MECHANISM AND ROBOTICS CHAMPIONSHIP 2K19

PROBLEM STATEMENTS:-

The Mechanism And Robotics Championship challenges your imagination and technical designing skills to create a Robot or Mechanism that can quickly work for desired output. Mechanisms ,Robots ,Gadgets and Models ,you can design whatever you want to as per your ideas and Interests . There isn't any specific category that you have to choose ,it is your choice. It can be a simple RC bot, Hexapod, Robotic arm, Walking mechanism , Lifting mechanism, Rotating mechanisms or Industrial mechanism etc.

Note:- Your projects or 4th year project can also be a part of the platform.

COMPETITION CATEGORIES

1. Designing using CAD (computer aided designing)
2. Working model of mechanism.

Team size: - single or group (maximum 8).

DESCRIPTION

1. Designing a model using CAD (Computer Aided Designing)

In this competition, participants should design their model on computer using Auto-CAD, solid-works, Creo, Catia etc.

The model must be technically related to mechanical and practically possible.

Computer **simulation and animation** should be well visualized and it must explain complex and dynamic events of the design.

Ex:- Turbines, F1 car, Rube Goldberg mechanism etc.

2. Working model of Mechanism /Machine (RMD)

In this competition participants should prepare a working model of a mechanism or machine using instruments of their choice such as DC motor, gears, chains, ice-cream/plastic/metal stick, wheels etc.

The working model that you are designing might be a new one or an existing one.Working model of your idea is more preferred.

The participant must be able to demonstrate briefly about their working model .

The model prepared should consist any of the following(s)

1. Mechanism used in any part of machine.
2. Complete mechanism of any working machine of present or conceptual(futuristic) use.
3. Mechanism/Machine made from your own ideas.

Scope

A brief idea of what exactly the technical terms mean

For this competition, a mechanism is defined as:

Any device that transmits a force or a motion to perform a mechanical task. It may consist of rigid or deformable bodies connected with kinematic or flexural joints. It may be constructed of any type of materials, including smart and other active materials. It may be actuated by means of any transduction principle and employ any form of energy input. The size of the device can range from Nano-scale to Macro-scale.

For this competition, a robot is defined as:

An electro-mechanical system which, by its appearance or movements, conveys a sense that it has intent or agency of its own. A robot should be able to do some or all of the following: move around, operate a mechanical linkage, sense and manipulate their environment, and exhibit intelligent behavior, such as behavior that mimics humans or other animals. The size of a robot can range from the Nano-scale to Macro-scale.

For this competition, a Machine is defined as:

A machine (or mechanical device) is a mechanical structure that uses power to apply forces and control movement to perform an intended action. Machines can be driven by animals and people, by natural forces such as wind and water, and by chemical, thermal, or electrical power, and include a system of mechanisms that shape the actuator input to achieve a specific application of output forces and movement. They can also include computers and sensors that monitor performance and plan movement, often called mechanical systems.

Instructions

- For CAD:-
  1. YOU CAN PARTICIPATE IN CAD, RAD OR BOTH.
  2. YOU HAVE TO EXPLAIN YOUR MODEL/DESIGN TO US (10 MIN FOR EACH)
  3. FOR CAD, THE DESIGN SHOULD NOT BE COPIED FROM WEB. IF FOUND, THE TEAM WILL BE DISQUALIFIED FROM COMPETITION.
  4. For the participants who are not compatible with 3D modelling are allowed to describe and display their model using different views in 2 D.
  5. Its better to email us your soft copy of your design before or at the time of presentation.
  6. We will not be providing any workpieces, the participants should bring the models.
  7. There is no registration fee.

Note:- TOTAL OF 2 WINNERS TEAMS FROM EACH CATEGORIES WILL BE REWARDED WITH MOMENTO, CERTIFICATE AND A SURPRISE GIFT. FOR ALL OTHER TEAMS WE WILL PROVIDE PARTICIPATION CERTIFICATE.

Feel free to Contact us for any problems: -

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VISIT US AT :- http://www.nitandhra.ac.in/Vulcanzy/tech/marc.html