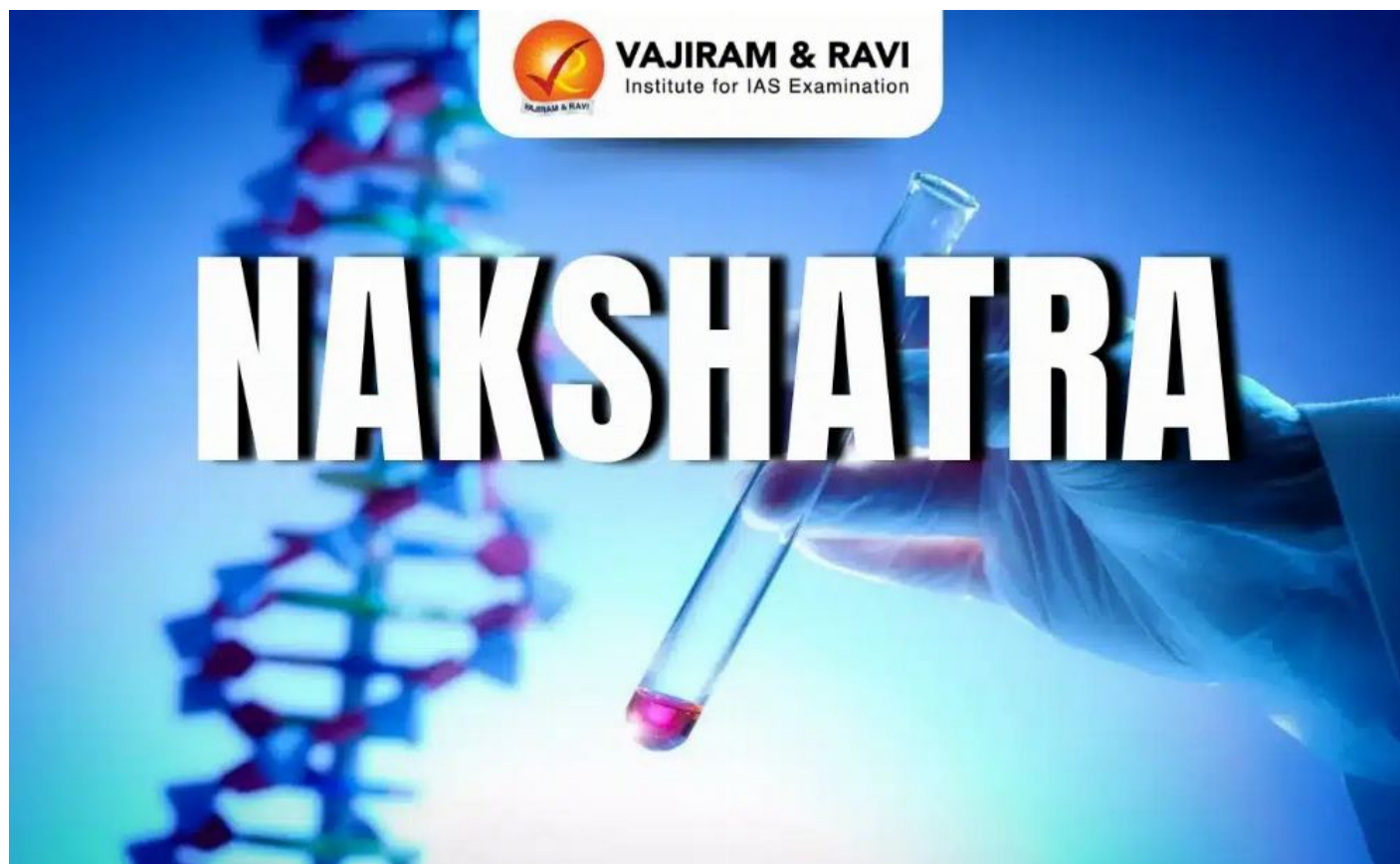


NAKSHATRA

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NAKSHATRA Latest News

Recently, the Indian Council of Medical Research (ICMR) has introduced its first high-performance computing facility NAKSHATRA at its National Institute of Virology (NIV) facility in Pune.

About NAKSHATRA

- It is the state-of-the-art **high performance computing** (HPC) cluster for **virological research**.
- The NAKSHATRA cluster includes 12 compute nodes, 700 cores, and a total storage **capacity of 1 petabyte**.
- It will support advanced bioinformatics workflows such as next-generation sequencing (NGS), transcriptomics, metagenomics, phylogenetics, and structural bioinformatics.
- It enables enhanced storage and **optimises the pipeline for genomic research**, which ensures better viral genomic surveillance capacity and national preparedness for any future pandemic.
- The facility supports **faster analysis of complex genomic data**, allowing **scientists to detect new disease threats** sooner, respond to outbreaks more efficiently, and accelerate AI-driven vaccine and drug development.

- Developed under the **Pradhan Mantri Ayushman Bharat Health Infrastructure Mission** (PMABHIM), the facility forms the cornerstone of a new project, called the High Performance Computing Next Generation Sequencing Hub.
- The facility will also act as a **central repository for sequencing data** and extend support to Viral Research and Diagnostic Laboratories (VRDLs). Initially, it will cater to five ICMR institutes across the country.

Significance of NAKSHATRA Facility

- Previously sequence analysis using multiple strains which used to take weeks with the upgrade researchers can do the same work in 24 to 48 hours.
- It has increased the capability of our country for genomic surveillance, which will help us in pandemic preparedness.

Source: TH

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