IITians innovate, make machines simpler and better

TIMES NEWS NETWORK

Ahmedabad: From making a pani-puri more hygienic to reducing the usage of water in a washing machine, third year mechanical engineering students of IIT-Gandhinagar have showcased some of the most commonly found machines in their design improved avatars. As a part of their curriculum, these students have endeavoured to built prototypes that reduce effort and energy.

One of the innovations is the 'multiple degrees of freedom washing machine'. It comprises of a spherical tub instead of a cylindrical one. "Owing to its shape, the motion will ensure every corner of clothes is reached. This saves a lot of water," the team of Aryan, Sahil Mehta, Milan Singh and Vishal Yadav said.

The students with their innovations

Dhyey Shah, Mayank Shekhar and Mansi have designed a foot-operated water tap. "When you touch a tap with dirty hands, you spend extra water to clean the tap as well. We have attached a foot-stepper, much like the one used in a sewing machine. Every time you step on it, the basin will pour water on its own and you will have zero hand contact with the apparatus," Shah said.

Another set of students -- Abhay CA, GN Lakshmi Narsimhan and Saurabh Singhal -- have created a machine that will come very handy when IIT-Gn moves to a bigger campus next year. The 'tree planter' will help plant almost 40,000 new trees at the new campus grounds. "With the simple principle of two gears along with sliding mechanism, the tree planter machine can drill the right amount of wet soil into the earth to plant the seed. The machine also distances each plant with accuracy. This reduces the manual labour of planting each seed and also the time by 12 minutes," Singhal explained.

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Interestingly, three students have developed a pani-puri vending machine. "Using crankshaft rotation and piston cylinder movement, one will drill a hole into the pani-puri vada and the latter will push into it the masala and the imli water. Trapezoildal velocity will ensure a lot of it doesn't gush out because pani-puri is a delicate food. We just wanted to have the tasty Indian item sans human contact," a student Shreyans Nahar said.

A food feeder for the disabled was also one of the novel prototypes present. "The students have developed various prototypes of gadgets to solve problems in different areas. They get marked for it plus it broadens their vision," professor Harish PM, who mentored the students in these projects, said.