AQUANAUT

The event consists of two rounds. First one is eliminatory, second is the final round.

Round '1'-Range Test:

1. The maximum range covered by water rocket (without any payload) is tested.
2. The distance between the launch pad and the point of landing is measured and taken to be the points in this round.
3. Two trails will be given to each team and the better of the two will be considered.
4. The rocket can be multi-staged but the total volume of the pressure chamber should not exceed 1.5 liters.
5. The pressure inside the pressure chamber should not exceed 60 psi.
6. Only 40 percent of the participants appearing in first round will be qualifying into second round which depends upon the range covered.

Round '2'- Accuracy Test:

1. Three trails will be given to each team and the average of the three will be considered.
2. The pressure inside the pressure chamber should not exceed 60 psi.
3. Winner is decided on final points secured.

The following formula will be used for judging the winners of the event in the second round.

Total Points earned =
3*Range of projectile (in meters) -7*deviation from center line (in meters)

For example,
If range(A)=50; range(B)=57 and deviation(A)=5; deviation(B)=8. Both participants get the same score of 115.

Arena Specifications:

The event will take place in an arena of dimensions 100m*50m.

Limitations:

- Only plastic soft drink bottles are to be used as the rocket body. Fins if required are to be constructed from lightweight non-metallic materials
- The water rocket must only use compressed ambient atmospheric air as source of energy.
- Use of chemical explosives and electronic components are banned.
- The rocket must be launched from a stationary position using a fixed launcher. Slingshots, trebuchets, catapults, cannons, and all other forms of launcher boost assists are forbidden. In other words, the internal pressure of the rocket must be the only source of energy for the rocket.

Note:

- Launchers will not be provided by the organizers. Each team must have their own launchers.
- Pressure compressors (foot pump) and water shall be provided.

A team can get disqualified if:

1. Any rocket is found to be dangerous to launch by the organizers and judges.
2. Rocket blasts before the launch.
3. Rocket launches before indicated by the organizers.
4. Any part of the rocket breaks off from the rocket during the flight.
5. Any ready-made models are used.
6. Any design rule is not abided by the participant.

The organizer's reserve all rights to change any of the above rules as they deem fit.

Rules and Regulations:

1. A maximum of four members are allowed in a team.
2. There can be students from different institutions in a team.
3. The rocket must be built completely from scratch and not using any readymade rocketry parts.
4. Only PET bottles are to be used as the rocket body.

5. The water rocket must only use compressed ambient atmospheric air as source of energy.
6. Launchers will not be provided by the organizers. Each team must have their own launchers.
7. The rocket must be launched from a stationary position using a fixed launcher.
8. Extra time shall not be given for remaking of damaged rockets.
9. Changes in rules, if any, will be highlighted on the website. In case of any discrepancy, the decision of the judges shall be treated as final and binding.

Reference Links:

http://www.aircommandrockets.com/flying_higher.htm

http://www.sciencetoymaker.org/waterRocket/buildWaterRocketLauncher.htm

https://www.youtube.com/watch?v=1t663D_gErg

http://www.waterrocketmanual.com/how_they_work.htm

http://www.txsnapper.eezway.org/txsnapper/tips.html

http://www.npl.co.uk/upload/pdf/wr_booklet_print.pdf

If you have any further queries, please don't hesitate to contact organizers or mail to: techy@elan.org.in