

6. CSIR Offers Free Mapping of Indian genomes

Prelims: Science & Technology

Mains: GS-III Science & Technology

Why in News?

- ▶▶ Following the Genome India project, the first such human genome mapping project in India the genomic data of 10,000 Indians are being catalogued.

Highlights:

- ▶▶ A genome is an organism's complete set of DNA, including all its genes. It contains all the information needed to build and maintain that organism.
- ▶▶ By sequencing the genome, researchers can discover the functions of genes and identify which of them are critical for life.
- ▶▶ Across the world, predictive diagnosis and precision medicine based on the genetic makeup of patients are emerging fields in the treatment of diseases such as cancer and other genetic disorders.
- ▶▶ The Genome India project will aim to make predictive diagnostic markers available for some priority diseases such as cancer and other rare and genetic disorders.
- ▶▶ Through the Genome Project India wants to become part of the global endeavour to chart out the complex human genetic map.
- ▶▶ The newly opened IndiGen initiative, a programme managed by the CSIR-Institute of Genomics and Integrative Biology (IGIB) and the CSIR-Centre for Cellular and Molecular Biology (CCMB) proposes to offer free mapping of an individual's entire genome.
- ▶▶ The aim of the exercise is twofold: to test if it's possible to rapidly and reliably scan several genomes and advise people on health risks that are manifest in their gene and to understand the variation and frequency of certain genes that are known to be linked to disease.