

ROBOVANZA 2023

RULE BOOK

**HOVER DRIVE
31ST JANUARY- 1ST FEBUARY**

@ROBOTICS_CBIT

ORGANIZERS:
Robotics and Innovation Club, CBIT
IEEE CBIT

HOVER DRIVE

GAME:

Gear up for an exhilarating and high octane showdown of RC Hovercrafts! Robovanza'22 brings to you Hover Drive, an action packed event where you put to use your fabrication and manoeuvring talents and to envision, design and create the most versatile hovercrafts as you fight for complete dominance over aqua and Terrain.

- Design a radio-controlled hovercraft that can navigate through any terrain including water, sand, and gravel, and race it through specified tracks in the best possible manner scoring maximum points.
- The vehicle should follow the required machine specifications and shall be tested for its swiftness.

General Rules:

- The event comprises two rounds.
- Each team can have 2-5 participants.
- The event is open to all enthusiasts.
- Only one chance will be given for each round.
- Only one person would control the hovercraft from each team.
- Only Electric Motors are allowed to be used in hovercraft.
- **Pre-made Mechanics set parts and LEGO kits are not permitted.**
- Maximum Dimension of Hovercraft: 40*40*40 cm.
- Rules are subject to change according to the level of participation.

Specifications:

- Maximum rating of brushless motor should be 2500Kv.
- ESC current ratings should not be more than 40 A.
- Lipo battery : 3 - 4S

Team instructions:

- A team can consist of a maximum of 5 members. Any institution or group of students may form a team or individuals may also participate.
- Members of different institutions can form a team.
- Only 2 members of a team are allowed to stay around the arena (for calibrating and assisting).

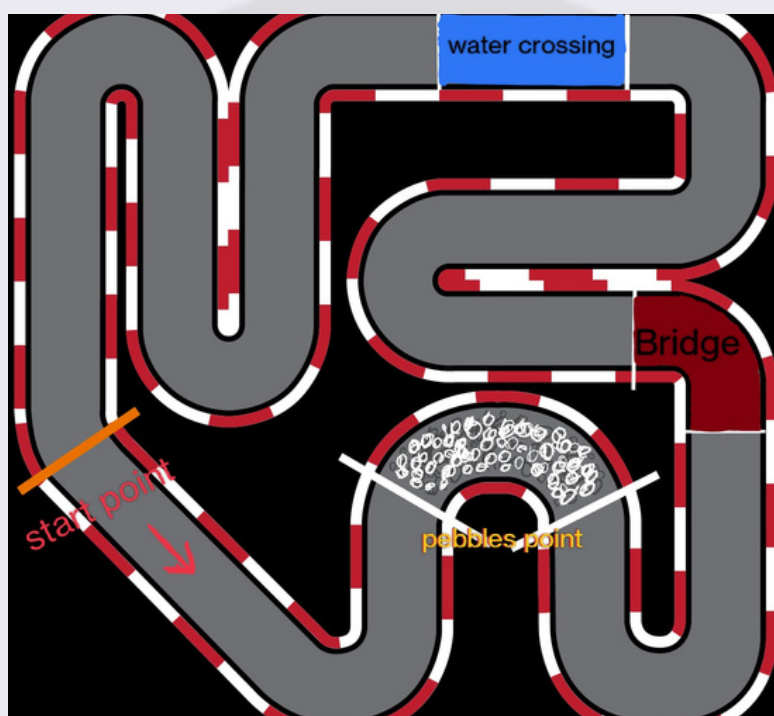
Round - 1 (Swiftness Test) :

- In the first round, participants should drive their hovercraft on a given track.
- Maximum time limit for this round is 7 minutes.
- Points will be calculated based on the time remaining from the given 7 minutes. For eg. If the participant completes the lap in 4 minutes, the remaining time will be $7\text{min} - 4\text{mins} = 3\text{mins}$, and $3\text{mins} = 180\text{seconds}$, therefore the points secured will be 180.
- A sample arena for the first round is shown below:



Round - 2 (Performance Test):

- Participants have to navigate the hovercraft through the specified arena supplied with checkpoints at various obstacles.
- Each checkpoint will have specific points.
- The participants can choose to skip a checkpoint (but will not be rewarded any points).
- The Maximum time limit is 10 minutes.
- A sample arena of the second round is shown below.

**Judging Criteria:**

CHECKPOINT	POINTS
Pebbles	50
Wedge	40
Sand	30
Obstacles	20
Water	10

Points from both rounds will be added to determine the winners.

DISQUALIFICATIONS:

- Exceeding the hovercraft beyond maximum dimensions will lead to disqualification.
- If a participant does not comply with the rules of the event he/she will be disqualified from the event.
- Misbehavior of any kind will not be tolerated, and the team will be subjected to disqualification from Robovanza.
- LEGO kits are strictly prohibited and will lead to Disqualification.

Prizes worth 25k.

Event Co-ordinators:

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