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Time to Turn On the Tenacious Companion

ROBOTICA CHAMPIONS LEAGUE 2K23

Robotica

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CHAMPIONS
LEAGUE
2K23

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CHAMPIONS LEAGUE

2K23

Robotica

The STEM learning program enables the students to acquire collective intelligence and it empowers the masterminds of the future to take on challenging tasks along with building up technical skills in enlivening society. The Indian Public School endeavors to bring together young minds across the schools to enhance their creativity, robot design and inspire young people to acquire Industry 4.0 skills. We take pride in our flagship STEM Robotics program and invite the techno geeks to the ROBOTICA CHAMPIONS LEAGUE – 2K23 as a gateway to an unforgettable experience of exploring proficiency in Robotics. All events in this one of its kind league matches are an application of their classroom taught STEM curriculum in the field of Robotics & AI.

14/11/2022 Registration Opens	09/12/2022 Registration Closes	11/02/2023 ROBOTICA CHAMPIONS LEAGUE

VENUE

TIPS CBE MAIN

EVENT DETAILS

CHALLENGERS

CHAMPIONS

CONQUERORS

Grade	Grade III & IV	Grade V & VII	Grade VIII & IX
Team	4 Students/Team	4 Students/Team	4 Students/Team
Reg. Fee	20,000 INR / Team	20,000 INR / Team	20,000 INR / Team
Task	Sojourner(Manual) Solve the Patterns Robot Race	Sojourner (Semi autonomous) Robot Soccer Line Follower	Sojourner (autonomous) Robot Soccer Maze Solver

Robotica

REGISTRATION PROCESS

01 Logon

02 Fill the Form

03 Payment

04 Acknowledge

01 Logon to www.tipskovai.com and click **Robotica Champions league 2K23** to register for the competition

02 Fill the participation form with all the required details and make the online payment

03 Kindly share the payment proof to **robotica@tipsglobal.net** to confirm the registration

04 Only upon the receipt of payment details the registration will be confirmed and acknowledgement email will be sent

Robotics KITS

Within 10 days from the date of registration the kit materials will shipped to the respective school

Note: Practice materials and task mats will be provided at an additional cost of 10,000 per piece.

REGISTRATION FEE INCLUDES

Opportunity to compete with various school students across India.

Teams will be provided with one DIY robotics kit as take away

Winning team will be awarded shields and trophies.

**All Participants will be presented with a participation certificate.**

A good ambience for the competition TIPS Main campus

The teams will be provided with Lunch and Snacks

Awards are determined by a deliberation process by a panel of judges based on teams performance in each category

Rolling trophy will be given to the best performing school in all events

AWARDS

WINNER

RUNNER UP

SECOND RUNNER UP

ROBOT PERFORMANCE AWARD
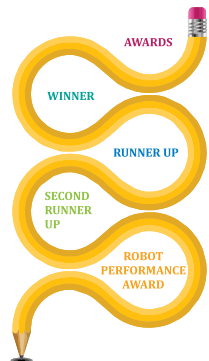
RULES OF PARTICIPATION

RULES

NO

- For any task the size of the robot should not exceed 30 cm x30 cm x30 cm.

- The teams must carry their kits provided during the registration. Outside Kits not permitted

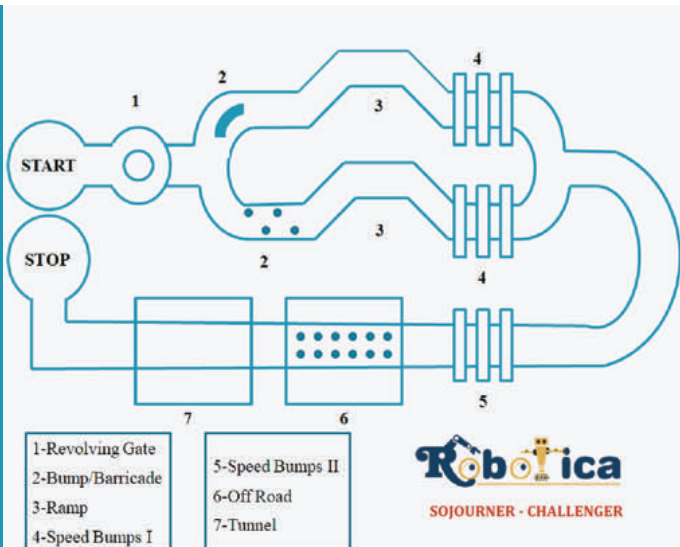- Late registration and unpaid registration are not permitted for competition.

