



ROBO LEAGUE



“Explore, examine and analyse the boundaries of present and get an insight into the future. Integrate your ideas and skills to build the machines that imitates humans. Dare to be the creator !”





Its football time.....!!

All you soccer fans hold your breath, as we present to you soccer with an entirely new dimension.

So if you are up for the challenge get your manual soccer playing bots ready
Bellow your vuvuzelas... Paint your faces... Bring on the shouts... as we are ready to host the biggest
Robo-football competition in our town.

In order to compete on the biggest stage and bring out the hidden RONALDO , MESSI in you.....come and participate in this event on
15-16th of February , 2020.
and show your skills with your bot
You will love to see this new kind
of football





PROBLEM STATEMENT:-

Build a manual controlled robot, designed to take on other robots and be prepared to score maximum no of goals in a proper soccer match.

GENERAL RULES:-

- This is a team event.
- A team can have minimum of two and maximum of five members.
- A team may comprise of members from different colleges. No person shall be a member of multiple teams.
- It is mandatory for all members of the team to bring their identity cards of their respective colleges or schools or other organisations.
- Teams have to show and declare ALL of their bots before their first match.
- No bots can be shared by two teams.
- The participants will be provided standard 220V-60Hz AC supply.
- Participants will have to arrange for any other power supply required for their robot.
- Robots are not allowed which are constructed using LEGO kits or its spare parts or any other readymade mechanism.





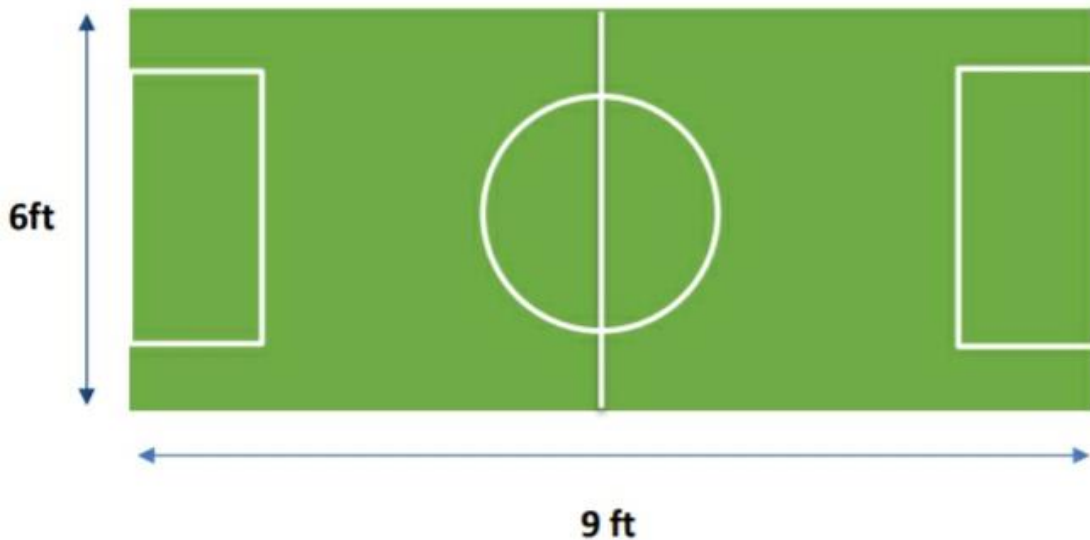
- Use of pneumatics, hydraulics, lethal weapons like projectiles, acids, sharp cutters, strong electromagnet, tesla coil, fire, EMP are strictly prohibited.
- No bot is allowed to pick the ball up or grip it or incorporate the ball within its body, so that it is not playable for the opponent.
- The bot can be totally wired or wireless and manually designed.
- In case of wirelessly controlled robot there should be 4 channels for controlling the robot.
- Damage to the arena may lead to disqualification of the bot.
- The right spirit of participation is expected from every participant.
- The decision of the coordinators will be deemed final.
- A team can be disqualified on disciplinary ground.
- The decision of the coordinators will be deemed final.

****any or all of the above rules are subjected to change at any point of time.**





ARENA SPECIFICATION:-



ROBOT SPECIFICATIONS WITH TECHNICAL CONSTRAINTS:-

- Dimension of the bot shouldn't exceed 25x25x15cm (l x b x h) and that can be of at-most 3kgs. Individual parameters to be measured with a tolerance of 10.5% prior to competing.
- Arena is made as per given bot specification. So tolerance is participant's own responsibility.
- The potential difference between any two electrical points on the robot must not exceed 18 volts throughout the run.
- The supply voltage cannot be increased or decreased (using regulators etc.) after the commencement of match. In case of external power supplies and/or wired communication, pulling wires to alter the movement of the robots **WILL NOT BE TOLERATED** at all and the responsible team will be **DISQUALIFIED**.





