



Hardware Control Systems Category

1. Description:

Category participants are expected to develop a software controlling application, which will cooperate with an electronic or a mechanical device. Participants are free to choose from almost anything, where they should try to piece together their own original device, from any possible spare parts and tools that are provided. However, it needs to have a software component, which interacts with the hardware parts. In this section, your creativity is important along with your mechanical and programming skills. It is highly recommended for your projects to be aiming in benefitting people, like provide some services, which will make human life easier. The only limit is your own imagination!

There are two stages in this category.s

Stage - I

In this stage, the participants will present and defend their projects in front of the juries. During the presentation, juries might ask specific and general questions regarding their project.

Grading policy of 1st stage:

- 1) Documentation (portfolio, blanks, cards etc.) : 15%
- 2) Presentation (oral skills, how they present their project etc.) : 35%
- 3) Project (creativity, usability, work\ not work) : 25%
- 4) Project (difficulty of project, functionality, prototype) : 25%

General duration for the project presentation: 10 minutes (juries of the category can change as they wish, please ask juries for the exact timings)

Competitors can take 50% (percentage subject to change) of the total points based on the certain criteria.

Stage - II

In the second stage, the participants will have an exam by solving some problems using programming and physics knowledge related to the category field. The exam is going to be a paper based.

Topics are as follows:

Physics topics – conductors, resistors, capacitors, current, voltage etc. (Basic questions)

Programming – Arduino knowledge, basic programming questions (loops, if, else etc.).

Question will divide into 3 parts – easy, medium, hard.

At this stage, participants can take 50% (percentage subject to change) of the total points. These two stages' points will be added, and the final score will be determined.

Additional information and news about this category you may see in Telegram:

<https://t.me/joinchat/AAAAAE8--LtsorlwqBUfow>

Project valuation criteria

Common Criteria	Category specific Criteria	Criteria for Qualification to Final
Documentation	Usability	Project documentation
Originality / creativity	Functionality	Originality (not a copy of another project or a program)
Oral presentation	Difficulty	Content, clarity of the documentation
Stand design		The aspect of the final product
Technical Skills		Concordance with the category in which the project is registered
		Up-to-date, reflecting present interests

IMPORTANT NOTES:

1. Participants must bring their needed equipment's for the competition