YES

- A school may register multiple teams under each category & A team should have 4 participants.

- Each category will be having three games. The teams are eligible to participate in any one game under the category.

- The images of the track or maze below are only samples; the actual playfield setup will be shared with practice materials after payment.

CHALLENGERS

Game 1 Sojourner_Manual Rover

The robot must be constructed so that it can traverse a variety of surfaces without deviating from the path in the permitted period of time. A smart phone app will be used to control the wireless robot that the pupils will be using.


1-Revolving Gate
2-Bump/Barricade
3-Ramp
4-Speed Bumps I
5-Speed Bumps II
6-Off Road
7-Tunnel

SOJOURNER - CHALLENGER

GAME RULES

- The Participants will use a wireless Robot, controlled by a mobile application.
- The match starts on the track on monitor's command and in case of false start by the team a penalty of 10 points will be awarded to that team. The team will be disqualified for continuous three false starts.
- The league race will have 3 rounds and the bot has to be run by one participant at each round (Other members can be the navigators).
- For the successful clearance of all the checkpoints, the team will be awarded with the scores with respect to the complexity of checkpoints.
- The participants should complete the task within the duration of 150 seconds and the maximum score of 100 points will be awarded for the successful completion.
- If knocked off at any point within the track, the bot can continue from the knocked
- point to the destination, with the penalty of 20 points.
- The Robot should not deviate from the track at any point of time. In case of any
- deviations, negative scoring of 10 will be awarded to the team.

Game 2 Solve The Patterns

Decipher the pattern by running the robot inside the field marked with boundaries within the given stipulated time.
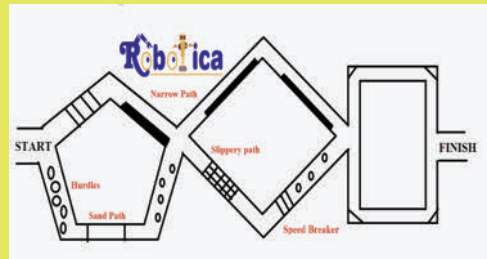
GAME RULES

- Robots are not allowed to have any other components other than registration
- packages.
- The match starts on the structure on monitor's command and continues for 150
- seconds for each team to complete the track which consist of a different structure.
- The Robot should not be touched by the teams while running. If touched, negative
- scoring of 20 points will be awarded to the team.
- The Robot should not deviate from the structure at any point of time. In case of any
- deviations, negative scoring of 10 points will be awarded to the team.

Game 3 Robot Race

To successfully compete against the opposition and finish the race without collapsing along the way, the robot must be correctly engineered. Students will use a wireless robot that is managed by a smartphone app. Find the fastest time for your bot to complete the race.
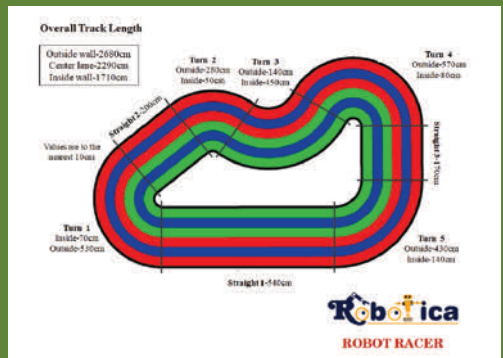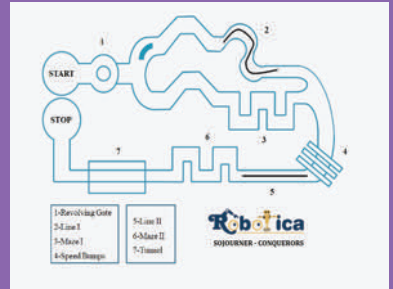

GAME RULES

- A team of 4 members can participate in the game.
- The bot gets a penalty of 10 points, in case of false starts before the command. The team will be disqualified for continuous three false starts.
- If knocked off at any point within the track, the bot can continue from the knocked point to the destination, with a penalty of 15 points.
- The league race will have 3 rounds and the bot has to be run by one participant at each round(Other members can be the navigators).
- The Robot should not deviate from the track at any point of time. In case of any deviations, negative scoring of 10 points will be awarded to the team.
- The Robot should not touch or knock off another participant's robot. Incase of such an event, the team will be penalized with a negative of 20 points. And also the team will be disqualified for three such warnings.
- The cumulative time period will be taken at the end of 3 rounds and the team completed within the short time period will be qualified for the finals.

