

WILD SOCCER

WILD SOCCER : KILLER EDGE is the ultimate battle between wild robots on soccer field with new weapons. This time the robots will not only have to rip apart the opponent's robot, but it will also have to show excellent tackling skill to score goals. And you won't be alone. You will be accompanied by your team members to destroy anything and everything that would fall between you and the goal.

GENERAL RULES

- 1. Each team can have a maximum of 8 participants on stage at the time of the event.
- 2. A team consist of students from same pool.
- 3. The organizers reserve the right to change the rules as they deem fit.
- 4. Judges decision will be final and binding to all.

GAMEPLAY

- A maximum of 4 bots can be inside the arena from any team. Other than these 4, a m aximum of 2 bots can be kept as reserve.
- Any team must not block the entire goal post , there should be a space of 20 cm space at all times.
- The team which scores maximum goals in the match would be declared as winner of that match.
- The total playing time between two teams would be of 15 minutes, divided into three rounds of 5 minutes each.
- Robo wars is also allowed simultaneously (i.e. any bot can fight with any other using any means)
- Goal will be considered only if the ball crosses the goal line.
- In case of a **tie** during a **match**, there will be penalty shootout.
- Compensation time will be given on the discretion of referee.
- The break time would be 5 minutes.
- The ball diameter would be around 15 cm.
- The ball holding mechanism of the bot should not get the ball more than half of the diameter into the bot.
- Any team lifting and carrying the ball, using adhesive techniques to hold the ball or any other unfair means will be disqualified.
- Any part of the bot should not cross the goal line during complete match.
- Wired bot is RESTRICTED to move within the respective half only.
- In case of wired bot, **wires must be 0.5m above** from ground.
- A team can have at most two substitute bots in case a bot is damaged.



- Only one substitution is allowed in one round. You can claim to substitute but whether you actually do is on the discretion of the referee.
- Timeouts will be on the discretion of the referee.
- Dead bots are not allowed.
- All bots will be checked at the start of every round that they are moving. In case of any discrepancy, referee will decide that the bot is moving or not.
- At start from center bots should be at least 50cm away from the ball in the center.
- The game should not be stopped until the referee blows his whistle. Each team will have a representative who is the ONLY person allowed to speak to the referee and ask him to stop the game or report any issue. Allowed:
- 1. Hitting OR Kicking OR Thrashing OR Flipping the other bot.
- 2. Completely demolishing any other bot.
- 3. Anything else that you can imagine!!!

Warnings

- 1. Bot moves before whistle and after the 3,2,1 count begins.
- 2. Ball lifted by one bot(w/o touching ground) and other team's bot not touching the ball.
- 3. Touching(any kind of interruption) the bot w/o asking referee.
- 4. If the ball goes more than 7cm inside any of the bots.
- 5. In case of any discrepancy referee's decisions would be final.

Penalty

1. Second warning is a penalty.

- 2. Goal-keeper should not move before the striker touches the ball during an ongoing penalty.
- 3. Total time given for penalty is 1 minute to score a goal.
- 4. Bots (striker+defender both) playing in the penalty should have played in the match.

Note: In case of any disputes, the decision of the organisers would be final and binding to all.

BOT SPECIFICATIONS

Dimensions and Weight

- The robot should not be more than 550mm*550mm*650mm (length*breadth*height) in size at any time during gameplay.
- One (ONLY one) bot can be of at-most 20 Kg(s).
- Rest 3 (+2) bots should not be more than 10kgs in weight.
- Teams have to show and declare ALL of their bots before their first match itself.



• No major changes in the weapon system etc would be allowed after the above mentioned declaration. Verdict of the match refree will be final in case of any dispute.

Weapons Systems

Robots can have any kind of magnetic weapons, cutters, flippers, saws, lifting devices, spinning hammers etc. as weapons along with

- 1. Use of **pneumatics and hydraulics** are **allowed**.
- 2. **Pneumatics Robot** can use pressurized non-inflammable gases to actuate pneumatic devices. Maximum allowed outlet nozzle pressure is 8 bar.
- 3. Hydraulics Robot can use non-inflammable liquid to actuate hydraulic devices e.g. cylinders.
- 4. In any case of use of weapons, the total dimension of robot should not increase the given specification during use of weapon.
- 5. Nothing should be thrown out of robot during the game . In case of anything breaking from the robot, it should be completely removed from the robot before continuing with the game.

Following **exceptions** and **limitations**:

- 1. Liquid projectiles.
- 2. Any kind of inflammable liquid.
- 3. Flame-based weapons.
- 4. Any kind of explosive or intentionally ignited solid or potentially ignitable solid.
- 5. High power magnets or electromagnets.
- 6. Radio jamming, tazers, tesla coils, or any other high-voltage device.
- 7. Tethered or un-tethered projectiles.
- 8. Weapons or defenses that stop combat completely of both (or more) robots. This includes nets, tapes, strings, and other entanglement device.
- 9. Spinning weapons which do not come in contact with the arena at any point of time are allowed.

Mobility

- All robots must have easily visible and controlled mobility in order to compete.
- Flying is not allowed.

Robot Control Requirement

- Three of the Four robots must be radio controlled.
- Tethered control is not allowed
- All robot radio systems must have a way to change frequencies or coded channels to prevent radio conflicts (i.e. if you are using 4 frequencies you need to have 2 more alternate frequencies readily available).
- If you are using a home built control system, or a control system not covered here, you



must first clear it with the coordinators.

• Toy radio systems are allowed at this event

Batteries and Power

- Each team must have batteries to power their wireless bots.
- The battery will be taken into consideration for the measurement to be made for the machine dimension and the weight.
- The only permitted batteries are ones that cannot spill or spray any of their contents when damaged or inverted.
- The maximum allowed potential difference between any two points in the bot is 36 volts.
- Voltage must not exceed 36 volts between any two points.

Caution:

In case of high torque motors a maximum of 12 volts is allowed across it's terminal. If you exceed that there are very high chances that motor will burn

Spring, Pinning and Lifting

- Any large springs used for drive or weapon power must have a way of loading and actuating the spring remotely under the robots power.
- Any flywheel or similar kinetic energy storing device must not be spinning or storing energy in anyway unless inside the arena or testing area.

<u>ARENA</u>

- The soccer field size would be 6m x 3.5m. The goal post will be placed outside the 6m mark.
- Height of goal post will be 0.6m. The ball will be a simple smooth plastic ball with weight in gms (negligible) and diameter 15 cm.





<u>Fig: Arena</u>

SUGGESTED WIRELESS MODULES

PS2 Wireless Module

- Each team will be provided with a PS2 module for controlling their wireless bot.
- Each team will be provided with a black box 1 hour prior to the match. Teams should not open it in any case .Any team found doing this will be immediately disqualified.
- From the blackbox wires will be coming out. Teams will have to connect their motors etc. with this. The black box will contain PS2 wireless module. It will be able to control maximum of 4 motors in both directions.
- There will be tutorial on the PS2 Wireless Module whose timings will be informed later.
- Each team will be tutored on how to use the module before the match.
- Team should check it before using it.

COMPONENTS PROVIDED BY THE CLUB (Default Set)

- 6 high torque motors with compatible wheels.
- Wireless controller at the time of event.
- Each pool has to submit Rs.8000 to the robotics club.