**RUBBY’S REACTION**

“CONTRAPTION”

# Abstract:

Imagine this, your child drops a marble into a paper towel tube chute. The marble slides down and hits a chain of dominoes. The dominoes fall, and the final one hits a small toy car. The car pushes a dog treat off the edge of the table. Success! The family dog snatches up the treat when it falls to the floor.

This is an example of Goldberg machine, a complex contraption designed to achieve a simple task. It’s actually listed in Merriam-Webster’s dictionary as an adjective: “doing something simple in a very complicated way that is not necessary.”

You might recognize Goldberg machines from TV or movies. Some high school students build them in science class, and some test their engineering skills by competing in Goldberg machine contests.

The contraption itself was conceived by Goldberg—a cartoonist, author, and sculptor—in a series of cartoons. He created the satirical cartoons to poke fun at society’s love of technology.

These machines might not be practical, but they’re definitely fun, creative, and educational! Building a Goldberg machine is a great hands-on activity for all ages, plus it encourages children to flex their STEM muscles.

**Problem Statement:**

Show your skills on constructing your own Goldberg’s Mechanism performing some simple task with reasonable complexity and prove your mechanical dexterity.

# Rules:

* Teams have to submit an ABSTRACT (Detailed description of each of the steps and energy conversions) during competition time along with team details.
* A total number of energy conversions: (minimum 5)
* Sketch explaining steps: (optional)
* Explanation of whole idea of your mechanism:(200 words)
* Minimum numbers of steps are 5 and maximum numbers of steps are unbounded.
* Maximum Two Trials are allowed; in second trial 15% points will be decreased.
* Maximum 3 hand-touches are allowed, after that points will be deducted for each further hand-touch.
* Explanation must be clear and simple.
* The decision of event managers cannot be challenged.
* Strict discipline should be maintained during the event.
* Violation of any rule will be followed by instant disqualification.

# Judging Criteria:

* **Design Brief:** The machine should fit the design brief (as per your ABSTRACT).
* **Function:** The machine should complete its task with minimum human intervention. The machine should be reliable.
* **Creativity:** The machine’s steps should be innovative. Materials/Components should be used in unique ways.
* **Complexity:** Your machine should have at least 5 steps using at least 4 different simple mechanisms. All steps should be unique from each other and of reasonable complexity.
* **Mechanical Advantage:** Mechanical advantage should be calculated for at least 2 of the simple machines in the contraption.
* **Portfolio (ABSTRACT):** A design portfolio must be created for your contraption.

Judging will be done on the bases of accuracy, finishing and innovative ideas used in designing the mechanism.

* Participants and the teams securing Top 3 positions along with complying with all rules and regulation will be awarded with GTU Techfest 2017 Participation Certificate and Winner Certificate respectively.

# Team size: Maximum 4 person

**Registration Fees:** Rs. 50 per participant.

**Event Managers:**

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