

4. Antibody Kits

Prelims Syllabus: Medicine and Pharmaceuticals

Mains Syllabus: GS-III Awareness in the fields of IT, Space, Computers, Robotics, Nano-Technology, Bio-Technology and issues relating to intellectual property rights.

Why in News?

- The Indian Council of Medical Research (ICMR) has recently invited manufacturers to supply 5 lakh antibody kits for diagnosis of COVID-19 infection.

About the Antibody Test:

- It will act as a screening process that will give quick results in a few hours.
- It detects the body's response to the virus. It gives an indication that a person has been exposed to the virus.
- If the test is positive, the swab is collected and a Ribonucleic Acid (RNA) test is done using the Polymerase Chain Reaction (PCR) kit. Therefore, this is a two-stage process.
- It does not definitely indicate that a person is infected with COVID-19 infection. It is only for screening. India is only conducting the conventional RT-PCR test (Reverse Transcription Polymerase Chain Reaction).

About RT-PCR Test:

- It detects the virus genetic material, which is the RNA. It detects the body's response to the virus.
- It provides direct evidence whereas antibody kits provide the Indirect Evidence.

About Ribonucleic Acid:

- It is an important biological macromolecule that is present in all biological cells.
- It is principally involved in the synthesis of proteins, carrying the messenger instructions from Deoxyribonucleic acid (DNA), which itself contains the genetic instructions required for the development and maintenance of life.
- **Contract Tracing** is the process of identifying, assessing, and managing people who have been exposed to a disease to prevent transmission.

Why we need Antibody Kits?

- There is a Shortage of the PCR kits and thus the test is complicated, expensive and time-consuming.
- The antibody test will be where a large number of people are being quarantined and where everybody cannot undergo an RNA test.

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- The antibody test was done in South Korea, one of the few countries which has been able to flatten the pandemic curve.
 - A large number of suspected patients were being quarantined in the country through contact tracing of just a single patient.

About Indian Council of Medical Research:

- It is the apex body in India for the formulation, coordination and promotion of biomedical research.
- Its mandate is to conduct, coordinate and implement medical research for the benefit of the Society; translating medical innovations into products/processes and introducing them into the public health system.
- It is funded by the Government of India through the Department of Health Research, Ministry of Health & Family Welfare.

