

Acumen Mechanical 2015: Robo Wars

No bloodshed...! Just Metal Thrashing Metal... Want to Have a Fierce Battle With other bots? You're at the right place!

Acumen presents its most popular event **Robo wars**.

Task:

- Design and construct a remote controlled robot capable of fighting a one on one tournament.

Bot Specifications:

- Maximum weight: 25kg
- Maximum dimensions: 500*500*500 (mm). The machine can be extended later. At any point of time during match the machine should fit in a box of length 1000 mm.
- Voltage: 24v DC (max)
- The bot can be wired or wireless.
- Power supply can be off board or on board. Weight of battery not counted for off board power supply.

- Tolerance: (in dimensions and weight)
 - (1) 5% for off board power supply bots.
 - (2) 15% for onboard power supply wired bots.
 - (3) 20% for wireless bots.

- The bot should be only electrical powered. Pneumatics, Hydraulics or IC engines are not allowed.
- Robots can have any kind of weapons, cutters, flippers, saws, lifting devices, spinning hammers etc.
- Make sure the wire of the bot is at least 10m long.
- The mobility should be only with wheels or tracks.
- Hopping, jumping or flying is not allowed.

Safety Rules:

- Special care should be taken to protect the on-board batteries.
- The robot should not damage the arena.
- Batteries with leakages are not allowed.
- No batteries will be provided by the organizers.

Team Specifications:

- The team can consist of maximum 4 members of same or different colleges.
- Members with only valid college ID card are allowed.

Arena:

- The dimensions of arena will be around 3*3 meters.
- Height around 2 meters.

Game play:

- The round will be of 5 minutes.
- Only 2 members of the team are allowed to control the bot.
- The bot can push, attack and damage the opponent's bot.
- If the bot can immobilize the opponent for 30 sec. by touching the opponent then the match is paused and resumed after the bots take their initial position. (Note: You get points for immobilizing the opponent for 30 seconds but points will be given only for your first immobilization i.e. you don't get any points for immobilizing after that.)
- If the bot immobilizes the opponent for 30 sec. without touching then the robot is immediately declared victorious
- A robot will be declared immobile if it cannot display linear motion (complete bot) of at least one inch.
- If a robot is thrown out of the arena the match will stop immediately, and the robot still inside the arena will automatically be declared as the winner.
- If the robot cannot move for 30sec. for any reason (battery, wire or any other problems), the opponent is declared winner.
- If two robots become entangled or a crushing or gripping weapon is employed and becomes trapped within another robot, then the competitors should make the timekeeper aware, the fight should be stopped and the robots separated by the safest means. However the match will not stop for small reasons in the opinion of judges.

Judging Criteria:

- Points will be given mainly based on aggression, control and damage. However, these points are not let out to participants.
- Design of the bot and fair play will also earn some points.
- A bot will get points for immobilizing the opponent for 30 seconds. (only once in a match)
- The participants should obey the words of the judges or organizers at any point in the game. However, we will try our best to give genuine decision.