subjective and totally on the decision of the judges. A robot winning in a round against its opponent doesn't guarantee its entrance into the next round. If the judges found the winner robot incompetent to enter into the next round, it may get disqualified. Judges can disqualify both the robots of a match from advancing to the next round. All the decisions taken by the judge will be final and binding to all. Any queries afterwards will not be entertained.**

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