TOPBOT

Theme 1

BOLT

Description

Put your design and engineering skills to design a BOT which is intended to cross a path containing obstacles and different types of terrain. Call it a test of all the features of your bot, viz. mechanical, electronics and coding.

The judging will be done on scored points and time to complete the run.

Details

You have to submit your abstract for the said requirements in your bot. While preparing the abstract we assure you will learn everything needed to build this bot. A list of available components will be provided to you and same components will be given to build your bot. You are advised to carefully select the components and study about them.

Most innovative, cost effective and unique abstracts will be selected and selected teams will be invited to visit **IIIT Allahabad** to compete on-site with other participants. You will be given 2 days to build your bot, which should be same as mentioned in your abstract. DIY kits from our sponsor **electronicscomp.com**, will be provided to these participants for building the bot.

We assume you will be already familiar with parts and components being used as you are already provided with the list of available components.

Be careful in selecting right components for your bot. Select minimum components so as to reduce the cost of building your bot, but don't compromise the functionality and features of your bot.

How to apply

STEP 1:
Make a team of 3 students and get yourself register at https://tobbot.xyz
STEP 2:
Download abstract template for your theme from website by clicking on your theme.
STEP 3:
Submit your completed abstract by sending it to https://submissions.topbot.xyz before 10-20-2017.

Guidelines

Make a bot that will be controlled by you and your task is to complete the run over the track consisting of many terrains and obstacles in minimum time scoring maximum point and avoiding penalties. You can control your bot using **wireless** technologies like (RF, Bluetooth, WiFi) or using **wired control**.

Note: +100 Points will be awarded to those teams with wireless control.

For fair competition, we stick to some rules and regulations and some guidelines for designing and building your bot.

Rules and Regulations

- Bot should not be greater than defined dimensions, i.e. **10 inches x 8 inches (lxb)** with a ground clearance of **2 inches** (max).
- You can use any microcontroller. But using at least one microcontroller is must.
- Bot should be powered using battery only. No direct power supplies will be provided.
- Changes in abstract will be allowed **ONLY ONCE** that is after abstract submission and before video submission.

Scoring and judging criteria

- The track consists of different checkpoints with different score points for each of them.
- You can avoid any obstacle at a cost of 2 x (checkpoint score of that obstacle).
- Touching the track boundaries costs a penalty of 10 points for each touch.
- Scoring will be done using the formula:

TSO = Total Score from Obstacles
TT = Total Time taken to complete the run in min.
PEN = Penalties
T1 = Scores in task 1 (Abstract Submission)

Total Score = T1 + 10(TSO) – 10(PEN) – 3(TT)