

INSECT RACE

DESCRIPTION

Design and building of a robot that simulates being an insect, whose locomotion is by joints without the support of wheels. This robot will walk along a track with different kind of obstacles competing directly against two opponent robots of the same category.

TECHNICAL CHARACTERISTICS

All robots must have the following characteristics:

1. The autonomous insect robot will be able to move through the competition area.
2. The robot movement mechanism must be different from wheel drive, track drive, or some kind of hopping.
3. The maximum dimensions are 20 cm x 20 cm, with no height restriction.
4. The robot may have deployable mechanisms, but at the end of the competition it must return to the dimensions indicated above. This action must be done autonomously when turning off the robot.
5. Ability to go through obstacles that will be scattered on the track (the characteristics of the obstacles can be found in the next section).
6. There will be no weight limit.

CHARACTERISTICS OF THE WORK AREA

1. The work area will be rectangular, 2 m long, from the starting line to the finish line, by 50 cm wide (see image 1).
2. The track will be made up of three lanes with the above dimensions. It will have a division between them 15 cm high and in the same way at the ends.
3. The starting area will be marked by a first line. This area will be 30 cm long by 50 cm wide.
4. The finish area will be marked by a second line. This area will be 30 cm long by 50 cm wide.
5. During the route there will be electronic waste objects (CD drives, mother boards, hard drives, video cards, RAM cards, batteries chargers, etc.), wooden or metal prisms and toy parts. All these objects will not be permanent in the competition area.

START

FINISH



Imagen 1

HOMOLOGATION

1. It must be demonstrated that your robot meets all the specified characteristics in the technical characteristics of the robot.
2. The robot must be able to travel the race track, without the need for any help.
3. Robots that do not meet these specifications will be disqualified from the competition with no claims.
4. Once the robot has passed the homologation, it must be left on the judges' table until it is called to compete.

COMPETITION DEVELOPMENT

1. The robots will be placed in the starting line. Once the judge displays a flag, they can start moving forward.
2. No mechanism of the robot may be in motion before the judge displays the flag.
3. The competition will take place on the track with three (3) robots competing at the same time. The time that each robot took to finish the track will be recorded.
4. The maximum time races will last will be 10 minutes. In the event that in this period no robot has managed to reach the goal, the distance traveled will be recorded.
5. At no time will the competitor or the robot damage the competition area.

EVALUATION

1. The judge will determine the number of qualifying rounds according to the number of approved insects at the time of the competition.
2. The first three places will be awarded to the robots that have completed the track in the shortest possible time successively.

3. In case one of the robots runs out of battery, its route will be recorded at the end of the regulation time.
4. In case a robot starts before judges display the flag (false start), the race will start again.
5. The following actions will be grounds for a warning:
 - Start before the judges starting signal.
 - Some unsportmanlike attitude, as well as the use of inappropriate language during the competition or obscene remarks towards the judges, competitors, or any spectator.
 - Claims without justifications to the judges.
 - Mistreatment of furniture or work equipment of the competition.
6. In the event of sabotaging any of the participants, time will be stopped and the team that committed the fault will be disqualified, once this is done the race will continue.
7. In case of gathering three warnings, the team will be disqualified.

JUDGES

- I. The figure of the judge is important in the competition because he will be in charge of complying with the rules and regulations established by the organizing committee.
- II. The judges for this competition will be appointed by the organizing committee.
- III. Contestants may present their objections to the judge in charge of the category before the end of the competition.
- IV. In case of doubt in the application of the norms, the judge always has the final say.
- V. In the event of a dispute before the decision of the judge or judges, a written disagreement may be filed with the Board of Judges. Once the competition is over, the arguments presented will be evaluated and a decision will be made in this regard. This decision is unappealable.