

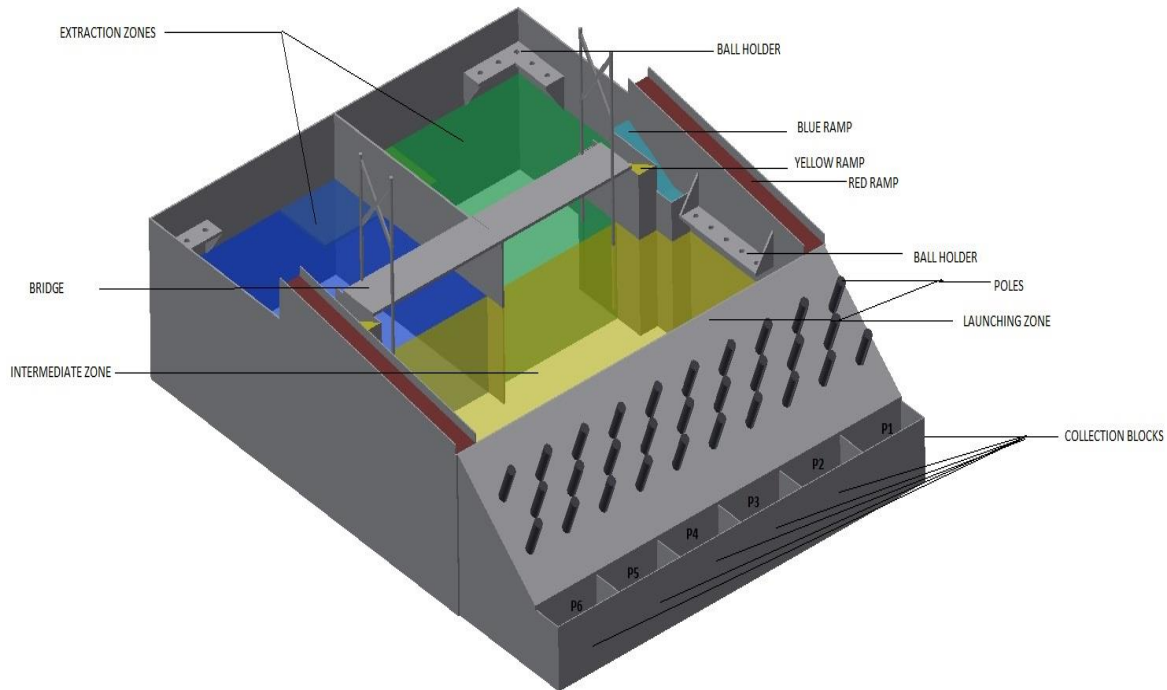
# ROBO – OCEANA 2015

## 1.INTRODUCTION:

Get ready for the dash as you compete with your opponent as you move back and forth between zones separated by the indestructible bridge. Time and tide waits for none. So does the bridge opening! Show off your precision and speed as you try to make it to the other side before the bridge closes to connect the raging traffic on both sides.

Is it over?? Not until you have dropped your cargo at your site. Waiting on the other side is a maze filled with rewards that can take you to victory. Read on.. if you here the spirit of the sea-rider in you calling...





## 2.ARENA DESCRIPTION:

2.1 The arena is a water pool of dimension 2m x 2m joined to a slanting maze with poles placed spaced equally in it.

2.2 The water pool is divided into extraction zone and intermediate zone. The extraction zone is further divided into two areas for the two teams competing at a time. The slanting maze is called the launching zone.

2.3 Balls are placed in both extraction zone and intermediate zone. Balls have different colours according to their position so as to avoid confusion between teams.

2.4 There are 3 ramps: Yellow ramp sloping from intermediate zone to extraction zone, blue ramp sloping from extraction zone to intermediate zone, red ramp sloping from extraction zone to launching zone.

2.5 At the end of the launching zone there are collection blocks P1-P6 to collect the balls dropped from the launching zone.

2.6 The balls are light weight tennis ball with diameter of 67mm and weigh 60 grams.

### 3. MISSION:

To score more than your opponent to prove your worth as a SEARIDER!

- 3.1 Each team has to build a manual robot for completing the given tasks.
- 3.2 The robot should start from the starting point in Extraction Zone and collect the ball.
- 3.3 The robot should carry the ball to drop in **BLUE** ramp.
- 3.4 The bridge will be open as soon as the ball is dropped and will be closed as the robot crosses the bridge.
- 3.5 Pass through the bridge collect the ball and drop in Launching Zone. The ball should not be thrown from the launching zone but should be merely dropped.
- 3.6 Collect another ball from the intermediate zone drop it in **YELLOW** ramp and cross through the bridge.
- 3.7 Collect this ball and drop it in the **RED** ramp leading the ball directly to the launching zone.
- 3.8 The balls dropped from the launching zone will be collected in one of the six blocks carrying different points as will be mentioned ahead.
- 3.9 In the end, the team with the highest points win

