

Captain TsuBOTsa



“Success is No Accident. It is Hard work, Perseverance, Learning, Sacrifice And Most Of All, Love Of What You Are Doing Or Learning To Do”-PELE

We Know there Are Very large amount of football fans out there And Now It’s time for some exciting soccer action as we are going to host the largest Robo-Soccer competition in town. So get ready for goal kicks, penalties and more! As the name itself suggests, the event basically deals with manual robotics in which you to have to design a

manually controlled bot which is capable of playing football. Come and join us on 13th –15th April, 2018.

Problem statement :-

Build a manually controlled robot designed to avoid obstacles and score goals. Be prepared to take on other robots to score the maximum number of goals in a proper soccer match.

General rules :

- This is a team event.
- The maximum number of participants allowed per team is 4. A team may comprise members from different colleges. No person shall be a member of two teams.
- Damage to arena, may lead to disqualification of the bot. 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.
- Machine cannot be constructed using readymade Lego kits or any readymade mechanism.
- The decision of the coordinators will be deemed final.
- Any or all of the rules are subject to change at any point of time.
- A team can be disqualified on disciplinary ground.

Event rules:

There will be 2 rounds:

- Preliminary Round
- Final Round

Preliminary round:

- The ball will be placed at the centre of the arena. Only one bot of a particular team is allowed inside the arena at a time.

- Touching the robot during the competition is strictly prohibited.

In case any issues, ask the coordinators for help.

- Robots must not damage the tournament arena. If it does, the team may be disqualified.

- The arena will have many obstacles placed at different positions.

The robots have to avoid obstacles while moving.

- The bot is required to score maximum number of goals, avoiding the obstacles, in minimum amount of time.

- The robot will get a penalty of 10 points if it touches or hits a square obstacle.

- The robot will get a penalty of 20 points if it touches or hits a rectangle obstacle

- The team may take a maximum of three RESETs. The team will get a penalty of 50 points for each RESET. The timer won't stop during a RESET. RESET means that the ball will be placed at the centre of the arena but the team cannot opt for a favourable location of their bot. The bot will remain at the same position as it was before.

- In case of a technical issue or any mechanical or electrical failure of a robot, each team can have a TIMEOUT of maximum 2 minutes without any point deduction.

However, after that 2 minutes, 1 point will be deducted for Each Second.

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

- The top 16 teams, who emerge with the maximum points will be declared as the finalists and will proceed to the knockout (final) round. The number of teams, entering the knockout round may vary depending on the situation.

Final round:

- The teams must use the same bot which was used in the previous round. However, some minor modifications is allowed over the same chassis of the bot.

 - The participants will have to play against each other in a 1 vs 1 match. So total two bots are allowed inside the arena at a time.
 - Touching the robot during the competition is strictly prohibited. In case any issues, ask the coordinators for help.
 - Robots must not damage the tournament arena. If it does, the team may be disqualified.
 - The ball will be placed at the centre with robots on both sides of the arena. A 6 minute time will be given to score goals in the opponent's goal post. The total 6 minute time is divided into two 3 minute halves.
 - In case of a technical issue or any mechanical or electrical failure of a robot, a TIMEOUT of maximum 3 minutes can be taken. The timer will be paused during this TIMEOUT. If a foul takes place, the bot causing the foul will be taken off the field for 15 seconds. A foul will be committed if a bot tries to attack the opponent bot intentionally without trying to go for the ball.
 - The winner will be decided by the number of goals scored.
- The winner of each match progresses to the next round.
- In case of a tie, "PENALTY SHOOTOUT" will take place where each team will be given 3 chances. The detailed rules of "PENALTY SHOOTOUT" will be described properly during the event by the coordinator.

Bot specification:

- The size of the bot must not exceed 27*25*25cm.

Individual parameters to be measured with a tolerance of 10%.

- The bot must be controlled manually. It can be both wired or wireless.

- No Lego kits or IC engines are allowed but you can use DC geared motors.

