DRONE RACE

The Drone Race competition is a dynamic event designed to highlight the innovative skills of students in the fields of engineering and technology. As aspiring engineers, participants are invited to showcase their technical aptitude by designing a drone that meets specific criteria.

The objective of the event is to create a drone that is capable of functioning effectively in adverse weather conditions, such as heavy winds and rain, while also being equipped to access areas that are inaccessible to humans. The focus of the competition is to encourage participants to demonstrate their practical engineering skills and to develop drones that prioritize functionality, durability and versatility.

➢ DESIGN REQUIREMENTS

SPECIFICATIONS :

- The type of drone can be "Tricopters, Quadcopters, Hex copters, and Octocopters."
- The battery of the drone must be "rechargeable or replaceable."
- The drone must be made of PVC, plastic, or carbon fiber.
- Quadcopters can be of any shape, such as a plus-shaped, a cross-shaped , or an H-shaped quadcopter.
- Drone motors should not exceed 1000kv.

DIMENSIONS:

- The weight of the drone should be less than or equal to 2 kg.
- The drone measurements must be less than 80*60*15 cm.

CONTROL FEATURES:

The Drone must be controlled by wi-fi/Bluetooth/Smart-phone/RC.
The control range of the drone must be less than 200 meters.
There are no restrictions for batteries. You can use any rechargeable battery.
The flight altitude must be less than or equal to 100 meters.

➢ RULES AND REGULATIONS:

- The pilot should come from an academic background and be pursuing a UG degree.
- International participants should submit the document's unique identification number(UIN) and unmanned aircraft operator permit (UAOP) from the Directorate General of Civil Aviation(DGCA).
- Operating the drones other than on the permitted premises is restricted.
- The pilot should operate the drone within the visual range.
- Drones that exceed the specified measurements will be disqualified.
- Point of Views – Pilot FPV, Remote Control View, Drone View, 3rd person operation isn't allowed.
- During Demo/Training/Participation in the event,the participation should respect the privacy of the people.
- The drone should not use the 2D/3D image data of a vision system/Camera to identify their environment and objects.
- Drone with obstacle avoidance sensor configuration is not allowed.
- When operating a drone, the pilot should bear all responsibility for ensuring its security.
- The coordinators have the rights to change the rules of rounds if required.
- Fully autonomous/ autopilot/ smart drones are not allowed.
- At any point of time, the organizers/ coordinators decision is final.

ROUNDS AND POINTING CRITERIA

ROUND 1 : TECHNICAL INSPECTION

In this round each drone is checked in technical aspects and checked whether the drone is made according to the rule book and meet the rulebook requirements.The teams whose drones mismatch with the rulebook are given with some penalty

points.Technical questions are asked by the judges/organizers to the team members about their corresponding drones.

ROUND 2 : HOVER   [150 points]
In this round the drone operators has to fly their drones in the specified region which will be allocated by the event coordinator for the specified time.If the drone flies in the specified region within the specified time then that drone will get full score.According to the fling time the drones will be awarded desired score.

ROUND 3 : MANEUVERABILITY   [150 points]
In this round the drone operator has to fly the drone as per the event coordinator instructions.So that the event coordinator can check the performance of the drone. The score will be awarded as per the performance of the drone.

ROUND 4 : RACE   [300 points]

- This round comprises various obstacles which the drone has to clear.
- The pilot should stand at one place and fly the drone but one of his fellow-mates can accompany the drone.
- The team should complete the lap by navigating through the hurdles.
- Negative points will be awarded if the drone strikes the hurdles.
- If the drone falls at any instant then it must be driven from the last checkpoint.
- Time period to complete the lap will be noted and the shortest time taken will be awarded the highest points.
- Each ring crossed by the drone will get 5 points.

PENALTIES(FOR ALL ROUNDS) :

- If the drone touches any of the hurdles, then it will be given a penalty of minus 20 points.
- If the drone crosses a specified boundary, then the team will be given a penalty of minus 20 points.
- If human interference occurs, then the team will be given a penalty of minus 20 points.
- If the drone is unable to fly for more than 10 sec, then they will be awarded with minus 15 points.
- If the drone gets "deviated from the track for 3 times then that team will be awarded with a penalty of 50 points".

WINNING CRITERIA:

- The team with the most points and the shortest time to finish Round 3 will be declared the First Winner.
- The team with the second highest number of points and the second lowest time to complete Round 3 will be declared the second Winner (runner).
- In round 3, if the team earns more points and completes round 3 in a longer time period, the event coordinators will make a judgment based on the total points of all rounds and track completion duration in all rounds.

PRIZE MONEY:

The first prize of the event is awarded an amount of 12000/-
The second prize of the event is awarded an amount of 8500/-
All The participated candidates will get the participation certificates

REGISTRATION DETAILS:

ENTRY FEE DETAILS:

- ❖ Single member 300/-
- ❖ Two members   500/-
- ❖ Three members 750/-
- ❖ Four members   1000/-
- ❖ Five members   1250/-

NOTE: The team should consists of maximum five members

CONTACT DETAILS

FACULTY COORDINATOR

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STUDENT COORDINATORS

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