

# PROTEUS

## General Rules

- Participants must carry valid ID cards of their respective college, which must be produced at the time of registration.
- Maximum number of participants per team is four.
- Readymade kits are not allowed.
- Each team is allowed to participate with not more than one bot.
- Judges decision will be final and binding.

## Event Rules

- There shall be one qualifying round.
- The qualifying round is to test the maneuverability and the water shooting capacity of the bot.
- The top 8 will qualify for the final round.
- Teams will be provided with external 230V AC supply.
- Teams must ensure that all mechanisms employed within the bot must not destroy the arena in any manner.
- Any modifications on the bot must be made between the trials. Provision to make modifications during a trial is not permitted.

## Bot Specifications

- Bots may be wired or wireless.
- Controlling wires (if any) should not be taut at any point during the trial.
- The bot has to fit in a box of dimensions 30\*30\*30 cm<sup>3</sup>
- The width of the flume is 72cm. There are no other dimensional restrictions on the width or length. Keep in mind the functional requirements of the bot.
- No restriction on weight of bot.
- The potential difference between any two points on the bot must not exceed 12V.
- Electrical components must be adequately insulated to prevent any complications that could arise because of it coming in contact with water.

## Event format

- **Round 1**

The bot has to start from point A and travel along the length of the tank to point B. At point B, the bot has to take a turn and then reach point C. The time taken to reach here is noted as  $t_1$ . At point C, it is required to shoot a jet of water to achieve maximum range (R). Look at the figure below for reference.

- **Round 2**

The participants are supposed to aim and shoot maximum of the three targets placed at gradually increasing heights at different distances. The details of the targets are shown below. The maximum time allotted to each team is 6 minutes. If all the targets are destroyed, the time remaining is also taken into account for the scoring system. The targets have to be destroyed in the following sequence- A –B - C

## **Scoring**

Time taken in round 1 =  $t_1$

Time taken for destroying target 1 =  $t_2$  (seconds)

Time taken for destroying target 2 =  $t_3$  (seconds)

Time taken for destroying target 3 =  $t_4$  (seconds)

$T_4$  will be calculated only after all three targets have been brought down.

Time remaining after all the targets have been destroyed =  $t_5$  (seconds)

Range of the jet in round 1 =  $R$  (cm)

#### FIRST ROUND EVALUATION:

$S_1 =$

Based on  $S_1$  , top eight teams are qualified for the next round and awarded points from 40 to 5 (40, 35, 30 .. and so on). These points are carried forward for the final score.

Final Score,  $S = +$  (Points carried forward from the first round)