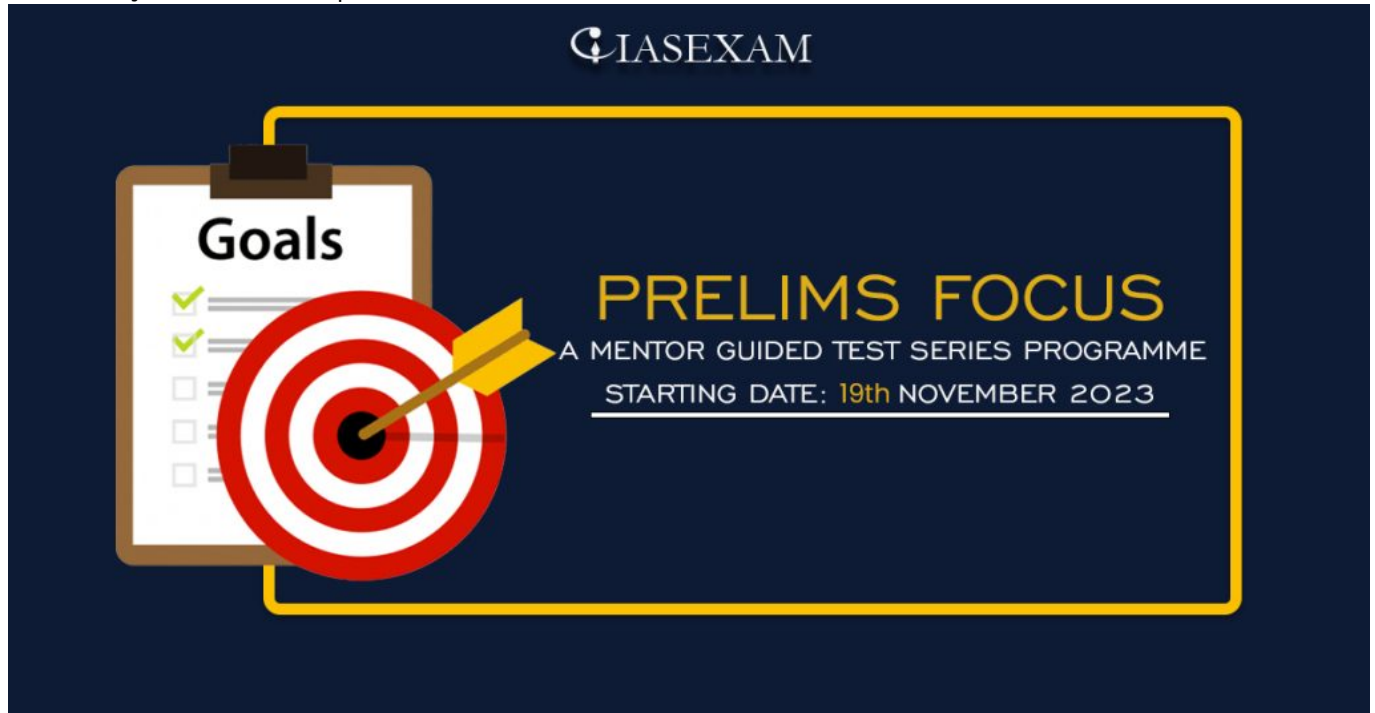


# Prelims Focus - 23rd April 2024

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## Llama 3

**In News:** Meta has recently introduced its most capable Large Language Model (LLM), the Meta Llama 3.

- It also delivered an image generator, which updates images in real-time at the same time as the person sorts out the activate.
- Llama or Large Language Model Meta AI is a circle of relatives of LLMs brought by Meta AI in 2023.
- Llama 3, the contemporary iteration of its LLM and has been launched in two forms, 8B and 70B parameters.
- Parameters are a measure of the dimensions and complexity of an AI version and normally, a bigger quantity of parameters means an AI version is more complicated and powerful.

## Euvichol-S

**In News:** The World Health Organisation (WHO) has prequalified a new oral simplified vaccine for cholera.

- Euvichol-S is a simplified system of the WHO prequalified inactivated oral cholera vaccine, Euvichol-Plus.
- Cholera, a deadly diarrheal sickness, caused by the bacterium *Vibrio cholerae*, has been surging globally considering 2021, with excessive case fatality charges no matter the availability of simple, powerful, and inexpensive remedy.
- The approval of Euvichol-S is expected to grow the overall supply of oral cholera

vaccines available in 2024, with approximately 50 million doses now forecasted to be available to the global stockpile this year, compared to 38 million in 2023.

