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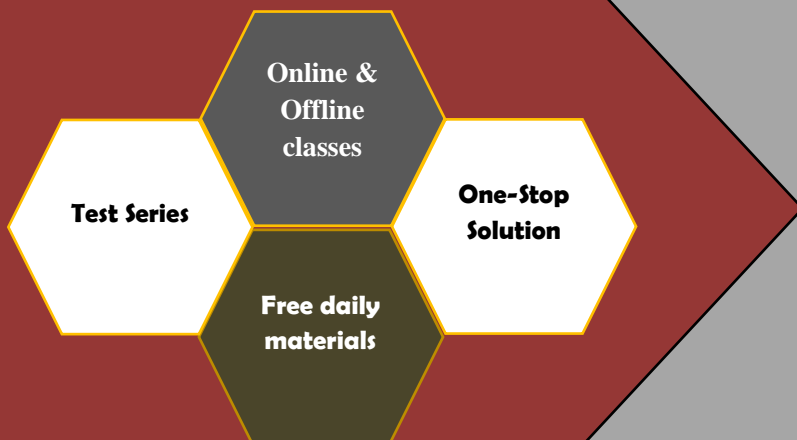
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Delta Variant Sub-lineage AY.12

Notes for civil services preparation



UPSC

General Studies

Delta Variant Sub-lineage AY.12

- According to a report by the **Indian SARS-CoV-2 Genomics Consortium (INSACOG)**, a new **sub-lineage AY.12 of the Delta variant of Covid-19** that was recently classified in Israel is now being **reported in many parts of India**.
- INSACOG is a **multi-laboratory, multi-agency, Pan-India network** to monitor genomic variations in the SARS-CoV-2 by a sentinel sequencing effort.

Key Points

About:

- INSACOG has pointed out that **several cases in India classified as Delta** are now being **reclassified as AY.12** and these numbers are under close watch.
- The **reclassification is primarily to assist micro-epidemiology** and is **not based on the acquisition of significant mutations**. Thus, it is not currently known whether AY.12 is clinically different from Delta.
- While **no worrying factors have been found** linked to the **12**, it has come on INSACOG's radar as it is said to be driving the **surge in Israel despite 60% vaccination in the country**.

Delta Variant:

- 1.617.2—also termed the **Delta variant**—is believed to **spread faster than other variants**. The Delta variant is **highly contagious, more than twice as contagious as previous variants**.
- It has birthed several sub-lineages called '**Delta plus**' variants that **bear most of its characteristic mutations** but are **different in other ways**.

The reason behind Delta Variant being more Infectious:

- A key **amino acid mutation** may be behind the high infectivity of the Delta variant.
- A team of researchers has zeroed in on a key mutation that alters a single amino acid in the SARS-CoV-2 spike protein.
- The change is called P681R and transforms a proline residue into an arginine.
- Arginine is a **chemical building block called an amino acid**.

Virus Variant

- Proline disrupts **protein secondary structure** by inhibiting the backbone to conform to an alpha-helix or beta-sheet conformation
- **Variants of a virus** have one or more **mutations** that differentiate it from the **other variants that are in circulation**. While most mutations are deleterious for the virus, some make it easier for the virus to survive.
- The **SARS-CoV-2 (Corona) virus** is **evolving fast because of the scale at which it has infected people around the world**. High levels of circulation mean it is easier for the virus to change as it is able to replicate faster.