

# Prelims Focus - 24th April 2024

written by iasexam.com | 24/04/2024



## Survey of India (Sol)

### Recent News:

The Tamil Nadu State administration expressed concerns regarding the Survey of India (Sol) findings concerning Kerala's proposed construction of a large parking facility within the Mullaperiyar catchment region.

### Details:

- The Survey of India (Sol) is the national survey and mapping organisation of India, operating under the Department of Science and Technology.
- Established in 1767, it is one of the oldest scientific departments in the country.
- The primary mandate of the Survey of India is to conduct topographic, cadastral, and geographic surveys, as well as to produce maps and geographical information systems (GIS) data for the country.
- These surveys are crucial for various sectors including infrastructure development, urban planning, disaster management, and defence.
- The Sol also plays a vital role in demarcating boundaries, resolving border disputes, and providing accurate geospatial data to support scientific research and decision-making processes at both national and state levels.

## Biomarkers

### Recent News:

Screening for blood biomarkers has been proposed as a potential way to diagnose cancer at earlier stages of the disease.

### **Details:**

- Biomarkers are measurable indicators or characteristics that can be used to assess biological processes, disease states, or responses to treatment.
- They can be found in various biological materials such as blood, urine, tissues, or even imaging scans.
- Biomarkers play a crucial role in healthcare and biomedical research by providing insights into the health status of individuals, predicting disease risk, diagnosing illnesses, monitoring treatment efficacy, and guiding personalised medicine approaches.

### **Types of Biomarkers:**

- **Diagnostic Biomarkers:** These biomarkers indicate the presence of a disease or condition. For example, elevated levels of certain proteins in the blood may indicate the presence of cancer.
- **Prognostic Biomarkers:** Prognostic biomarkers provide information about the likely course or outcome of a disease. They help clinicians predict disease progression and patient survival rates.
- **Predictive Biomarkers:** Predictive biomarkers indicate how a patient is likely to respond to a specific treatment or therapy. They help personalise treatment plans and improve treatment outcomes.
- **Surrogate Biomarkers:** Surrogate biomarkers are used as substitutes for clinical endpoints in clinical trials. They provide a measurable indicator of the treatment's effect on the disease process.

## **Ross Ice Shelf**

**In News:** Recently researchers reported that the Ross Ice Shelf makes sudden jumps twice a day.

- The Ross Ice Shelf is the largest ice shelf in Antarctica, about the same size as the country of France.
- It is positioned in the Ross Sea and extends into the Southern Ocean.
- The ice shelf is known as after British explorer Sir James Clark Ross, who discovered it in the 19th century.
- **What's inflicting the Ross Ice Shelf jump?**
  - The motion of ice causes sudden shifts.
  - Two sections of ice press towards each other, simply as tectonic plates on Earth cause earthquakes. This rubbing creates tension that is released in the jumps.
  - The jump may cause "icequakes" – seismic disturbances that arise in the ice.

## Ethylene Oxide

**In News:** Singapore recently recalls India's spice product over alleged presence of a pesticide called ethylene oxide.

- It is an extraordinarily reactive compound that has not only been observed to be carcinogenic but also can be mutagenic if inhaled.
- It is a flammable, colorless fuel with a candy, ether-like smell.
- Ethylene oxide is a food fumigant that stops microbial infection, inclusive of bacteria, virus, and fungi.
- Long-time period publicity or excessive concentrations can cause intense health risks inclusive of mutagenicity (modifications in DNA), reproductive consequences, and carcinogenicity.

## India's Gems & Jewellery Sector

**In News:** India's gems and jewellery sector found to be on a bright spot amidst gold price surge.

- It is a large contributor to the country's economic system, contributing around 6-7% of the country's GDP.
- It employs over 4.64 million workers and is predicted to hire 8.23 million by 2022.
- It is one of the quickest-growing segments within the Indian financial system, with an annual growth rate of about 16%.
- As in line with the India Development Update by the World Bank, India emerged as one of the quickest-developing essential economies in FY 2022/23, boasting a growth price of 7.2 in line with cent.
- Forecasts advocate sustained growth, with a projected expansion of 6.3 percent in FY 2023/24.