

# Ct Count in COVID Test

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**In News:** Recently, The Indian Council of Medical Research (ICMR) has rejected a Maharashtra government request to reduce the cycle threshold (CT) value cut-off from 35 to 24 for positivity rate under the RT-PCR test.

## Ct Value

- The abbreviation Ct stands for 'Cycle Threshold.'
- The Ct value indicates how many cycles the virus can be detected after.
- If more cycles are needed, it means the virus was undetected when the number of cycles was lower.
- Since the virus has been detected after fewer cycles, the lower the Ct value, the higher the viral load.
- The period after the onset of symptoms has been shown to have a stronger association with Ct values than the seriousness of the disease.

## Viral Load

- The sum of genetic material, most commonly RNA, of a virus found in an infected person's blood is referred to as viral load.
- The total number of viral particles present in each millilitre of blood is represented in this way.
- The virus is replicating and the infection is progressing if the viral load in the blood is higher.
- In the process known as "viral shedding," an infected person with a high viral load is more likely to shed more virus particles.

## RT-PCR Tests

- RNA (ribonucleic acid) is extracted from the patient's swab in an RT-PCR (Reverse Transcription Polymerase

Chain Reaction) procedure.

- It is then amplified after being transformed into DNA (deoxyribonucleic acid).
- The method of making several copies of genetic material – in this case, DNA – is known as amplification.
- This enhances the test's ability to detect the virus's existence.
- Amplification occurs in a series of cycles—one copy becomes two, two becomes four, and so on—and a measurable amount of virus is generated after many cycles.