

R. C. Patel institute of Technology, Shirpur
Department of Electronics and Telecommunication

Robo Wars:

The Challenge is to design and build a robot competent to fight other robots in Battle. The competition is carried out in a tournament format in which the competitors bring their wireless or wired robots ready to battle and are pitted against their competitor's robots in a one-one match where the aim is to cause maximum damage or to push the opponent's robot off the arena to score maximum points. The team scoring the maximum points wins the championship.

25 Teams to participate in Robo Wars

All participants will get a certification of Participation from "R. C. Patel institute of Technology, Shirpur" and Department of Electronics and Telecommunication

Eligibility Criteria: Entry is open for all Engineering and Polytechnique students.

How to get on Robo Wars

A match is played One-on-One. Refer to the rules in Rulebook.

Construct a team of a minimum of 1 and a maximum of 4 members.

The team has to build a Wireless or Wired Bot.

The Bot

The team must build and bring one pre-constructed, autonomous, or manual, a wireless or wired robot whose purpose is to push, throw, flip, hit, drag, or otherwise move the opponent out of the battle ring within the maximum battle time. The following section details the rules and specifications regarding the robot; please be sure to read them carefully and refer to them as you design your robot.

The participating bots can be wireless or Wired must be controlled remotely. A bot must fit inside 20 centimeters wide and 20 centimeters high 20 centimeters length cube at the beginning of a Battle. There are no size constraints once the Battle has begun, the robot can expand its parts after the battle starts.

Bot's weight at any given point of time should be between 1Kg excluding the battery and remote. Weight tolerance can be $\pm 10\%$. Weight will be measured at the time of inspection before starting the competition

The Battle Ground

The Battle Ground is a fully enclosed circular having 5 feet radius raised 1 foot off the ground. The Battle Ground floor is approximately level but is not guaranteed to be flat or smooth.

Robo Race:

The challenge is to build your own robot either wireless or wired within the specified dimensions in order to achieve the maximum speed to beat other robots on the given track and reach the finishing line in minimum time. The robot must run on the given racetrack. The robot must start behind the starting mark and is considered to have crossed the finishing line if any part of the robot crosses it when the robot has completed a full lap of the course. Your robot must be manually/autonomously controlled, and it should be capable of traversing over different terrain and hurdles without going outside the track. Separate points will be awarded for overcoming the hurdles. The bot with the maximum cumulative points will win the race.

25 Teams to participate in Robo Race Challenge.

All participants will get a certification of Participation from “R.C.Patel institute of technology ,shirpur” and Department of Electronics & Telecommunication.

Eligibility Criteria:Entry is open for all Engineering and Polytechnique students.

How to get on Robo Race?

A match is played by a single team in one go, with each team consisting of 1 Wireless or Wired Bot. Construct a team of a minimum of 1 and a maximum of 4 members. Construct a wireless or Wired, autonomous, or manual Bot

The Robo Race Bot

The participating bots should be wired or wireless remotely. It can be circular / Rectangular in style. A bot must fit inside 20 centimeters wide and 20 centimeters length cube at any point in time. Maximum weight should not be more than 1Kgs (Excluding battery and remote. However, a tolerance of 5% is acceptable.).

he electric voltage anywhere in the machine should not be more than 12V DC at any point in time for each robot. Robots must be constructed and programmed in a way that their movement is not limited to only one dimension and must move in all directions.

The Robo Racing Track

The Racing track has a track of a total length of 80-90ft (approximately) with a dimension of 30X20 SqF. The track will be 30 cm wide and will be having certain checkpoints before the hurdles. The surface and course line may have un-evenness as well as different hurdles will be there on the race track trying to slow down the Bot. Predefined Obstacles for the competition will include Switch Bridge, speed breakers, marble pit, slippery path, rotating ting disc, curve ramp down, seesaw, etc.

Robo Race Game Play

Each team will have 1 trial runs. trial should not last more than one minutes. After the trial time is over, the TIME-UP BUZZER will sound, and the team will be asked to remove the robot from the COMPETITION FIELD.

Each competing Robot will be given points for successfully overcoming the hurdles present on the track. Points allocated to different hurdles will depend upon the difficulty level of the same. Total points achieved for successfully overcoming the hurdles will be added to the final run points of each team in order to calculate the final score. If the team skips any hurdle, it will lose the point for the same.

Each run will start from the starting point. The operator may abort a run at any time. If an operator touches the robot during a run, the team will score negative points and shall start from the previous checkpoint. If a robot has already crossed the finish line, it may be removed at any time without affecting the run points of that run.

The run timer will start when the front edge of the robot crosses the start line and stops when the front edge of the robot crosses the finish line. Negative points will be awarded for every human touch which will affect the final score of the team.

FLF – Fastest Line Follower

Build your own autonomous robot within the specified dimensions to achieve the maximum speed to beat other robots on the given track and reach the destination in minimum time. The robot must start behind the starting point and is considered to have crossed the finishing line if any part of the robot crosses it in a full lap of the course. The robot must follow the black line. The competition area has a special place defined for the robot's operation

50 Teams to participate in the Fastest Line Follower challenge.

All participants will get a certification of Participation from “R.C.PATEL INSTITUTE OF TECHNOLOGY ,SHIRPUR” and Department of Electronics & Telecommunication.

Eligibility Criteria: Entry is open for all Engineering and Polytechnique students.

How to get on FLF?

A match is played by a single team in one go, with each team consisting of 1 Wireless Bot. An individual may participate or maximum of 4 members. From Any Engineering and Polytechnic institute may form a team.

The FLF Bot

The participating bots should be wireless must be controlled remotely. It can be circular / Rectangular in style.

A bot must fit inside a 15 centimeters width and 20 centimeters length cube at any point in time. Maximum weight should not be more than 500 gm (a tolerance of 5% is acceptable.). Participants need to ensure:

- = The electric voltage anywhere in the machine should not be more than 12V DC at any point in time for each robot.
- = If a team claims that their robot is affected by the other team's robot in any way they must show proof/evidence of the interference. Any interference must be confirmed by a Referee if a claim is placed by the other team.
- = Robots must be constructed and programmed in a way that their movement is not limited to only one dimension and must move in all directions.

FLF RACING TRACK

The Racing track of the Fastest Line Follower challenge has an arena dimension of 6X15 SqF. The width of the black line will be 25mm. The surface of the track will be white with a black line marked on it. The track may contain crossed, curved, or discontinuous black lines.

Event Management Team

First Year ETC Department

Planning Team

Third Year ETC Department

Accommodation Team

Second Year ETC Department

First Year ETC Department

Campaigning Team

Second Year ETC Department

Requirements:

1. FLF Tracks-2
2. Robo Race Track – 1
3. Robo War- Battle Ground – 1
4. Chairs- 500
5. Mandap-
6. Banners 9- 3 banners per event
7. Decoration
8. Trophies
9. Certificates
10. Prize Money
11. Fun Activity
12. Staff to manage finance Department