Chitra GeneLAMP-N

- The Chitra GeneLAMP-N developed by the Sree Chitra Tirunal Institute for Medical Sciences and Technology (SCTIMST), Thiruvananthapuram
- The Chitra technology uses a method called **Loop mediated isothermal amplification (LAMP)**.
- The **objective**, like that of the gold-standard RT-PCR tests, is the same: to detect the **presence of viral RNA**. Both achieve this via a series of **chemical transformations**.
- The LAMP method is said to be faster but is a relatively newer technology, more complicated in its design and has not been tested extensively for COVID-19 detection.

**N gene test**

- Most RT-PCR kits focus on **two different genes**, the E (envelope) gene and the RdRP (RNA dependent RNA polymerase) gene.
- The **World Health Organization** recommends a E and RdRP test, while the U.S.'s Centers for **Disease Control and Prevention (CDC)** requires an N gene test.
- The **N gene test** is a confirmatory test and widely employed in Germany and China, among other countries.
- However, the design of it is complicated and can be **expensive**.
- The CDC protocol says **three regions of the N gene must be analysed** but the Chitra-model tests two to confirm the identity of the virus.