

RULE BOOK

Name of Event : ZenCode 1.0

Event Date : 18th Feb 2024 (Sunday)

Venue: Unique Foundation School, near Bacha Party, Block 8 Clifton, Karachi.

<https://maps.app.goo.gl/zmkuerFYprFtgAcp9>

Number of members per team: Min : 2, Max :5

Registration fee: 2000/- (Per team)

Light-Weight RobotWars:

Participants have to build a combat robot under 5KG- 5.5KG to fight with an opponent team robot in an arena.

Combat Robot is a robot sport that involves custom-built robots used in different ways to destroy another robot. The machines are remote-controlled and the aim is to disable the opponent's machine.

Package Delivery Robot:

Participants have to build Remotely controlled bots that deliver assigned packages to destinations.

You can control the bot using things like a remote, your phone, or even the computer! The team that delivers the most packages in the fastest time wins.

It's like a race, but instead of people running, it's your little robot cars doing all the work. So, if you like making things, having fun, and being a delivery hero, this is the challenge for you at RoboShowdown 2024! 🚗

Glimpses from Past Events:



Theme : *LightWeight Robowars*

Combat Robot is a robot sport that involves custom-built robots used in different ways to destroy another robot. The machines are remote controlled and the aim is to disable the opponent's machine.

Weight & Size:

- The maximum size of the robot should be 15x15x12 (LxWxH) inches.
- The maximum weight of the robot should be 5 KG.
- (For every additional 100 grams, 4 points will be deducted from that team score, any robot exceeding 5.5 KG will be disqualified).
- You can compete with more than one robot (multi bots), but their combined weight should not exceed the weight limit.

Safety:

- Any type of Flame or Ballistic Weapon is strictly prohibited.
- All the components mounted on the robot will be counted as part of the robot's total dimensions.
- All robots will have to pass prior inspection before entering competition.

Scoring:

- **If one robot is Destroyed or unable to move, the other team will be declared winner by KO.**
(Score won't matter in case of KO)
- Each match will be of maximum 5 minutes
- If both robots keep fighting for 3 minutes, the winner will be declared after the judges ' decision.

Scoring Criteria:

Damaged any part of an opponent robot: 10 points

Disable opponent movement by lifting or pressing for 5 seconds : 5 points

All participants build and operate Robots at their own risk. Robot Wars is inherently dangerous. Organizing team has the right to amend the competition rules/duration at any time.



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Damage:

In terms of damage, only visible and significant harm to the robot will be considered. Scratches and minor marks won't be counted. However, if any piece, like metal or sheet, is removed from the robot, it will be seen as damage. Also, if any of the robot's functions, such as its weapons, motors, or wheels, are harmed, it will count as damage. The judges will assess this damage at the end of the match.

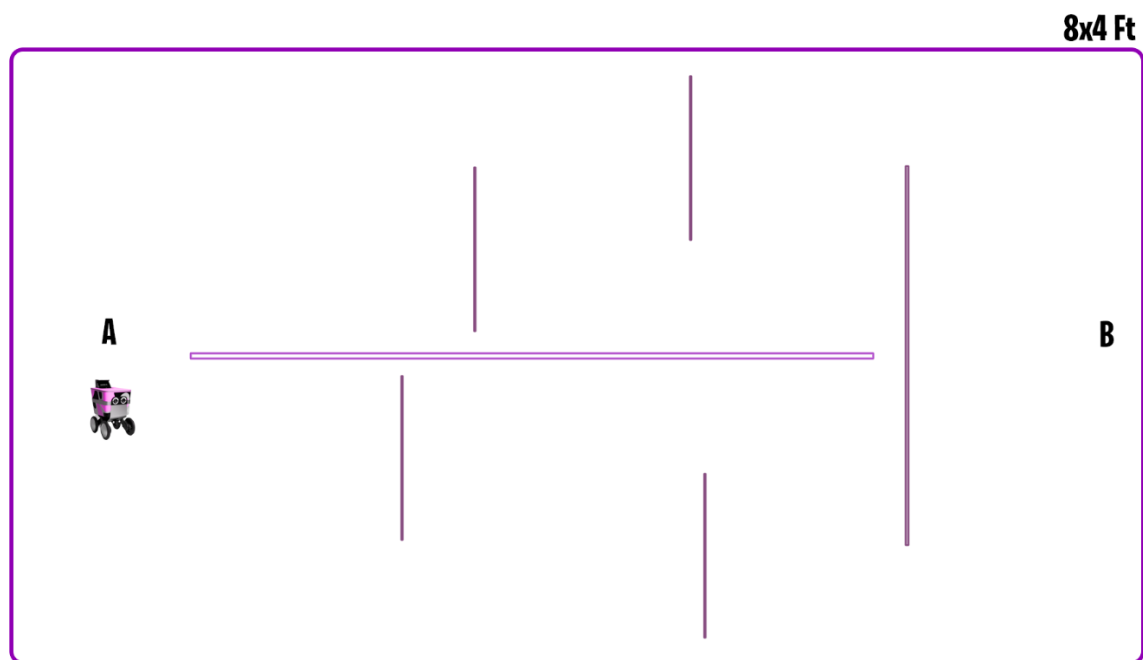
Weight:

