

# IIT Indore develops first-ever herbal UV filtering device

TIMES NEWS NETWORK

**Indore:** Indian Institute of Technology (IIT), Indore has developed an ecofriendly device to filter ultraviolet (UV) rays from the sunlight by using extracts from hibiscus flowers.

In a first, the herbal ultraviolet filtering device, as claimed by the institute, has the potential to restrict entry of ultraviolet rays by using a mere 2V.

Dr Rajesh Kumar, associate professor of Physics at IIT-Indore and group leader for the research team, said, "For the very first time, herbal ultraviolet filtering devices has been made by using extracts of a flower. It is a film which, when coated on any smart window and supplied with 2V, will restrict UV rays and in normal condition will let sunlight pass through."

The main active component of the device is raw hibiscus flower extract, a component used in red tea, which

shows capabilities of switching between two coloured states, magenta and transparent yellow, using 2V.

The team of researchers was working on an indigenous technology for fabricating an electrochromic device that can protect us from dangerous UV light. Anjali Chaudhary, a PhD scholar from Discipline of Physics, is the leading author of the paper while other co-authors are Suchita Kandpal, Tanushree Ghosh, Devesh Pathak, Manushree Tanwar and Chanchal Rani.

The work, carried out on funding received from Science and Engineering Research Board (SERB), Government of India, will have a long-term implication on developing novel materials for future smart buildings, said the institute.

The research has been done in a joint venture of interdisciplinary research centres of Rural Development Technology and Advanced Electronics at IIT Indore.