

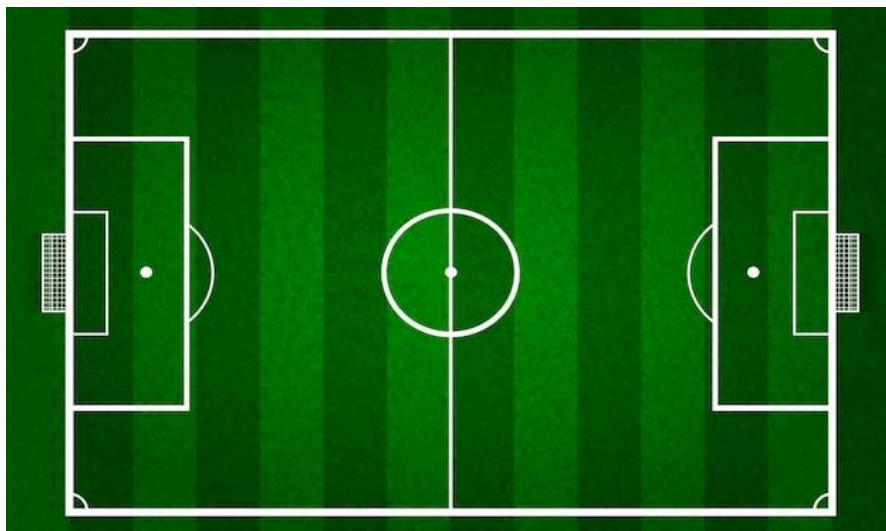
Event 1 - Robo Soccer

Location	Arena
Robo soccer	
Per team	10 minutes
Team Size	2 min – 4 max
Prize	Point based (in the case of ties, time based)
Jury	Internal

1. Event Overview

RoboSoccer, also known as Robot Soccer, is a cutting-edge robotics competition where autonomous or Manual robots compete against each other in a game of soccer. The primary objective of RoboSoccer is to develop and demonstrate autonomous or Manual robotic systems that can work together as a team to play soccer, showcasing advancements in robotics, artificial intelligence (AI), and computer vision.

2. **Arena** Size of the arena will be dependent on 30 length X 20 breadth in Feet's respectively in court will be given.



3. General Rules



SHETTY INSTITUTE OF TECHNOLOGY

Shahabad Road, Kalaburagi, Karnataka 585-105

- 1.) Each team can consist of 3 robots, of which one will be a substitute which will be allowed only when the main robots get damaged significantly. Substitution can be made after the referee allows it. Note- The Substitute bot is optional, but it is advisable. So, you can either bring 2 or 3 bots.
- 2.) A maximum of 4 members are allowed in the team. However, only the members are allowed inside the arena.
- 3.) All team members will be standing near the defending half and half of the neutral zone. No player from any team will be allowed to cross the attacking area.
- 4.) Bots should not damage the arena in any way.
- 5.) The referee's decision will be final and binding. Any argument with the technical committee and referee will lead to immediate disqualification.
- 6.) Any team member can control the bot. Also, the drivers may be changed to the same match.
- 7.) Teams can participate in other competitions being conducted at SITK alongside the Robo-soccer competition.
- 8.) Each team should contain one attacking bot and one defending bot, and the substitute bot can be replaced by either attacking one or defending one.
- 9.) The teams must bring all spare parts and tools. The organisers will provide no parts and space for repair or changes.
- 10.) All the matches will be of knock-out type, and the winning team moves to the next round.
- 11.) Bots are not supposed to capture/hold the balls.
- 12.) Bot committing fouls too frequently may get a red card.

4. Game Play

- 1.) The match will start with all the bots in their respective starting zones. (see figure).
- 2.) At the beginning of each half, the ball will be placed in the centre of the arena.
- 3.) Each team has to score goals to gain points.
- 4.) The team with the maximum points will win the match.
- 5.) In case of a foul, points will be deducted. (Fouls are described in the end).
- 6.) Bots are not supposed to capture/hold the balls.



