

# Expert explains intricacies of smartphones to students

Topics covered include electromagnetic signals, binary code and others

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**Pune:** There is a need to understand how human communication elements and a machine signal can be inter-linked to create seamless communication, which is seen in today's smartphones, said Bhas Bapat, associate professor at Indian Institute of Science Education and Research (IISER).

Bapat was giving a lecture to school students for the science outreach programme titled 'Smart One Behind Smart Phones', conducted at National Chemical Laboratory, Pune (NCL) Innovation Park, on Sunday.

"The smartphone which is used today has a diverse history behind it and it involves a lot of complex procedures to make modern communication possible. All this is possible only through the use of pre-decided codes, which is important to make sense of the signal. These codes are further given a value, which is



**SHARING KNOWLEDGE:** Bhas Bapat interacting with the students during the science outreach programme titled 'Smart One Behind Smart Phones' at NCL Innovation Park, on Sunday.

used to provide context and content," said Bapat.

Bapat explained various topics to enthusiastic students which included electromagnetic signals and binary code. He explained how sound and light influenced the inventions in communications which led us to create the ability to send and receive electromagnetic signals and the manipulation

of electronic data.

Explaining the Morse code, Bapat said, "The Morse code is one of the earliest forms of texting devices. And despite it being the oldest form of technology and its various limitations, it is still used by the military for various reasons," he told the students.

The students were equally enthusiastic and asked various questions on the topic to Bapat, who an-

swered them effortlessly.

The outreach programme talks are conducted by NCL on a monthly basis to motivate students about science and technology and help them understand what is research and what makes scientists conduct it on a consistent basis. Scientists from various fields such as engineering, physics and medical background are invited to give such talks.