CONQUERORS

Game 1 Sojourner Semi Autonomous Rover

The robot must be constructed so that it can traverse a variety of surfaces within the specified time without tumbling. Participants will employ a wireless robot that can travel a certain distance under the control of a smartphone application. The robot will enter automated mode once it reaches a checkpoint.
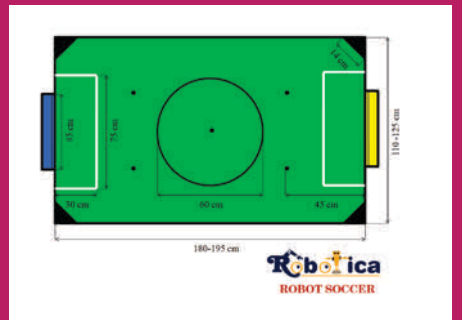

GAME RULES

- The Participants can use a wireless(MOBILE) remote to control the Robot from the start point.
- When the robot reaches the checkpoint, the robot should enter into autonomous mode and the participant should take off their hand from the remote.
- The match starts on the track on monitor's command and in case of false start by the team a penalty of 10 points will be awarded to that team. The team will be disqualified for continuous three false starts.
- The check point on the track will be line follower and obstacle avoider.
- The league race will have 3 rounds and the bot has to be run by one participant at
- each round (Other members can be the navigators).

Game 2 ROBOT SOCCER

Two robots (1 per team) can traverse the whole arena irrespective of the sides. The robot should be able to score goals by putting the ball into the goal post or defending the incoming ball. Team scoring the most goals will be declared winner for the game.
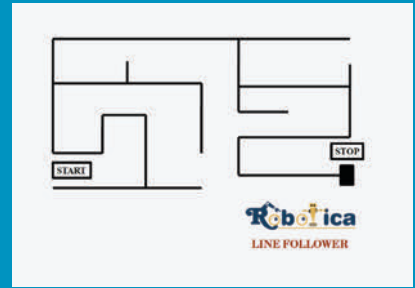

GAME RULES

- The teams will get 4 minutes of playtime divided into 2 halves (2min each)
- Soccer Challenge begins with the league matches. The selected teams will be qualified for Semi-finals and Finals.
- The overall game progress will be monitored by the professional soccer coaches.
- The opponent will be selected based on the lot system
- Game time: 2min + 1min break + 2min
- After halftime, the teams will change sides to promote fair play.
- If the teams fail to hit the goal within the given time period, 2 minutes of extra time will be given.
- Even if the teams fail to hit the goal within the extra time, 5 penalty kicks will be provided for each team.
- Intentionally damaging the arena or opponent's robot the team will receive a yellow card, if the team repeats the same, the respective team will be disqualified.

Game 3 LINE FOLLOWER

Design, build and program a line follower which follows a black line on a white background on a defined path controlled by a set of instructions on the allocated time limit.
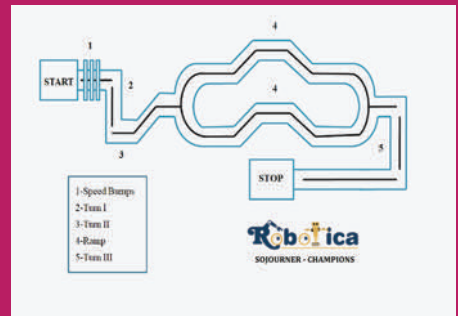

GAME RULES

• Robot is not allowed to have any other components other than the parts included in registration package.
• The match starts on the structure on monitor's command and continues 2 minutes for each team to complete the track by following the Black line.
• Each team will have to run the Bot for 2 runs.
• Robot is allowed to use any external sensors to assist it in the track.
• The Robot should not be touched by the teams while running.
• The Robot should not deviate from the track at any point of time. In case of any deviations, negative scoring will be awarded to the team.

