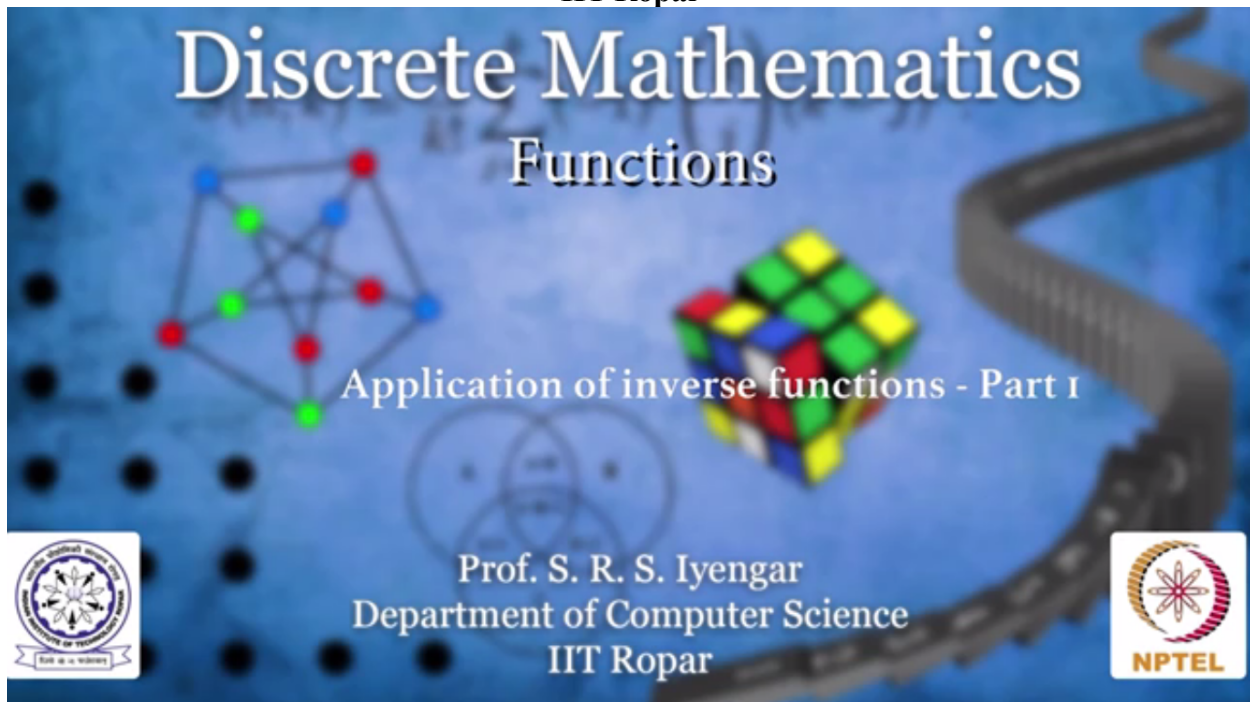


**NPTEL
NPTEL ONLINE COURSE**

**Discrete Mathematics
Functions**

Application of inverse functions - Part 1

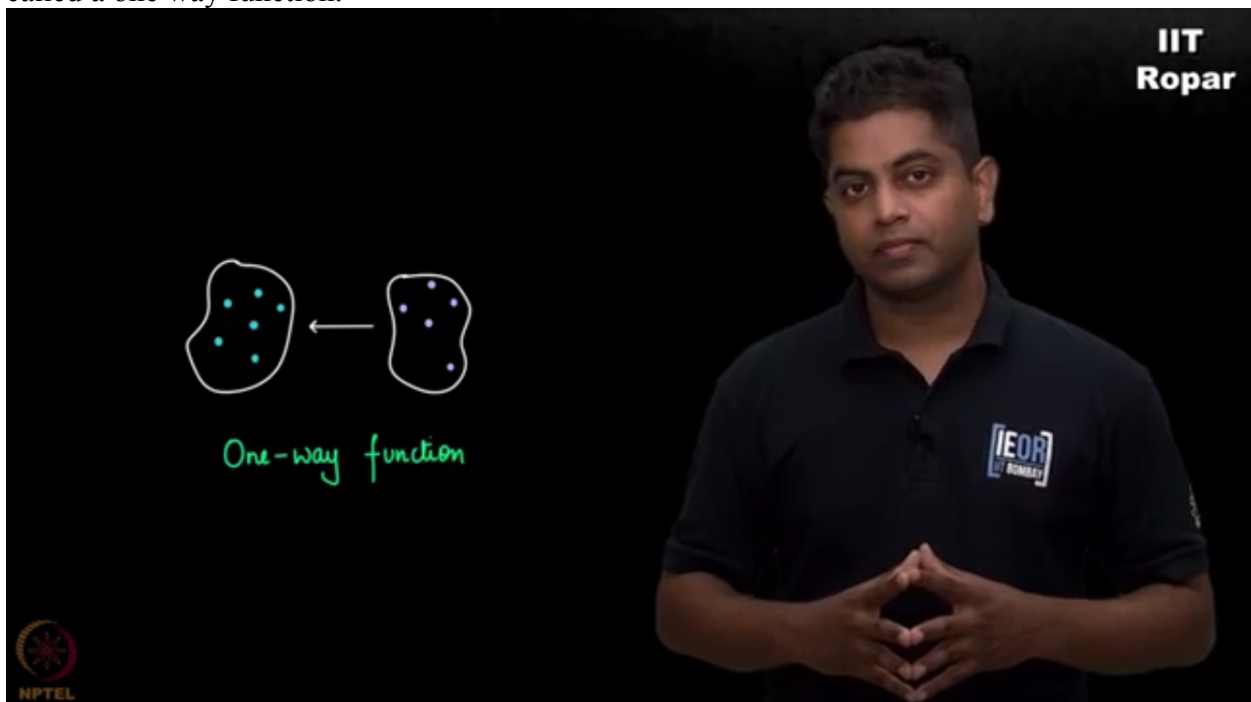
**Prof. S. R. S. Iyengar
Department of Computer Science
IIT Ropar**



We saw a whole lot of things about inverse functions, but let me tell you a beautiful application of it. An application of it is that inverting a function is not so well understood and we use that in a subject called cryptography.



It is easy to go from this side to this side, but very difficult to come on the other way. That is called a one way function.



There are many such examples in our real-life. Analogously speaking, you see, you take a glass. Break the glass. You know how to do it this way, but you don't know how to do it the other way around. That is if I give you the broken glass, you cannot put it back and create the original glass that you started off with. Right?

That's an example of inevitability of a function that is almost impossible. It's not impossible, but we need to note that we do not know how to invert the glass to its original form. Similarly, there are a lot of functions which are very, very difficult to invert.

IIT Madras Production

Founded by
Department of Higher Education
Ministry of Human Resource Development
Government of India

www.nptel.iitm.ac.in

Copyright Reserved