

NCL scientists explain security features of new currency notes

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Pune: National Chemical Laboratory (NCL) scientists conducted a talk for school students on the procedure for designing and printing currency notes under their programme Popular Science Talk at the NCL Innovation Park.

“There is a very interesting science behind manufacturing currency,” said Dr Premnath, head of NCL Innovations, while talking about ‘Science and technology of currency manufacturing’. NCL scientists and the Reserve Bank

NEW NOTES IN A NUTSHELL

- New and advanced features make it hard to counterfeit
- Public should be alert and check features to avoid fake notes
- Government mulling introduction of polymer notes

of India (RBI) have been conducting research to come up with more durable and better quality notes that are difficult to counterfeit. >>Contd on P2

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The scientists also explained various security features of the new notes introduced after November 8.

“As the government is now planning to bring out plastic notes, which are technically known as polymer banknotes, NCL scientists are helping the government with specifications needed for better quality notes.”

“The principle idea is to make the process of currency making as hard as possible and more expensive so that it cannot be followed easily by counterfeiters,” said Premnath.



« CURIOUS: A student looks through a microscope to see micro features embossed for security coding in the new currency notes

Security Features

Another scientist at NCL, Dr Annuya Nisal, elaborated on the features of security threads embossed on the notes. “There are two kinds of security features - overt

features, which are visible and help people recognise the originality of a note, and covert specific feature, which only bank and printing press authorities can identify. The moving effect

based security feature or usage of fluorescent or luminescence coating are unique features of the note. Another feature used is windowed security thread, which is a thin ribbon threaded through the note’s paper; it is difficult to copy,” said Nisal.

The method of printing is known as intaglio and offset printing. Few of the features, which were discussed since the new notes arrived are change in colour from green to blue when viewed in different angles, raised effect and rough texture of the note. If noticed carefully, the notes have inscription of ‘RBI’ and ‘2000’ on it.

The other covert security thread features of the notes are magnetic code, electrical conductivity and luminescence or fluorescent coating. These technicalities are used from wide theories in physics and chemistry. “These are the most advanced features that enables the common man to identify original notes,” the scientists added.

Pramod Radkar, who retired as the Director (technical) of Security Printing and Minting Corporation of India Limited (SP-MCIL), added that the security thread features in the new notes can be recognised

by the common man. The chance of circulating duplicate notes is possible only if the public ignores to look at the notes carefully, he said.

Polymer notes

The govt is also gearing up to introduce notes made of polymers in the market. At present, around 25 countries use polymer notes. “These notes are more durable and difficult to counterfeit. They cannot be easily torn and even if crumpled, they reform to original state. They are made of thick polymers. Though there are drawbacks to it too, such as, if the note is cut

from one side, it can be easily torn further,” said Nisal. These polymer notes cannot be made in the existing printing machines. “Initially, there might be trial notes introduced in the market for which the govt may import the substrate for these notes from other countries and printing can be done here. But for full-time printing of polymer notes, a new setup has to be built,” said Premnath. Talking about the cash crunch, he also added that the required capacity to produce large amount of notes is lacking in printing press, and hence, there is shortage of supply of notes.