



## WILD SOCCER

*Pool Event, Open-To-All*

*Points: 50*

KILLER EDGE is the ultimate battle between wild robots on soccer field with new weapons. This time the robots will not only play soccer, but will have to bring balls in the soccer arena by traversing on horizontal **Ropes** and **Pipes**. More the number of balls supplied by your **Rope Traversing Robot (RTR)** more are the chance to score a goal and earn points.

### IMPORTANT RULES

1. A team consists of students from same pool.
2. Each team can have a maximum of 6 participants (minimum 4 from other than 1<sup>st</sup> or 2<sup>nd</sup> year) on stage at the time of the event.
3. Each team will have a representative (out of six present on the stage who is the **ONLY** Person allowed speaking to the referee and asking him to stop the game or report any issue. No person other than this will be entertained by the referee.
4. Wild soccer captain cannot be a SnT secretary, Hall captain or pool captain of any hall and should be from 1<sup>st</sup> year or 2<sup>nd</sup> year only.
5. The participants from 3<sup>rd</sup> year or higher batch are not allowed to control any robot or report any issue they can only guide their other team members in controlling the robot.
6. If any member from 3<sup>rd</sup> year or higher batch points out any issue in any match then in that match they will not be allowed on stage and only 4 members will be on stage and from next matches there cannot be any member from 3<sup>rd</sup> year or higher batch.
7. If any issue is reported by any of wild soccer captain or in case of any dispute members from 3<sup>rd</sup> year or higher batches have to come down the stage and they cannot interact with other members **BY ANY MEANS**.
8. If any member from Y13 or Y14 other than wild soccer captain reports any issue then he will not be allowed to be on stage for rest of the match.
9. The organizers reserve the right to change the rules as they deem fit.
10. Judges decision will be final and binding to all.



## GAMEPLAY

Overall the gameplay is divided into 2 parts i.e. RTR and Soccer (Wild).

### Rope Traversing Robot (RTR)

#### BOT SPECIFICATIONS

- Robot may be wired or wireless .In case of wired robot wire must be slack during its complete run.
- Weight for the wireless bot including the weight of the batteries should not exceed 5Kg at any point of time during the game play.
- Wireless module will not be provided by the club.
- Weight for the wired bot excluding the weight of the batteries should not exceed 4Kg at any point of time during the game play.
- The robot should not be more than 400mm\*400mm\*400mm (length\*breadth\*height) in size at start of every round on Rope.
- Verdict of the match referee will be final in case of any dispute.

#### GENERAL RULES

- Total of 2 Pipes and 1 Rope will be provided for RTR to traverse.
- Two pipes are at same height and parallel to each other with a distance of 200 mm between them.
- Rope is in middle of two poles and a height lower than the pipes. The vertical distance between the rope and pipes is 200 mm.
- Total length of the RTR arena is 2 meter.
- The horizontal distance between the rope and centre line of soccer arena is 350 mm.
- There is a pit somewhere under the rope and pipes from where RTR has to pick ball.
- The pit will have 1 ball at a time and RTR can only pick ball after it has started traversing on rope.
- If the ball falls from the grip of RTR due to actions of itself outside the wild soccer arena, RTR will start from the start line.
- The ball has to be dropped on a platform which is connected to the soccer arena.
- You are not allowed to touch your RTR once it has started a run in arena, unless until told by any of the referee or you can ask referee if you want to do some changes or repairing in it. But then RTR has to start from beginning.
- If the ball is tempered while gripping or after gripping then the ball has to be dropped in soccer arena then time will be stopped and ball will be changed



#### **PENALTY**

- Any kind of tampering with the arena will lead to subtraction of 100 points.

#### **SOCCER**

#### **BOT SPECIFICATIONS**

- Any robot should not be more than 400mm\*400mm\*300mm (length\*breadth\*height) in size at start of every match gameplay.
- Height of all the bots can be extended up to 400mm after the start of match.
- All soccer bots should not be more than 8kgs 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 referee will be final in case of any dispute.
- If none of the RTR is able to bring the ball in soccer arena then a referee ball will be introduced in the arena and normal soccer will be continued.
- After the referee ball is scored and still none of the RTR has managed to bring ball in next 15 seconds another referee ball will be introduced in arena.

#### **GENERAL RULES:**

- A maximum of 2 bots can be inside the arena from any team. Other than these 2, a maximum of 1 bot can be kept as substitute.
- All the 3 bots should be wireless.
- Any team must not block the entire goal post, there should be a space of 20 cm space at all times.
- The total playing time between two teams would be of 10 minutes, divided into two rounds of 5 minutes each.
- Robowars is also allowed simultaneously only in arena (i.e. any bot can fight with any other using any means)
- Goal will be considered only if the whole ball crosses the goal line.
- Holding the ball is not allowed by any means.
- Bot should not get the ball more than half of the diameter into the bot by any means.
- Any team lifting and carrying the ball, using adhesive techniques to hold the ball or any other unfair means will be disqualified.
- 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 centre bots should be at least 50cm away from the ball in the centre.