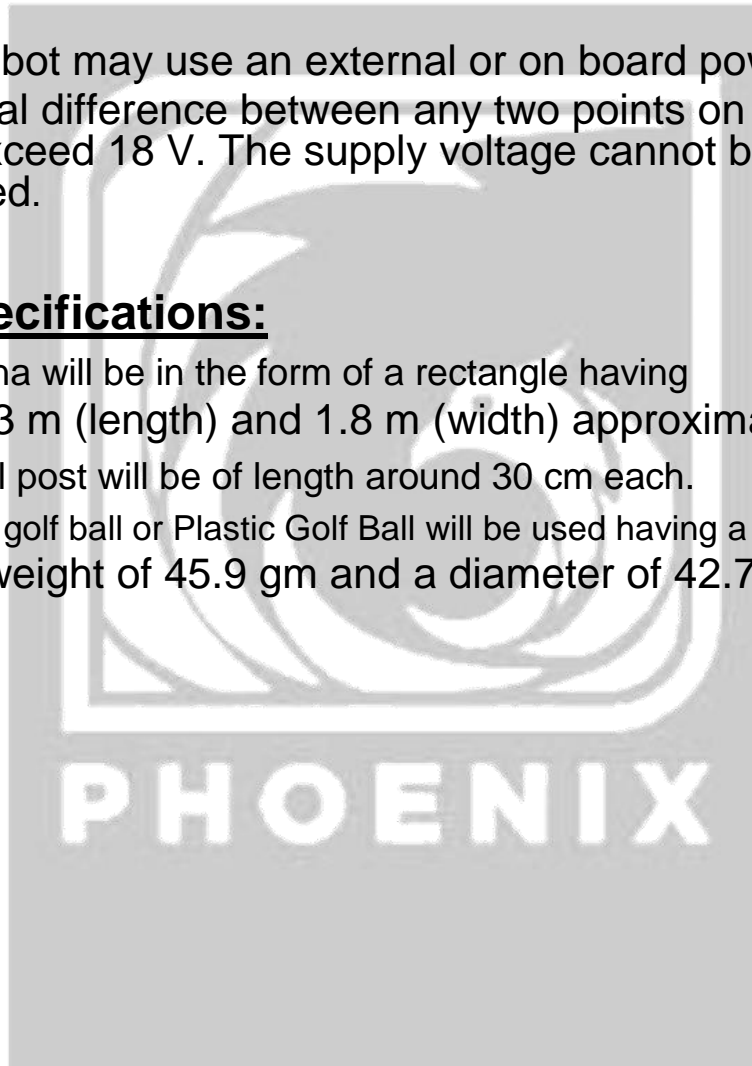
- The robot may use an external or on board power supply. The potential difference between any two points on the robot must not exceed 18 V. The supply voltage cannot be increased or decreased.

Arena specifications:

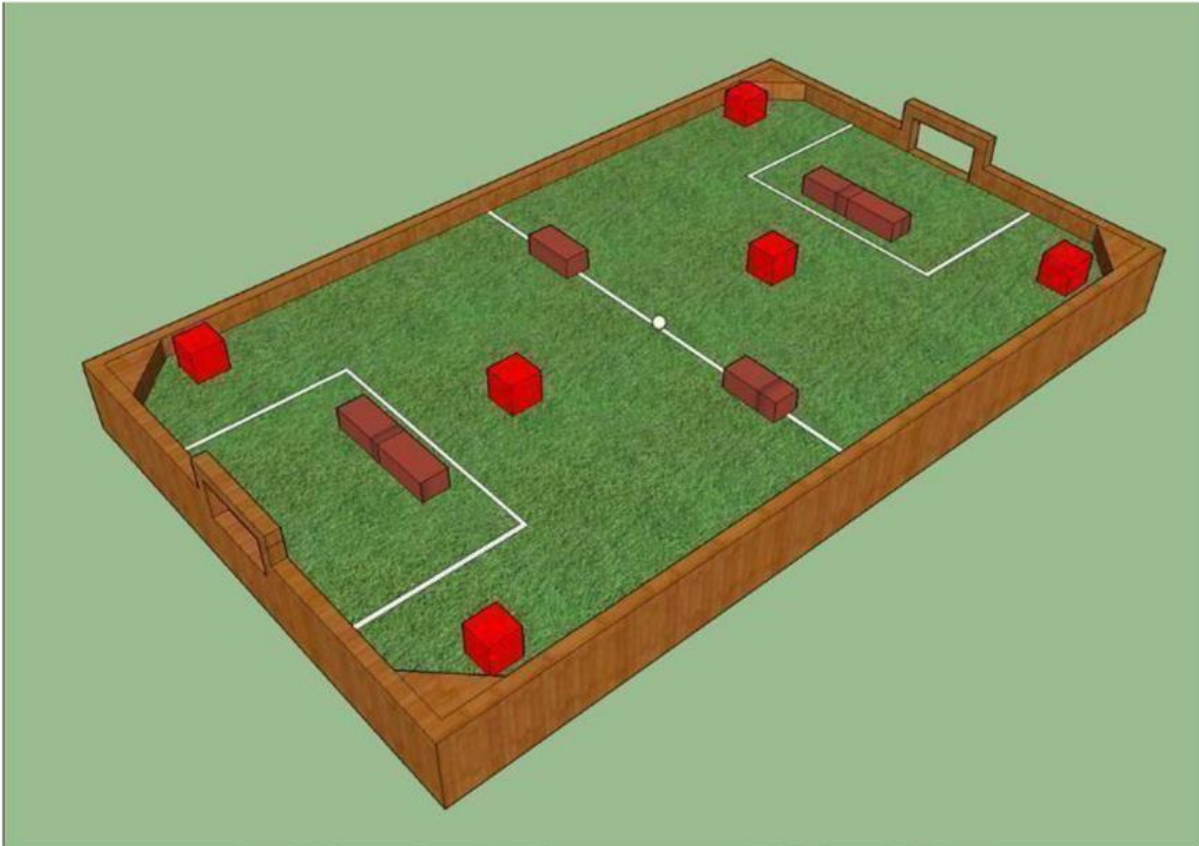
- The arena will be in the form of a rectangle having dimension 3 m (length) and 1.8 m (width) approximately.

