

# PIRATES

Make a wired/wireless which can float on water and can perform pick-n-place task ...Like manipulating cubes and balls.....

## Arena Specifications:

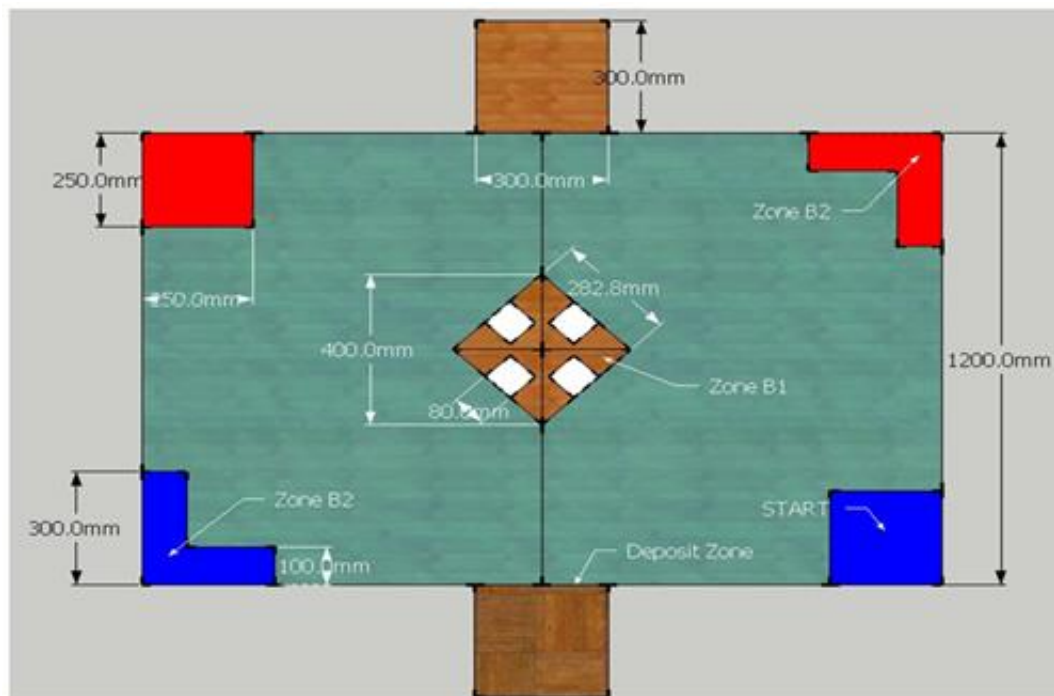
The arena consists of two zones:

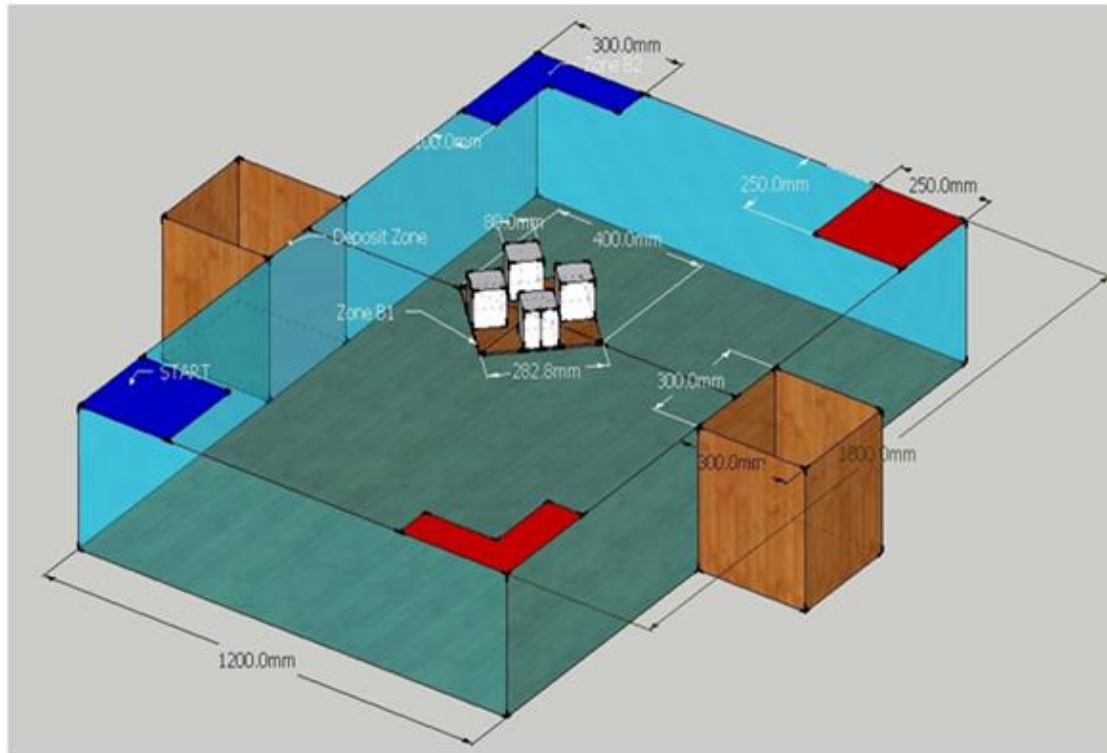
A: Deposit zone: This zone is specific to each team, in which they have to store their treasure.

