Context:

The IndiGen Genome project is conducted by CSIR. It is a whole genome sequencing project.

The initiative was implemented by the CSIR-Institute of Genomics and Integrative Biology (IGIB), Delhi and CSIR-Centre for Cellular and Molecular Biology (CCMB), Hyderabad.

Significance:

The outcomes of the IndiGen will have applications in a number of areas including predictive and preventive medicine with faster and efficient diagnosis of rare genetic diseases.

The data will be important for building the knowhow, baseline data and indigenous capacity in the emerging area of Precision Medicine.

Advantages:

A. It will sequence the Gene which hides the information on susceptibility to attain a disease.
B. Treatment of cancer, heart strokes and other diseases.
C. Personalised medicine vis a vis faster treatment process and less Out Of Pocket expenditure.
D. More research on understanding the gene functioning.

Disadvantages:

A. It can breach the ethical standards fixed in the development of pluripotent stem cells.
B. It can also cause personalised biological attacks by anyone who has the access of your gene sequence.
C. Can also lead to breach of Right to Privacy which is also a fundamental right.

About Genomics for Public Health in India (IndiGen) programme:

IndiGen programme aims to undertake whole genome sequencing of thousands of individuals representing diverse ethnic groups from India.

The objective is to enable genetic epidemiology and develop public health technologies applications using population genome data.

Why Genome sequencing?

Ever since the human genome was first sequenced in 2003, it opened a fresh perspective on the link between disease and the unique genetic make-up of each individual.

Nearly 10,000 diseases — including cystic fibrosis, thalassemia — are known to be the result of a single gene malfunctioning.

While genes may render some insensitive to certain drugs, genome sequencing has shown that cancer too can be understood from the viewpoint of genetics, rather than being seen as a disease of certain organs.