CHAMPIONS

Game 1 Sojourner Autonomous Rover

The design of an autonomous robot must allow it to go across various surfaces and through the maze automatically without falling over. Once the robot is switched ON at the maze's beginning, participants are not to touch it.
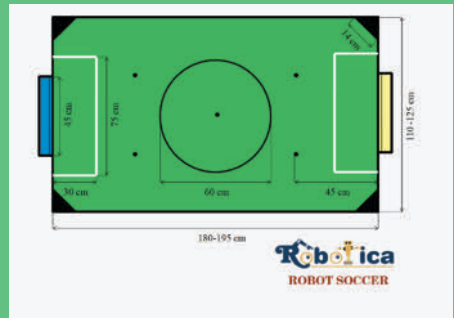

GAME RULES

• The check point on the track will be line follower and obstacle avoider.
• The league race will have 3 rounds and the bot has to be run by one participant at each round (Other members can be the navigators).
• For the successful clearance of all the checkpoints, the team will be awarded with the scores with respect to the complexity of checkpoints.
• The participants should complete the task within the duration of 150 seconds and the maximum score of 100 points will be awarded for the successful completion.
• If knocked off at any point within the track, the bot can continue from the knocked point to the destination, with the penalty of 20 points.
• The Robot should not deviate from the track at any point of time. In case of any deviations, negative scoring of 10 will be awarded to the team

Game 2 ROBOT SOCCER

Two robots (1 per team) can traverse the whole arena irrespective of the sides. The robot should be able to score goals by putting the ball into the goal post or defending the incoming ball. Team scoring the most goals will be declared winner for the game.
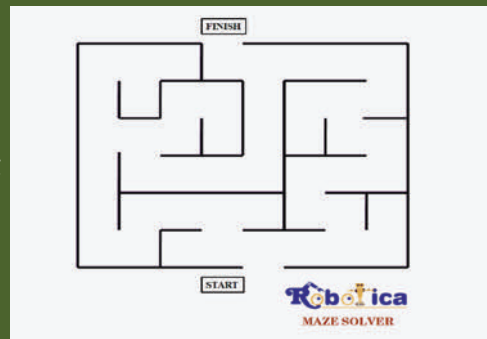

GAME RULES

- The teams will get 4 minutes of playtime divided into 2 halves (2min each)
- Soccer Challenge begins with the league matches. The selected teams will be qualified for Semi-finals and Finals.
- The overall game progress will be monitored by the professional soccer coaches.
- The opponent will be selected based on the lot system
- Game time: 2min + 1min break + 2min
- After halftime, the teams will change sides to promote fair play.
- If the teams fail to hit the goal within the given time period, 2 minutes of extra time will be given.
- Even if the teams fail to hit the goal within the extra time, 5 penalty kicks will be provided for each team.
- Intentionally damaging the arena or opponent's robot the team will receive a yellow card, if the team repeats the same, the respective team will be disqualified.

Game 3 MAZE SOLVER – WALL MAZE

Design, build and program a robot that can travel around the wall maze without toppling the walls. Get your bot run through the maze before the clock runs out of time.

GAME RULES

- Robot is not allowed to have any other components other than registration package.
- The match starts on the structure on monitor's command and continues for 2 minutes for each team to complete the maze which consists of walls.
- Robot is allowed to use any external sensors to assist it in the maze.
- The robot should not hit the wall. In case of any deviations, negative scoring of 10 points will be awarded to the team.

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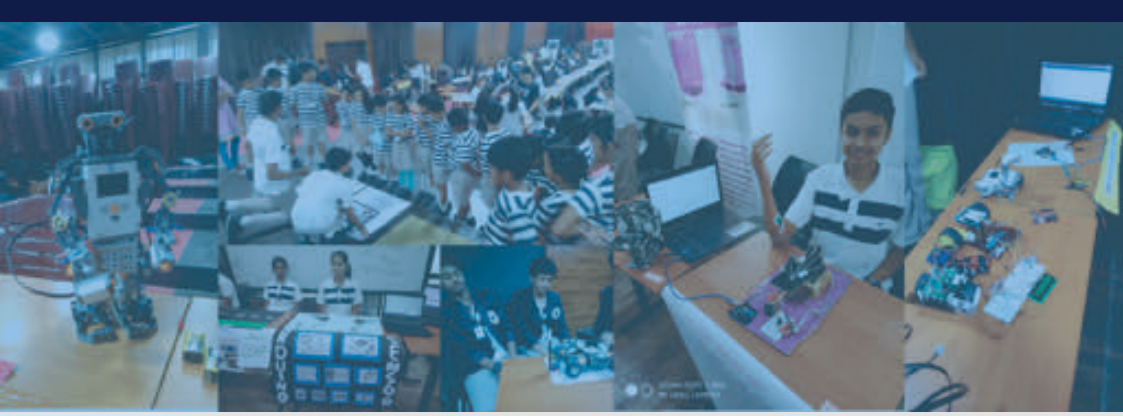
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