



STEPCONE-2025
STANDARD OPERATING PROCEDURE

EVENT NAME: HYDROHIKE 2.0

DEPARTMENT NAME : Civil Engineering

EVENT TYPE : Flagship Event

EVENT DESCRIPTION:

A. TASK

Operating the remote-controlled Hovercraft using transmitter that have to run on the path that we provided and it has to travel through the water to accomplish the race. Certain rules and design requirements will be provided for that hovercraft.

B. DESIGN REQUIREMENTS

B.1. Design specifications:

- The type Hovercraft is “Radio controlled Hovercraft”.
- Hovercraft can be of any shape.
- The specification of the motors is limited: every participant need to adopt DC 360 motors in order to have equal competition.
- The battery range in the receiver should be either 9v or 12v.
- The Hovercraft can be made using the materials that allows the participants to make the race, materials are their wish.

B.2. Control features:

- The hovercraft can be controlled by using the mobile /remote controller.
- You can use any rechargeable battery with the respective features.

B.3 Dimensions:



- The size of the hovercraft should be the minimum length of 25cm and maximum of 40cm.
- The minimum width is 14cm and maximum of 26cm.
- The height of the hovercraft is not restricted but, the hovercraft should pass the tunnel /flyover.
- The hovercraft should float on the water at a depth of 0.4m.

EVENT GUIDELINES :

Round 1:

“Fastest Hovercraft first”

Round 1 will be confined to have two tracks where the hovercrafts have to compete without any disruptions among them. The hovercrafts have to be run on the land and as well as on the water surface too. The Hovercrafts are started at the same time and they will be qualified on the basis of the time they have taken to finish the race and without touching any barriers that we placed as side of the tracks.

Round 2:

In the round 2 it will be the same as like round 1, here in this round the hovercrafts that qualified in the round 1 will compete each other. The hovercrafts which will finish the race will be qualified for round 3.

Round 3:

“The Floating Objects”

Compared to the first two rounds that are conducted the 3rd round will be somewhat challenging for the participants. where the difficulties in paths of both in land track and waterway and the participants have to cross them and have to complete the race. The hovercraft which will complete it in less time and as per the guidelines will be the winner and next to winner who completes the race will be the runner.



Team Size/No of Participants: 8 Members

PLAN OF ACTION:

Day shift

Day 1 - 10:00 AM to 3 : 00 PM – 1st Rounds 2nd Round

Day 2 – 10 : 00 AM to 2 : 00 PM – 3rd Round

Judging Criteria:

Design Compliance (20 points)

- Adherence to specified dimensions and motor specifications (e.g., DC 360 motors, 9V or 12V battery).
- Conformance with materials and structural requirements, ensuring the hovercraft can float on water at a depth of 0.4m.
- Any deviation from the provided design specifications will result in point deductions or potential disqualification.

Control and Maneuverability (25 points)

- Smoothness and accuracy in controlling the hovercraft through remote or mobile devices.
- Ability to navigate both water and land paths effectively without veering out of bounds.
- Teams using unauthorized equipment (e.g., joysticks) will be penalized.

Speed and Efficiency (30 points)

- Time taken to complete the course in each round, including “Fastest Hovercraft First” in Round 1.
- Speed is a major factor, with the fastest hovercraft gaining the most points.
- Participants must complete the course without collisions or disruptions; hitting barriers will result in time penalties.

Obstacle Navigation (15 points)



- Ability to maneuver through challenging obstacles introduced in Round 3, including floating objects and various land and waterway paths.
- Points awarded for completing these obstacles in the shortest time while adhering to guidelines.

Teamwork and Strategy (10 points)

- Coordination and role clarity within the team, especially during high-stakes rounds.
- Effective use of the team representative for communication with organizers and smooth handling of responsibilities.

Expected no of participants: 120

