



MARINODRIFT

“Run Float Win “

Event category: Manual Robotics (Amphibian)

Problem Statement:

Build terrestrial bot that is capable of traversing the arena and pushing/picking the blocks and an aquatic robot capable of placing the floating blocks/balls in water.

General Rules:

- A minimum of 3 members and a maximum of 4 members are allowed per team.
- The members must bring IDENTITY CARDS of the college.
- No person should be a member of two teams.
- No bot can be shared by two teams.
- The participants will be provided with 220 Volts, 50 Hz standard AC supply.
- Participants will have to themselves arrange for any other power supply required for their robot.
- Teams cannot tinker with their bots during the run.
- LEGO kits or its spare parts or pre-made mechanical parts are not allowed.
- Any kind of damage to the arena by the robot will lead to direct disqualification.
- Any act of misbehavior or misconduct will lead to immediate disqualification of the team
- The decision of the co-ordinators will be final and binding.

****The rules are subject to change.**

Event Rules:

Each team should have both terrestrial robot and an aquatic robot to participate in this event.

Round 1:

In this round every team will be given a puzzle, every team will have to solve the puzzle and perform the given task in minimum time.

- The terrestrial robot will have to find and place the respective blocks containing the digits of the answer at their specific location.
- The terrestrial robots can use either picking or pushing mechanism for placing the blocks.
- A total of 4 minutes will be provided for the terrestrial bot to place the blocks at their correct position.
- After having placed the blocks, the aquatic robot will have to place the floating blocks at their correct positions.
- A total of 3 minutes will be provided for the aquatic robot to place the blocks at their correct position.
- Placing each block at their correct position will fetch each team positive marks and the time remaining (in seconds) will be added as bonus to the final score.
- Each team is allowed a single restart in which negative points will be given to the team and they can begin their again resetting the timer.
- In case if the teams find their robots stuck at some position they can take hand touch. In such a case the bot will be placed in a position (by the co-ordinator) where it can move freely and negative points will be given on each Hand touch.
- Each team will be provided with only 1 technical time-out of 3 minutes during which they can repair their robots.
- Teams scoring the maximum points will proceed to the next round.

Round 2:

- It will be a knockout round.
- Two teams will compete against each other. The task will be similar to the task in round 1 with slight modifications which will be disclosed during the event.
- The first team to complete the task will win and qualify for the third round while the other team will get eliminated from the competition.

Round 3:

- This will be a time trial round.
- The total time taken (in seconds) to complete the task will be the final score of the team.
- The task will be similar to that of round 1 with slight modifications which will be disclosed during the event.
- The winners will be declared on the basis of final score.

Robot Specifications:

- Maximum allowable dimension for the terrestrial bot will be 25cm x 25cm x 25cm with a tolerance of 10%.
- Maximum allowable dimension for the aquatic bot will be 25cm x 25cm x 25cm with a tolerance of 10%.
- The weight of the robot should not exceed 2 kg.
- The robot can be powered on-board or off-board.
- The potential difference between any two electrical points on the robot must not exceed 22 volts throughout the run.

Scoring:

Round 1:

- Placing each block at its correct position: +100 points
- Completely placing all blocks: +100 points
- Restart: -200 points
- Hand-touch: -20 points
- Time remaining Bonus (terrestrial): Time remaining (in seconds) points
- Time remaining Bonus (aquatic): Time remaining (in seconds) *2 points
- Final score: Summation of the above scores.

Round 2:

There will be no score calculation as it is a knockout round

Round 3:

Final score = Total time taken to complete the tasks (terrestrial and aquatic).

****The scoring patterns are liable to change.**

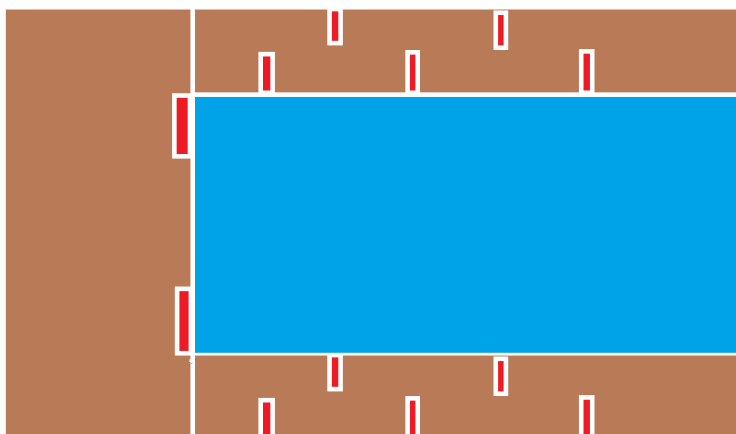
Arena Schematic:



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-  Land
-  Obstracle
-  Water



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