- The game should not be stopped until the referee blows his whistle

**Allowed:**

1. Hitting OR Kicking OR Thrashing OR Flipping the other bot.
2. Completely demolishing any other bot.
1. Full part of any bot cannot cross the goal line.

**WARNINGS**

- Robot moves before blowing the whistle.
- Ball lifted by one robot (w/o touching ground) and other team's bot not touching the ball.
- Touching (any kind of interruption) the bot w/o asking referee or entering the arena without the permission of referee.
- If the ball goes more than 7cm inside any of the bots.
- In case of any discrepancy referee's decisions would be final.

**PENALTY**

- Second warning is a penalty.
- During penalty shoot-out, Goal-keeper should not move before the striker touches the ball during an ongoing penalty.
- Total penalty time is 1 minute to score a goal.
- Bots playing in the penalty should have played in that match till that time.
- Only team having the penalty can score the goal in penalty shoot-out.
- If the team defending the penalty puts ball in opposition's goal then ball will be considered dead.
- Note: In case of any disputes, the decision of the organizers would be final and binding to all.

**WEAPONS SYSTEMS**

- Robots can have any kind of cutters, flippers, saws, lifting devices, spinning hammers etc. as weapons.
- Use of pneumatics and hydraulics are allowed.
- Pneumatics Robot can use only pressurized non-inflammable gases to actuate pneumatic devices. Maximum allowed outlet nozzle pressure is 8 bars.
- Hydraulics Robot can use only non-inflammable liquid to actuate hydraulic devices e.g. Cylinders.
- In any case of use of weapons, the total dimension of robot should not increase the given specification during use of weapon.



- 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:**

- Liquid projectiles.
- Any kind of inflammable liquid.
- Flame-based weapons.
- Any kind of explosive or intentionally ignited solid or potentially ignitable solid.
- High power magnets or electromagnets.
- Radio jamming, Tasers, tesla coils, or any other high-voltage device Mobility
- All robots must have easily visible and controlled mobility in order to compete.
- Flying is not allowed.

#### **ROBOT CONTROL REQUIREMENT**

- Soccer robots must be radio controlled.
- Tethered control is not allowed.
- 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.

#### **POINTS**

- The team which scores maximum points in the match would be declared as winner of that match.

#### **RTR**

- There will be points awarded for every ball put in the soccer arena by RTR.
- No point will be awarded if the bot is not able to put the ball in the soccer arena.

#### **WILD SOCCER**

- 50 points for scoring a goal by the ball brought by your own RTR.
- 30 points for scoring a goal by the ball brought by opponent's RTR.

#### **ARENA**

- A maximum of one ball is allowed inside the Soccer arena which can be of either team.
- No points will be awarded for putting the ball in the soccer arena if already there is a ball in the arena.





- The soccer field size would be 4m x 2.5m. The goal post will be placed outside the 4m mark.
- The size of goal is 1000 mm width and 800 mm height.
- Height of goal post will be 0.5m. The ball will be a simple smooth plastic ball with weight in grams (negligible) and diameter 15 cm.
- Balls of both the pools will be of different colours.
- Final Rope traversing part of arena will be shown few days before the event.

#### TIME OUT AND BREAK

- Only one time-out of 2 minutes is allowed in every half with the permission of referee.
- Match will start irrespective of the conditions of bot after the 2 minutes timeout.
- 5 minutes break between two half.
- Match will start irrespective of the conditions of bot after the 5 minutes break.

#### IN CASE OF TIE AFTER 1ST TWO ROUNDS, RESULT OF THE MATCH WILL BE DECIDED ON THE FOLLOWING BASIS (ARRANGED IN THE PRIORITY ORDER)

- **THERE WILL BE A 3 MINUTE OF NORMAL SOCCER MATCH (bots which have already played in that match)**
- **3 PENALTY SHOOTOUT OF 1 MINUTE EACH (bots which have already played in that match)**
- **SUDDEN DEATH OF 2 MINUTES (bots which have already played in that match)**
- **NO OF POINTS SCORED BY RTR.**

#### 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 terminals on the bot.

#### Caution:

- In case of high torque motors a maximum of 12 volts is allowed across its 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.



## SUGGESTED WIRELESS MODULES

### PS2 Wireless Module

- Each team will be provided with two and only two PS2 module for controlling their wireless bot.
- Each team will be provided with a black box 10 minutes prior to the match. Teams should not open it in any case .Any team found doing this will be immediately disqualified.
- From the black box 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 and clamps.
- 12 relays, 6 batteries (6 V DC).
- Wireless controller at the time of event.
- Each pool has to submit Rs.10,000 to the robotics club.

### NOTE:

- 1) Points Tally
  - Winning = 4 points.
  - Draw = 2 points each pool.
  - Loosing = 0 points.
- 2) In case of equal no. of points. Final judgment will be done on the basis of distance covered by an RTR in a specified time.

### CONTACTS

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