## **DURGA-2 (Directionally Unrestricted Ray Gun Array)**

**In News:** DRDO is conducting tests on a prototype of its DURGA-2 (Directionally Unrestricted Ray Gun Array) laser defense system.

- It damages or destroys its target using centered energy by lasers, microwaves or particle beams.
  - Russia, France, Germany, the UK, Israel, and China have already got this system.
  - Their beams are not stricken by the constraining effects of gravity or atmospheric drag.
- **Advantages**
    - Directed power weapons, additionally referred to as laser weapons, if developed and deployed operationally, can neutralise any drone or ballistic missile assaults from the skies or maybe on the originating space as it could tour at the speed of the light. It can deflect the direction of the missiles and might even smash a fighter plane.
    - The present era of anti-plane or anti-missile structures aren't taken into consideration fool-proof but the laser weapon promises to have a hundred percent kill probability.

## **Dragonfly mission**

### **Recent News:**

NASA has officially announced that the Dragonfly rotorcraft mission to Titan, the largest moon of Saturn, will take place in 2028.

### **Details:**

The Dragonfly mission is a groundbreaking NASA initiative designed to send a robotic rotorcraft to Titan, Saturn's largest moon. This mission is set to launch in July 2028 and is expected to arrive at Titan in 2034.

- **Mission Type:** Dragonfly is an astrobiology mission aimed at assessing the microbial habitability of Titan and studying its prebiotic chemistry at various locations.
- **Innovative Design:** The spacecraft is a rotorcraft lander, essentially a drone-like craft that will perform controlled flights and vertical takeoffs and landings between exploration sites.
- **Scientific Goals:** The mission will explore Titan's abundant, complex, and diverse carbon-rich chemistry. Titan is unique with its surface dominated by water ice and an interior water ocean, making it a high-priority target for studies related to the origins of life.
- **Historical Context:** Dragonfly was proposed to NASA's New Frontiers program by the Johns Hopkins Applied Physics Laboratory (APL) and was selected as one of two

finalists in December 2017. It was officially selected for development as the fourth mission in the New Frontiers program on June 27, 2019.

- Current Status: As of April 2024, the Dragonfly mission has been confirmed and moved to its final development stages.

## Mount Ruang

### Recent News:

- Indonesian officials have issued a tsunami warning following five eruptions of Mount Ruang volcano, which released ash and lava.
  - The highest-level alert has been issued by the Centre for Volcanology and Geological Disaster Mitigation in Indonesia, warning of potential dangers such as the volcano collapsing into the sea and potentially causing a tsunami.

### Details on Mount Ruang:

- Mount Ruang is a stratovolcano located in the Sangihe Islands arc, North Sulawesi, Indonesia. It is known for its significant volcanic activity and is the southernmost volcano in the island chain. Here are some key details about Mount Ruang:
- **Geography:** Mount Ruang forms its own island, which is approximately 4 by 5 kilometres wide. The summit of the volcano contains a partial lava dome and reaches an elevation of 725 metres (2,379 feet).
- **Volcanic Activity:** The volcano has a history of eruptions, with at least 16 recorded since the first known eruption in 1808. Notably, an eruption in 1871 caused a tsunami that resulted in significant destruction and loss of life on the nearby island of Tagulandang.
- **Recent Eruptions:** As of April 2024, Mount Ruang is experiencing ongoing volcanic activity. The eruptions have prompted evacuations and the establishment of an exclusion zone around the volcano. The volcanic activity has also led to the temporary shutdown of Sam Ratulangi International Airport in Manado due to the spread of volcanic ash.
- **Public Safety Measures:** In response to the eruptions, authorities have raised the volcano's alert level to the highest in Indonesia and issued a tsunami alert. Residents and evacuees in the affected areas have been moved to safer locations, such as Manado on the mainland of Sulawesi.
- Mount Ruang's recent activity is a reminder of the dynamic and potentially hazardous nature of volcanic regions, especially within the "Ring of Fire" where Indonesia is located. The situation is being closely monitored by local and international agencies to ensure public safety and to provide timely warnings and updates.