### 5. SCORING

#### 5.1 EXTRACTION ZONE

Task completed	Points
Crossing through the bridge	5
Dropping the ball in the <b>BLUE</b> ramp	5

#### 5.2 INTERMEDIATE ZONE

Dropping the ball in the <b>YELLOW</b> ramp	10
Crossing through the bridge	5
Dropping the ball in the <b>RED</b> ramp	15

### 5.3 LAUNCHING ZONE

	Team GREEN	Team BLUE
P1	15	10
P2	25	30
P3	15	10
P4	10	15
P5	30	25
P6	10	15

### 6.VIOLATIONS:

- 6.1 Robots are not allowed to cross over the rope dividing the arena.
- 6.2 The operator should not enter into the arena without the permission of the coordinator.
- 6.3 Operator should not disturb the arrangement of the ball in both the zones.
- 6.4 Operator should not touch robot other than at the time of re-entry.
- 6.5 For every violation the team shall have to take a reset from the last checkpoint.

### 7.PENALTIES:

- 7.1 As stability of a Ro-boat is primary concern - Any robot which overturns or capsizes during the game will attract a penalty of 50 points per capsize to the concerned team.
- 7.2 Any damage to arena will lead to disqualification.

TASKS	POINT PENALTY
Delay in launching for every minute	5
Dropping of ball in any other ramps	5
Capsizing of the robot (per capsize)	50

**NOTE:** Penalties will be given by coordinators and coordinator's decision will be final.

## 8. ROBOT SPECIFICATIONS:

- 8.1. Each team can use only one manual robot.
- 8.2. Maximum allowable weights of the robot is 5kg.
- 8.3. The dimensions of the robot at the start of the game are **400mmX300mm( Length X Breadth)**.
- 8.4. The robot can extend after the start of the match.
- 8.5. The robot should not have ready made parts, failing which leads to disqualification.
- 8.6. The robot which is operated by means of cable should be more than 3m in length.
- 8.7. The manual robot can be powered with eliminator or a DC battery. The maximum voltage should not exceed 12V between any two points.
- 8.8. Hydraulics or chemical energy should not be used for any mechanism.
- 8.9. Batteries used need to be attached to the controller box, placing them on the robot will not be allowed.

## 9. RULES AND REGULATIONS

- 9.1 Each trial last for 4 minutes.
- 9.2 At the end of 7 minutes game will be ended by a blow of whistle, 2 minutes shall be provided for setting up of robot before the match.
- 9.3 The robot should not cross its boundary.
- 9.4 Only one member is allowed to control the robot.
- 9.5 The robot has to be placed in their respective starting zones at the beginning of the match.
- 9.6 A robot cannot split into two or more subparts. Subpart implies a robot which has a drive mechanism of its own.
- 9.7 The operator is allowed to touch the robot only during a retry and before the match starts.
- 9.8 The wire of the controller should always be slack. Controlling the robot by pulling the wire will lead to disqualification.
- 9.9 All the statements written in this Problem Statement form the official framework of the rules to be followed by teams. Violation of any statement in the Problem Statement may lead to disqualification.
- 9.10 Damage to the arena is unacceptable and will lead to instant disqualification.
- 9.11 The robot cannot exceeding the weight constraints shall be disqualification.

9.12 Referees have all rights to ask the teams to produce the additional explanations on design issues. Also the referees can ask for additional explanation on the safety of the bots if required anytime during the event.

9.13 Retry can be opted at any time in the match. This retry can be opted for any number of times as necessary without any penalty. If retry is opted when the bot is in intermediate zone, the area near launching zone will serve as a checkpoint from which they can resume. If the retry is opted from extraction zone then the initial starting point of the bot will be the checkpoint.

9.14 If the reset in the Extraction Zone it should start from the starting point and if it reset in the Intermediate Zone it should start near the ball holder.

9.15 Retry should be taken only after informing the referee. Mechanism on the robot cannot be changed during the course of the match. And the permission of the referee is mandatory in case the change is absolutely necessary for the robot to move.

9.16 Waves may be added in stages like semis and final to increase the difficulty.

## **11. CAVEAT:**

11.1 Game field dimensions are subject to a tolerance of  $\pm 5\%$ . No tolerance will be given in case of maximum robot dimensions.

11.2 The authenticity of any action not provided in this rule book shall be subject to discretion of referee.

11.3 Any addition or correction to this rule book will be updated in the site.

11.4 Mail your queries to [robooceana@shaastra.org](mailto:robooceana@shaastra.org). Please mention your Name, College and Contact number in all your mails.

11.5 Also refer the FAQ section on the website for some of the further clarifications.

**NOTE: All decisions by the coordinators are final and binding.**

Problem Statement, Rules and Scoring may change and all changes shall be reflected in the Sha Astra website.

And hence, the teams are responsible for keeping themselves well informed about the event. Keep visiting the website [www.shaastra.org](http://www.shaastra.org) for updates regarding the event.

For any queries please mail [robooceana@shaastra.org](mailto:robooceana@shaastra.org) with the subject as "Query:<query-topic>"