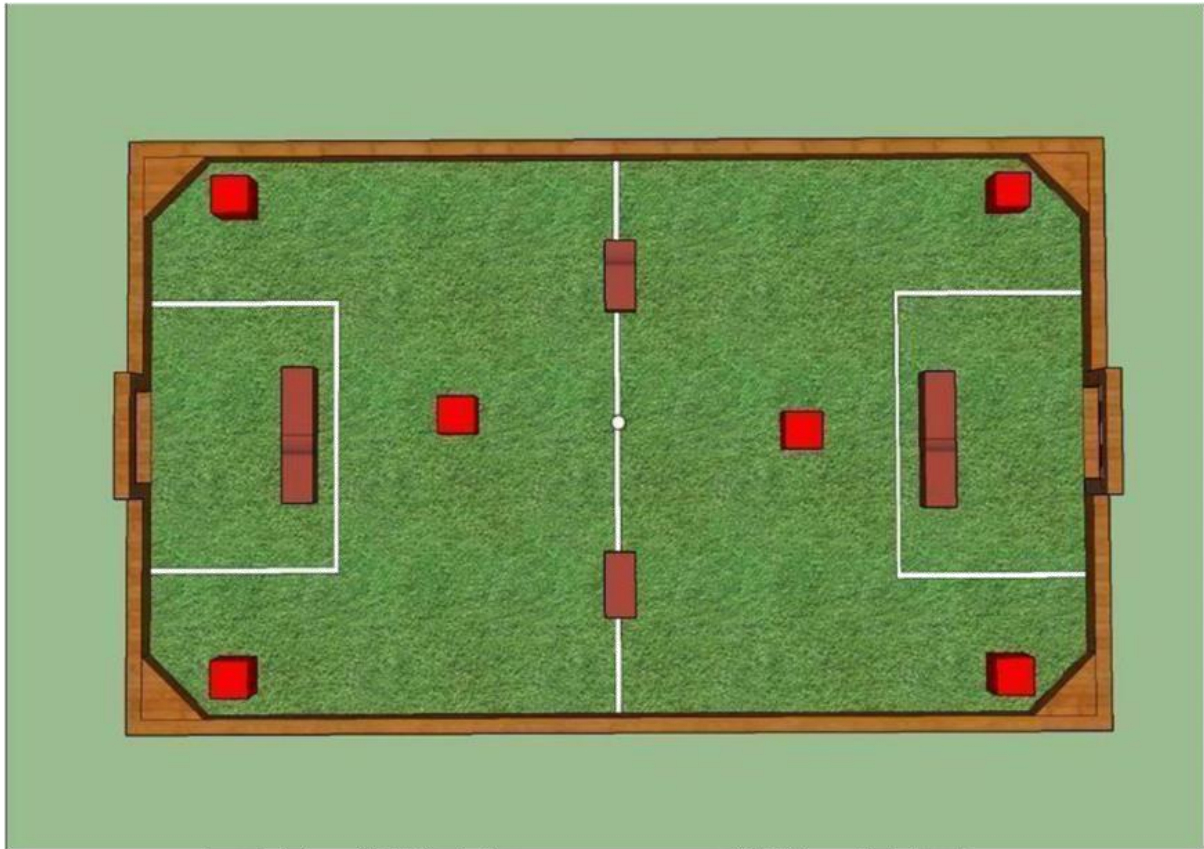
- The goal post will be of length around 30 cm each.

- Standard golf ball or Plastic Golf Ball will be used having a maximum weight of 45.9 gm and a diameter of 42.7cm.



Preliminary Round Track Pictures:-





Final Round Track Pictures :-



Scoring:



○ For PRELIMINARY ROUND:

SCORE = 1000 + 50 * (Number of goals scored) – 50 * (Number of RESETS taken) – 10 * (Number of times the square obstacles are hit) – 20 * (Number of times the rectangular obstacles are hit) – 1 * (Number of extra seconds taken after a given time out)

○ For FINAL ROUND:

It will be a 1 vs 1 match and the one who scores the maximum number of goals will win the match and proceed to the next round.

PS: Rules are subject to change without prior information. The decision of the event coordinators will be final in regards to all the issues pertaining to the event.



EVENT COORDINATORS:

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