- The robot may have some sort of external hitting or shooting mechanism but the robot, as a whole, must comply with the dimension constraints throughout its performance.
- Hitting mechanisms may or may not be controlled manually, if controlled manually, they need to be controlled using remotes or switches.
- Touching the robot during the competition is strictly prohibited.
- The robot can be powered on-board or off-board.
- External weights on bot are not allowed.
- The length of wired attached with wired robots should be at least 4 m.
- The robot cannot grab/hold the ball at any point of time.
- No attack on the opponent bot is allowed. If a team attacks the opponent robot purposefully they will be issued a yellow card as a sign of warning, and if they continue to do so, a red card will be issued and the team will be disqualified.





EVENT RULES:-

- a) Prelims
- b) Knock Outs
- c) Finals

Prelims:-

- There will be more than one ball in various positions in the arena. The robot needs to push/kick as much balls as possible in the goal but one ball at a time, if the robot kicks/pushes more than one ball at a time the robot will get points only for one goal, no extra point will be awarded.
- Each match will be of 6 minutes. The team will be given the privilege to place their robot in the arena wherever they want.
- The robot will have to score maximum number of goals in 6 minutes. Each goal would award +20 points & special goal would award +50 points.
- There will be obstacles in this round. The robot will have to avoid those obstacles to score a goal.
- The robot will incur a penalty of -10 points if it touches or hits an obstacle. However, if the robot touches or hits an obstacles two or more times within 3 seconds no extra penalty will be imposed.
- The team may take a maximum of two RESETs. The team will incur a penalty of -50 points for each RESET.
- The timer won't stop during a RESET. RESET means that the ball will be placed in the centre of the arena and the team can position their bot as per their choice.
- In case of a tie the team with lesser number of penalties qualifies for the next round.





- In case of any problem in robot, the team will get a 2 min of time-out to repair its robot, if unable to do so, leads to disqualification.

****top 50% of the total no of teams participated in this round will qualify for the next round.**

Knock Outs:-

- This is a one-on-one event in which two robots will take on each other time. Each robot has to try scoring more number of goals than the other.
- There will be toss and the team winning the toss will get to decide the goal post of their choice.
- There will be only one ball in the arena, which will be placed at the centre with robots on both sides of the arena.
- This will be a match of 8 mins, 4 mins in each half.
- There will a red zone in the arena, if a bot goes into that zone accidentally or if any bot pushes the opponent's bot in the red zone area, the bot(s) will get -20 points.
- There will be less no of obstacles. The robot will incur a penalty of -50 points if it touches or hits an obstacle.
- The team may take a maximum of one RESET. The team will incur a penalty of -50 points for that RESET.
- The teams must use the same bot which was used in the previous round.
- In case of any problem in robot, the team will get a 5 min of time-out to repair its robot, if unable to do so, and then it leads to disqualification.





- If there is a deadlock between two robots for a time of 30 seconds or more, then each robot will be reset to its original position and the ball will be placed at the centre of the arena.

During this period, time will be paused, and it will continue after the robots are reset.

- In case of a tie the team with lesser number of penalties qualifies for the next round.

Finals:

- The top 4 teams will qualify for the last stage of the event. Then the top two teams will play for the last match.
- All the rules above in the previous round is same in this round except that this round will have 10 mins of total time(5 mins in each half) in each match and there will be no obstacles. Even there will be no RESET.
- In case of a draw after 10 minutes, fastest kick approach will be applied. In fastest kick approach, 6 balls will be placed at different positions on the arena and an extra 1 minute time will be given. The robot that scores the maximum number of goals wins the match. Both teams will individually take the fastest kick approach round.
- The team must choose the goal post beforehand and score goals in that goal post only. Goal(s) scored in the other irrelevant goal post (if any) will not be considered.
In case of any problem in robot, the team will get a 10 min of time-out to repair its robot, if unable to do so, and then it leads to disqualification.
- There will a red zone in the arena, if a bot goes into that zone accidentally or if any bot pushes the opponent's bot in the red zone area, the bot(s) will get -20 points.





- A team can take only one time-out per match.

SOME RESTRICTION:-

- 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, takers, tesla coils, or any other high- voltage device.
- Tethered or un-tethered projectiles.

**ALL RULES ARE SUBJECTED TO CHANGE WITHOUT
PRIOR INFORMATION**

Event coordinators:

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