Regarding weight, robots that weigh more than 5 kg will face a penalty of 4 points per 100gm for every additional kilogram. For example, if a robot weighs 4.2 kg, its score will be reduced by 8 points. If a robot's weight goes beyond 5.5 kg, it will be disqualified from the competition.

If a robot exceeds the 5.5 kg limit, it might be allowed a certain time to reduce its weight. If it doesn't meet the weight requirement within this time, it won't be allowed to continue in the competition. The team is responsible for ensuring their robot's weight complies with the rules, and any changes made during the competition should not make it overweight. The robots will be weighed before the competition begins, and the weight limit will be strictly enforced.

For lighter robots under 3 kg, they will receive a bonus of 15 points at the start of the match. This is meant to encourage the creation of smaller, more agile robots that can compete with larger ones. These bonus points will be added to the starting score of the robot and won't affect the scoring during the match. It's important to note that the robot's weight will be determined before the match, and any modifications that cause it to exceed the weight limit will result in disqualification. The extra points for lighter robots are meant to level the playing field and motivate teams to create more efficient, smaller robots.

Theme : *Package Delivery Robot:*



Welcome to the RC-Controlled Package Delivery Robot Challenge! Here are the rules to make sure everyone has a blast:

1. Team Composition:

- Teams should consist of a minimum of 2 and a maximum of 4 students.
- Mix and match students from different schools, colleges, or universities—it's all about teamwork!

2. Robot Design:

- Teams will design their remote-controlled cars from scratch using Arduino or any other microcontrollers.
- Customization is encouraged, but the robot's primary function should be package delivery.
- Bot should be under 10 x 10 inches in dimensions and 1Kg in weight

3. Control Mechanism:

- Robots must be operated using remote controls, Bluetooth-enabled devices, or Wi-Fi technology.
- Teams can use any suitable communication method, but it must be wireless.

4. Package Assignment:

- A Team Member will put a package on the robot from Point A in the Map.
- The package must be Delivered to Point B and the robot will return to Point A again to Pick the package up again.
- There might be Obstacles, Ramps or Ditches in Robot Path.

5. Delivery Task:

- The challenge is to navigate the robot to the destination while avoiding obstacles and delivering the package with precision.
- Time will be recorded from the start until the package is successfully delivered.

6. Scoring:

- The robot's performance will be evaluated based on the time taken for delivery and the number of successfully delivered packages.
- The team with the best combined score—fastest time and most packages delivered—will be declared the winner.

7. Tech Support:

- Technical assistance will be available on-site for any robot malfunctions or issues.



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8. Enjoy the Challenge:

- Most importantly, have fun, be creative, and showcase your technical skills!

Start Learning Arduino & Robotics For Free at:

<http://shahfahadahmed.com/robotics>