

ROBO WAR

(LIGHT WEIGHT)

Imagine a cool competition where remote-controlled robots go head-to-head in a battle arena. The teams have to build tough and agile robots that can dish out strong attacks and take hits. The goal is to have the meanest offense, solid defense, and speedy moves. Matches either have a time limit or end when a robot is knocked out or chosen as the winner by judges. These events have become popular because people love watching robots duke it out in a high-tech arena. In this context, a "Robot" can mean a combat robot.

Fixtures:

Once the matchups have been announced, the organizers will create fixtures that include the date, time, and location of each match. These fixtures will be communicated to all teams in advance, and any changes will be communicated promptly. By following these guidelines, the competition organizers can ensure that the matchups are fair, and all teams have an equal opportunity to compete. Additionally, teams will be able to plan and prepare for their matches in advance, which will promote a high level of competition throughout the tournament.

Robot Specifications:

- The robot should fit in a dimension 18inch x 18inch x 18inch (LxBxH) when at rest position

- The weight of the robot should not exceed 5 kg. (with all batteries, weapons etc loaded)
- The robot may fold and unfold itself to follow the dimension rules.
- The robot must use an only onboard power supply.
- No external off-board power supply is allowed.
- Each team shall prepare its own power supply for all its machines.
- The robot can take power from a DC source with a rating, not more than 48 volts. Only dry type sealed batteries are allowed i.e. Li-Poly, Ni-MH, Li-ion, and other maintenance-free sealed packed batteries.
- Human operators are not permitted to enter the Court once the competition has started. They need to operate the robot from outside the court using their remote controls.
- The teams can use ready-made microcontroller boards/ready-made sensor kits.
- Weapons must remain connected to the machine at all times during operation.
- Any weapon that can pose an injury risk to the spectators is not allowed e.g. loosely fitted spinning weapons etc. The teams which use such a robot will be asked to remove such a weapon before the contest. If they fail to remove the weapon, the team will be disqualified.

Game Rules:

- The objective is to damage, destroy, flip upside down.
- If your robot is stuck in the difficulties or unable to move itself from its position it will be considered a timeout. Max 2 timeouts

are available for 2 mint a robot, after 2 timeouts it will be considered a knockout.

- Unless a Match terminates early, the Match will last for 5 minutes of fighting time. The time limit does not include any time elapsed as a result of Timeouts. The teams with maximum points will win the round.
- If the robot is disabled or cannot move it will be considered a time out from the match.
- If the robot is pushed by the opponent out of the arena & cannot move itself inside itself move it will be considered a time out from the match.
- If at any time during a Match, a Robot or Multi-Bot Segment becomes Stuck on the Arena floor, and cannot free itself after 20 seconds, the Referees can call a Timeout

Point distribution:

Point scoring is shown in the table below:

Damaged any part of an opponent robot 10 points

Disabled the opponent robot (timeout taken by opponent) 15 points

Damage:

Damage will only be counted for visible parts of the robot that are damaged or torn out. Scratches or superficial marks will not be counted as damage. However, any part of the robot such as metal or sheet that is taken out of the robot will be counted as damage. Additionally, any damage caused to the robot's functions such as weapons, motors, or wheels will also be considered as damage. The judges will assess the damage at the end of the match.

Overweight robots:

Robots weighing more than 5kg will incur a penalty of 01 points per 0.1kg for any additional weight. For example, a robot weighing 5.2kg will have 2 points deducted from its score. If a robot's weight exceeds 6 kg, it will be disqualified from the competition.

The disqualified robot may be allowed to reduce its weight within a given time frame, failing which it will not be allowed to participate further. It is the responsibility of the team to ensure that their robot meets the weight requirements and that any modifications made during the competition do not cause the robot to exceed the weight limit. The weighing of the robots will be done before the start of the competition, and the weight limit will be strictly enforced.

WEAPONS:

- All pyrotechnics; explosives, flames, firearms, corrosives, liquids, electronic devices e.g., radio jamming, heat-guns, Tesla coils - are banned.
- Small, non-offensive pyrotechnics - e.g., flash puffs - May be allowed at the judge's discretion.
- Tethered projectiles are allowed, but the tether may not exceed 0.381m (approx. 15inch) in length, (measured from the center of the robot to the tip of the projectile).
- The circular saws, carbon or steel cutting discs can be used.
- Commercial blades - e.g., bayonets - must not exceed 20cm/8inches in length.
- All sharp edges of weapons, including fixed weapons - e.g., spikes -and robot bodywork in general that is sharp, MUST be fitted with adequate protection that must be in place at all times except in the arena. (These guards are not included with the overall weight of the robot).

FORBIDDEN WEAPONS:

- Untethered projectiles are not allowed.
- Heat and fire weapons are NOT allowed
- Flammable liquids or gases.
- Explosives or flammable solids such as: DOT Class C devices
- Gunpowder / Cartridge Primers
- Military Explosives, etc.
- Light and smoke-based weapons that impair the viewing of robots by an Entrant, Judge, Official or Viewer.
- Smoke or dust weapons
- Lights such as external lasers above 'class I' and bright strobe lights which may blind the opponent
- Hazardous or dangerous materials are forbidden from use anywhere on a robot where they may contact humans, or by way of the robot being damaged (within reason) contact humans.
- Entangling weapons are NOT allowed at this event.
- Liquid weapons are NOT allowed at this event.
- Powdered material or chaff weapons are NOT allowed at this event.

POWER SUPPLY:

- The robot must not have any wired connections with its surroundings.
- Voltage of the machine's electrical power source must not exceed 48-volt DC.

- Power sources that are considered dangerous or unsuitable by the contest Officials shall not be permitted.
- All efforts must be made to protect battery terminals from a direct short and causing a battery fire.
- All Robots must have a light, easily visible from the outside of the robot that shows its main power is activated.

General Guidelines:

Robot Requirements: Each participating robot must adhere to the specifications outlined in the competition rules, including weight, size, and functionality.

Safety: Safety must be a top priority throughout the competition. All robots and equipment must meet safety requirements, and all participants must wear appropriate safety gear.

Conduct: All participants must maintain a high level of professionalism and respect for one another. This includes avoiding unsportsmanlike behavior, such as taunting, jeering, or gloating.

Discipline: All participants must follow the rules and guidelines set forth by the competition organizers. Failure to do so may result in penalties or disqualification.

Sportsmanship: Good sportsmanship is expected of all participants, including congratulating opponents after a match, offering assistance if needed, and displaying positive attitudes throughout the competition.

Judging: Judges will evaluate the robots based on a predetermined set of criteria, and their decisions will be final. Participants must respect the judges' decisions and refrain from arguing or disputing their rulings.

Maintenance: Participants must ensure their robots are in good working order throughout the competition, including regular maintenance and repairs as needed.

By following these rules, participants can ensure a fair, safe, and respectful competition that promotes robotics innovation and collaboration.