B: Treasure zone: This zone is further divided into two zone i.e.

B1: This is the common treasure zone from where both teams can collect the treasure. This zone is a floating in the center platform as a ship.

B2: This treasure zone is specific for each team from where they can collect their treasure without the intervention of another team. This zone is the fixed surface just above the water level at the opposite side of the participant's start zone indicated by the respective color.





## Arena Dimensions:

1. The size of arena is 1800mm X 1200mm, completely filled with water.
2. The height of arena is more than the 300 mm.
3. There are two start zones for each team at diagonally opposite corners indicated by RED and BLUE color.
4. The zone B1 will have four (4) cubes as a common treasure and B2 will have 5 cubes as treasure with color respective to the team.
5. The size of Deposit zone is 300mm X 300 mm. This is exactly at the center of the participant's start zone and the zone B2 corresponding to the participant.
6. The size of cubes is of size (80mm X 80mm X 80mm). The colour of cubes at common zone is white and the cubes at fixed zone B2 are of the same color as that of the starting zone.



## Bot specifications:

### 1) Dimensions and Fabrication:

1. The machine must fit within an area of dimensions 250mm X 250mm X 250mm at the beginning of the game.
2. The external remote control is not included in this size constraint.
3. The onboard power on the machine must fit within the aforementioned box.
4. During the game, the machine cannot detach itself into multiple parts nor damage the arena in any way. The judges hold the right to subjectively determine if the machine violates this clause.
5. The machine cannot be constructed using readymade Lego kits or any readymade mechanism. But you can make use of readymade gear assemblies. Violating this clause will lead to the disqualification of the machine.
6. The bot shouldn't sink at any point of time. This malfunction will lead to immediate disqualification.

### 2) Power Supply and Propulsion:

1. In case of using electric energy for propulsion and drive, the potential difference between any two points of the machine should not exceed 24 Volts, at any time.
2. Use of air compressors is not allowed. However, the power supply must be non-polluting and must satisfy the safety constraints determined by the judges.
3. In case the machine is using a non-electric power supply, kindly get it approved from the organizers beforehand via email. Organizers are not responsible for inconvenience if approval is not sought.

### 3) Controls:

1. The machine can be both wired as well as wireless. However, those bringing a wireless machine will be given extra points on completing the task at least once, but this point is considered only for the best design category.

2. The participants building a wireless machine have to bring 2 remote controls of distinct frequencies or a dual-frequency remote control, which can be switched to either frequency just before the start of the run. This is done to avoid frequency interference with competing machines.
3. The controller for the single bot is not allowed.
4. Wired bots should have the wire of length greater enough to cover the entire arena and the wire should remain slack during the complete run.

## Gameplay:

### 1) Game Procedure:

1. The participant will be given a time limit of 3 minutes for the entire game.
2. The time will begin when the machine begins its run for the first time from the starting zone.
3. The game will start from the starting zone.
4. They have to collect the treasure from the zone B1 and B2 to score maximum points.
5. Teams are allowed to collect the cubes from the water if they are dropped in water.
6. In allotted time if both of the teams are unable to score then both will be disqualified.

### 2) Rounds:

There will be two rounds for the competition.

#### 1) Round 1

- i) Round 1 will be the qualifying round in which the team must be able to score to qualify. This will be of 2 minutes.
- ii) In this Round, only the treasure of zone B2 is present in the arena.

#### 2) Round 2

- i) Round 2 will be the knockout round; it will proceed in the format specified above.
- ii) The winners will be advanced to the further rounds.
- iii) In round 2 all the treasure zones are available.



### 3) Scoring and Penalty:

1. The treasure at zone B1 will carry 40 points for each cube.
2. The treasure at zone B2 will carry 50 points for each cube.
3. If any team drops the cube in the water the 20 points will be deducted from their total.

### General Rules:

1. The teams must adhere to the spirit of healthy competition. The teams must not damage the opponent's machine in any way. Judges reserve the right to disqualify any team indulging in misbehavior.
2. The mechanism used cannot be changed completely during the competition. Only parts can be replaced in case of repair.
3. Any team that is not ready at the time specified will be disqualified from the competition automatically.
4. The machine would be checked for its safety before the race and would be discarded if found unsafe for other teams and spectators.
5. The decision of the judges shall be treated as final and binding on all.
6. A team must consist of 3 or less participants.
7. Students from different educational institutes can form a team.
8. All students with a valid identity card of their respective educational institutes are eligible to participate in the event.

### Judging criteria:

1. The team who score maximum points in 4 minutes will be the winner of that knockout round.
2. If at any moment score of any team exceeds 350 then it will be the winner.
3. In case of TIE, teams will be given extra time, during which the team who scores first will be the winner of that round.
4. Certificate of Excellence will be awarded to all winners (only first and second).
5. Certificates of Participation will be given to all the teams who have qualified.
6. Disqualified teams will not be considered for any certificates.