
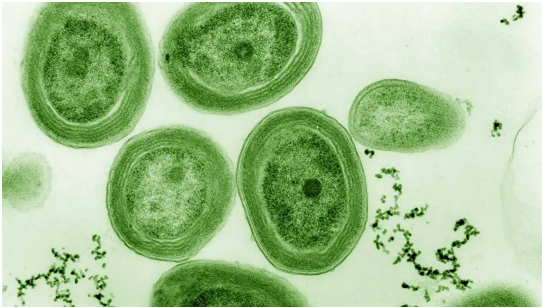




8 January 2024

National and International News

<p><b>Indian Landslide Susceptibility Map</b></p> 	<p><b>Context</b></p> <ul style="list-style-type: none"> <li>• <b>IIT-Delhi team</b> makes first hi-res landslide risk map for India</li> <li>• The '<b>Indian Landslide Susceptibility Map</b>' is the first of its kind by virtue of being on a national scale in the country.</li> <li>• The map and the researchers' study will be published in the <b>journal Catena</b> in its <b>February 2024 issue</b>.</li> </ul> <p><b>Key points</b></p> <ul style="list-style-type: none"> <li>• Landslides are a unique and deadly problem. They are less widespread and harder to track and study with satellites.</li> <li>• Landslides happen in localised areas and affect only about <b>1-2% of the country</b>.</li> <li>• The map acknowledged some well-known regions of high landslide susceptibility, like <b>parts of the foothills of the Himalaya, the Assam-Meghalaya region, and the Western Ghats</b>.</li> <li>• It also revealed some previously unknown places with high risk, such as <b>some areas of the Eastern Ghats, just north of Andhra Pradesh and Odisha</b>.</li> </ul>
<p><b>Oldest evidence of photosynthesis</b></p> 	<p><b>Context</b></p> <ul style="list-style-type: none"> <li>• A paper published in the journal <b>Nature</b> revealed that the <b>oldest evidence of photosynthetic structures</b> reported to date has been identified inside a collection of <b>1.75-billion-year-old microfossils</b>.</li> <li>• The discovery helps to shed light on the evolution of oxygenic photosynthesis.</li> </ul> <p><b>Key points</b></p> <ul style="list-style-type: none"> <li>• Oxygenic photosynthesis is unique to cyanobacteria and related organelles within eukaryotes.</li> <li>• It is in which sunlight <b>catalyses the conversion of water and carbon dioxide</b> into glucose and oxygen.</li> </ul>
<p><b>Centre notifies revised rules for quality control of pharma products</b></p>	<p><b>Context</b></p> <ul style="list-style-type: none"> <li>• The Union Health Ministry notified revised</li> </ul>



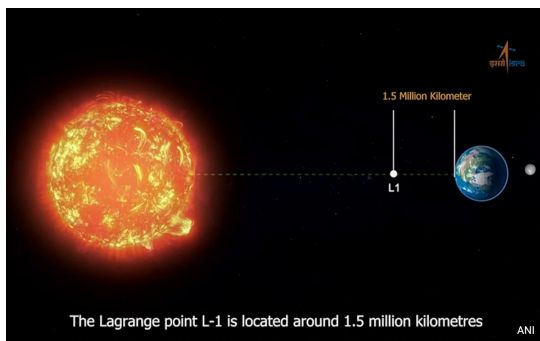
rules under **Schedule M of the Drugs and Cosmetics Rules, 1945.**

- It aimed at ensuring robust quality control for pharma and biopharmaceutical products.

**Key points**

- Schedule M prescribes the **Good Manufacturing Practices (GMP)** for pharmaceutical products and the revised Schedule M has been notified as rules to ensure that GMP is adhered to and requirements of premises, plant, and equipment for pharmaceutical products are met.
- The GMP is the mandatory standard that builds and brings quality into a product by way of control of materials, methods, machines, processes, personnel, facility/environment and so on.
- **GMP was first incorporated in Schedule M of the Drugs and Cosmetics Rules, 1945 in 1988 and was last amended in June 2005.**
- With the amendment, the words '**Good Manufacturing Practices**' (GMP) have been replaced with 'Good Manufacturing Practices and Requirements of Premises, Plant and Equipment for Pharmaceutical Products'.

**Aditya-L1**



**Context**

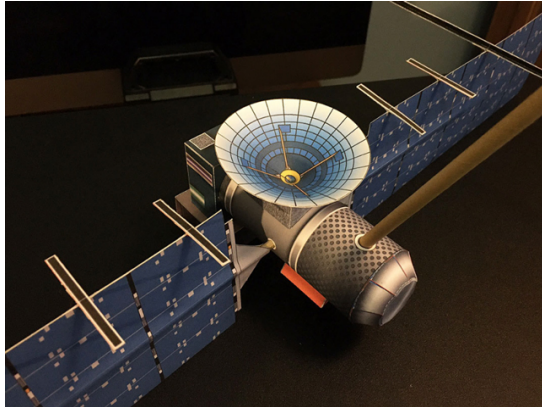
- The Indian Space Research Organisation (ISRO) has placed the **Aditya-L1 spacecraft in a halo orbit around the Lagrangian point (L1).**
- India's maiden solar mission, Aditya-L1, reached the L1 point, 127 days after it was launched on September 2, 2023.

**Key points**

- Aditya-L1 is the first space based observatory class Indian solar mission to study the Sun from a substantial **distance of 1.5 million kilometers.** It will take approximately 125 days to reach the L1 point.
- The mission **aims to provide valuable insights into the solar corona, photosphere, chromosphere, and solar**



Europa Clipper



wind.

- The primary objective of Aditya-L1 is to gain a deeper understanding of the Sun's behavior, including its radiation, heat, particle flow, and magnetic fields, and how they impact Earth.

Context

- Europa Clipper is a **robotic solar-powered spacecraft** built to conduct the first detailed investigations of **Jupiter's icy moon Europa**.
- The spacecraft will orbit Jupiter and make nearly **50 flybys of Europa** to determine whether there are places below Europa's surface that could support life.
- Europa Clipper will launch in **October 2024** on a SpaceX Falcon Heavy rocket from Kennedy Space Center in Florida.
- The spacecraft will fly by **Mars**, then back by **Earth**, using the gravity of each planet to increase its momentum.
- These so-called "**gravity assists**" will provide Europa Clipper with the velocity needed to reach Jupiter in 2030.

Goal:

- After it begins orbiting Jupiter, Europa Clipper will spend about a year altering its trajectory to prepare for its first Europa flyby.
- The spacecraft will then spend about three years soaring past Europa dozens of times and sending data back to Earth.
- Over the course of the mission, the spacecraft will investigate nearly the entire moon.

Europa Clipper Fast Facts

- With its solar arrays deployed, Europa Clipper **spans more than 100 feet (about 30 meters) – about the length of a basketball court.**
- The spacecraft has **24 engines.**
- Europa Clipper will orbit Jupiter and make nearly **50 flybys of Europa.**
- The spacecraft has 9 dedicated science instruments, plus gravity/radio science.
- At launch, Europa Clipper will weigh



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approximately 13,000 pounds (6,000 kilograms). Nearly 6,000 pounds (2,750) will be propellant.



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