

Introduction

Speed is what defines excitement. Speed is what defines adventure. And it is much more than the time derivative of distance. Let the synapse run faster in your neurons to construct the fastest water machine.

Aqua Rush-the motorboat mania is a mechanical event in which teams design and run their motorboats in a small pool or a water arena. It gives all those inquisitive minds a chance to think and innovate of ways in which the given challenges are to be completed. The basic function of the motorboat is to complete a full run of the track while adhering to all the rules of the competition. The motorboats which break any rule or don't finish the run in specified time will be disqualified. The contest will take place in two phases:

Event Description

First phase: Gathering the troops

- In this phase, all the teams will be required to complete a full run of a track.
- The time taken by the motorboats completing the run successfully will be recorded.
- Bonus points will be awarded for completing specified track in a given time.
- 6 teams will be selected based on the points scored during their run. The selected teams would be eligible to participate in the second phase of the contest.

Second phase: Tussle for treasure

- In this phase, all the teams will be required to complete a full run of the given track.
- The time taken by the motorboats completing the run successfully will be recorded.
- Bonus points will be given for clearing a specified distance(including hurdles) within the specified time limit (to be decided on the spot).
- The team which collects the maximum points while abiding to the rules will be declared as winner. The first runner up and second runner up will also be decided on a similar basis.

Problem Statement

- Make a manually controlled (wired or wireless) water bot which completes the water race track in minimum possible time.

General Rules

- The teams must adhere to the spirit of healthy competition.
- Any team that is not ready at the time specified will be disqualified from the competition automatically.
- The organizers reserve all rights to change any of the above rules as they deem fit. Change in rules, if any will be highlighted on the website.
- In case of any discrepancy decision of the judges shall be treated as final and binding on all.

Eligibility

All students with a valid identity card of their respective educational institutes are eligible to participate.

Team Criteria

A maximum of three members are allowed in a team. Students from different educational institutes are allowed to make a team.

Rules & Regulations:

Motorboat specifications:

- The motorboat's dimensions must be so that it fits in a cubical box of dimensions 30cm x30cm x30cm.
- There is no constraint on the maximum weight of the boat.
- The motorboat must adhere to these dimensions in its most compact form. Once the motorboat has cleared the specifications test it may expand to any size or configuration in the water arena provided that such reconfiguration is done automatically and it does not damage the arena or violate any other contest rule.
- The motorboat may only be powered by the following, either singly or in any combination: Batteries, photovoltaic cells or fuel cells. The maximum power supply allowed is 24V DC.
- Motorboats may move by any self-contained motion system or systems that operate primarily in contact with the water. Any and all combinations of motion

systems are permitted. Flying, drowning in water, jumping or systems involving internal combustion or flames are expressly prohibited.

- The power system for the motorboat must be self-contained and carried entirely on-board. Attachments, if powered, may contain their own power source or may be powered from the motorboat. Power systems must be safe and non-toxic. Motorboats may not be attached to a power source separate from the machine.
- The motorboat should not damage or destroy the arena.
- The motorboat shall not leave/emit anything behind or pollute the water while moving in the water.
- The remote control systems being used to control the motorboat may be wireless as well as wired.

Points for Design:

- Teams will be questioned by the judges on the design of the MOTORBOAT. They may also be asked to demonstrate through short runs. Design of the motorboat will carry 100 points. Teams not adhering to the specified dimensions will be given a penalty of 25 points.
- A second trial could be allowed just to improve upon the score of first trial i.e. one is allowed to go for a second trial even if the first trial has been successful. But an addition of 15secs to the time taken during second run will be done. The decision of whether or not to allow a second trial shall rest with the organizers.

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