SHETTY INSTITUTE OF TECHNOLOGY

Shahabad Road, Kalaburagi, Karnataka 585-105

- 7.) Once the time starts, the match will not be paused for any repairs.
- 8.) There will be a 2 min timeout between the two halve times.
- 9.) The total duration of a match will be 12 min (2 halves of 5 min + 2 min time-out).
- 10.) In case of a tie between 2 teams; the tie will be resolved by a golden goal (Described in the end).
- 11.) In case no team can score a goal in the given 5 min of golden goal, the tie will be resolved by a consecutive freekick (Described in the end).
- 12.) Defending bot can't stay in the goal zone (see figure) for more than 30 sec at a time.
- 13.) Bot committing fouls too frequently may get a red card, and no substitute will be allowed for the bot.
- 14.) Attacking Bot has to be placed in the "Attackers starting position" of the respective zone and defending bot should be in the "goal zone" in the beginning (see figure).
- 15.) Attacking bot is allowed to move in its attacking and neutral zone and is not allowed to enter the defensive zone. Similarly, defending bot can move in the defending zone, not in the neutral and attacking zone (see figure).
- 16.) If the ball gets out of the arena, and no offender can be decided by the judges, then the ball will be placed in the centre and all bots will be placed in their respective zones.
- 17.) When any team scores a goal, that team will earn 5 points, and the other team will get the ball, and the match will start with a goal kick (Described in the end).
- 18.) In case of system failure, if any bot fails to move, the team can pick out their bot without disturbing the other bots. However, the match will not be paused.
- 19.) The bot which was picked out will be placed in the respective starting zone and can be placed after one goal.
- 20.) Substitute bots will be used only with permission from the judges, and placing rules will be the same as above. Once the substitute bot has replaced the main bot then, it can't be placed again.
- 21.) If two of the three bots cannot play, the remaining bot will be allowed to play in the whole arena.
- 22.) If all the bots in a team are not working, the match will not be paused until the other team scores a goal. After this, the team will be given 5 minutes time to make repairs; if the team fails to get the bots in a working state, then one of these two things will happen:
 - a) If this happens in the first half, we move to the 2 min timeout, and the next half halves begins
 - b) If this type of failure happens in the second half, the other team will be awarded 25 points.



5. Fouls

- 1.) Any collision other than head-on can lead to damage.
- 2.) Bot enters the restricted zone for more than 5 seconds or enters intentionally.
- 3.) Defending bot stands in the goal zone for more than 30sec.

6. Bot Specifications

- 1.) Only wireless robots are allowed.
- 2.) Maximum bot size before the game starts must be 30 X 30 X 30 (dimensions in cm)
- 3.) Maximum weight of a robot can be 4kg each with controller and battery.
- 4.) Battery must be placed on the robot. 5.) The maximum voltage across any point in the bot must not exceed 12V.
- 6.) Out of three bots, one bot should be the attacker, and another one should be a defender.
- 7.) Substitutes can play any role. It will be allowed in the game if any of the bots get significant damage and the referee permits the replacement.
- 8.) The attacking and defending bots must be placed in their respective zones for each team at the beginning of the game (refer to the schematic of the arena).
- 9.) The design to stretch a robot's body or its parts may be allowed after a match has started, but it must remain a single centralised robot.
- 10.) Capturing the ball so that it becomes impossible for other teams to gain control of the ball will be considered a foul.
- 11.) Readymade bots are not allowed. General Information
 - 1.) The contest will occur during the Technova TECHNICALS at Shetty Institute Of Technology Kalaburagi.
 - 2.) Any changes in rules will be uploaded on the website.
 - 3.) The organisers have the right to modify any of the above rules without prior notice to the participants.
 - 4.) All the dimensions are subjected to minor tolerances.