UPSC Daily Current Affairs| One Liners 23-04-2025

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Geography

Lyrid Meteor Shower, 2025

India is set to witness the Lyrid Meteor Shower, 2025, an annual event known for bright meteors and fireballs, occurring every April, which is expected to peak on the night of April 21 into the early hours of April 22.

• It is one of the oldest recorded celestial events in human history, with observations dating back over 2,700 years.

• It occurs when the Earth passes through debris from Comet C/1861 G1 (Thatcher).

• **Comet C/1861 G1 (Thatcher)** – It is a sand-sized fragments burn up in the atmosphere, creating meteors. Typically, 10-20 meteors per hour are seen at its peak, with occasional outbursts and lingering dust trails.

• **Observation** – To maximize viewing, find a dark location with a clear view of the northeastern sky and the naked eye is sufficient to enjoy this cosmic display.

• **Viewing locations** – Hill stations, remote areas in Himachal Pradesh, Uttarakhand, Rajasthan, and the Northeast, national parks, and rural countryside with a clear northeastern horizon are ideal.

Polity & Governance

Maharashtra Mandates Hindi as Third Language

Recently, Maharashtra school education department has announced a significant reform under the National Education Policy (NEP) 2020.

• **Aim** – To promote multilingualism and strengthen national integration.

• This move aligns with NEP 2020's 3-language formula.

• **3-language formula** – Hindi will become a mandatory third language for students in Classes 1 to 5 in English and Marathi-medium schools starting from the academic year 2025–26.

• **Shift from 2-Language system** – This new directive marks a departure from the existing two-language format prevalent in Marathi and English-medium schools.

• **New Education Structure** – This change is in accordance with NEP 2020's recommended 5+3+3+4 education structure, specifically impacting the Foundational and Preparatory stages.

Law Commission of India

Recently, Justice Dinesh Maheshwari, a former Supreme Court judge, was appointed as the Chairperson of the 23rd Law Commission of India in April 2025.

• **Established in** – 1834, under the Charter Act of 1833, with Lord Macaulay serving as its chairman.
• **Law Commission** – It is a non-statutory advisory body, established by a notification from the Ministry of Law and Justice for a specific tenure to conduct legal research for reforms.
• **23rd Law Commission** – It is primarily responsible for examining and recommending reforms in Indian law, with a notable emphasis on the contentious Uniform Civil Code (UCC).
• **Key Functions** – Reviewing and recommending the repeal of outdated laws.
  - Examining laws affecting the poor
  - Proposing new legislation aligned with constitutional principles
  - Reviewing judicial administration matters referred by the government.

Economy

Green Crypto Initiative

Recently, Bhutan is venturing into mining green cryptocurrency using its abundant hydropower resources to stimulate its economy and address youth emigration.

• **Green Cryptocurrencies** – They are digital currencies mined using renewable energy sources, such as hydropower, wind, or solar, ensuring a lower environmental impact than traditional mining.
• **Aim** – To provide environmentally friendly digital assets for companies striving to meet their Environmental, Social, and Governance (ESG) objectives.
• The adoption of green cryptocurrency mining aligns with Bhutan's Gross National Happiness (GNH) philosophy, which prioritizes sustainable development and environmental preservation.
• **Key attributes** – Bhutan's green cryptocurrency mining leverages 100% hydropower, resulting in carbon-neutral operations and supporting blockchain technology with a minimal ecological footprint.
• **Economic impact** – This move positions Bhutan as a potential global leader in green digital finance, allowing it to capitalize on its existing hydropower infrastructure for economic diversification and growth.

Agriculture

ISRO Forecasts Wheat Production

Recently, ISRO's CROP framework has projected India's wheat production for the Rabi season 2024-25 at 122.724 million tonnes across eight key wheat-growing states.

• **CROP Framework** – Comprehensive Remote Sensing Observation on Crop Progress (CROP) is a semi-automated, scalable system for near real-time monitoring of crop stages.
• **Developed by** – ISRO's National Remote Sensing Centre (NRSC).
• **Aim** – To provide systematic, timely, and scalable agricultural crop monitoring using satellite data for accurate condition assessments and improved planning.
• **Features** – CROP utilizes optical and SAR data from satellites like EOS-04, EOS-06, and Resourcesat-2A. It maps wheat distribution over 8 lakh hectares and integrates crop simulation models with multi-source data fusion for enhanced precision.
• **Significance** – It supports the Ministry of Agriculture in real-time agricultural monitoring, aiding in informed agri-policy making and strategic interventions.
• It assists in disaster assessment and promotes the integration of space-based precision agriculture.

Environment

Novel Archaeal Species

Recently, researchers have identified a new novel archaeal species_Methanobrevibacter Intestini, offering insights into human-microbiome interactions.

• It is a new archaeon species produces methane and succinic acid, a compound linked to inflammation.

***Archaea** are a unique life domain, separate from bacteria and eukaryotes, with distinct cellular and metabolic characteristics.*

• **Methanogens** – It is a subgroup of archaea, produce methane and are increasingly recognized as important components of the human gut microbiome.

• **Discovery of Methanobrevibacter smithii Variant** – It is named as GRAZ-2, which was isolated and found to produce formic acid, potentially disrupting other gut microbes.

• **Implications for microbiome dynamics** – The discovery of GRAZ-2 highlights the complex interactions within the gut microbiome and their potential influence on human health.

Security

New Hydrogen-Based Explosive

Recently, China has successfully tested a 2-kilogram hydrogen-based explosive device, showcasing non-nuclear military potential.

• **Developed by –** China State Shipbuilding Corporation's (CSSC).

• **Explosive capabilities** – The device produces a white-hot fireball lasting over two seconds, 15 times longer than TNT, and reaches temperatures exceeding 1,000 degrees Celsius, enabling extensive thermal damage.

• It utilizes magnesium hydride as its key material.

• **Mechanism of sustained detonation** – It causes magnesium hydride to decompose, releasing and igniting hydrogen.

• The blast shatters the hydride, with fragments continuing to release hydrogen, creating a self-sustaining explosion and allowing for controlled intensity.

• **Military Applications** – This weapon can be used to clear dispersed forces or target high-value assets like bridges and fuel depots.

• China has established a mass production facility for magnesium hydride in Shaanxi.

Science

Digital Connectivity in Ladakh

Recently, Indian Army has successfully provided 4G and 5G mobile connectivity to remote border communities in Ladakh, including challenging terrains and the Siachen Glacier.

• **Aim** – To uplift remote border villages by fostering local economies, promoting tourism, and improving access to vital services.

• **Collaboration** – The Army collaborated with Telecom Service Providers and Ladakh administration, utilizing optical fiber infrastructure to install mobile towers, including a 5G tower in Siachen.

• **Coverage** – The mobile network extends to strategically important and remote areas like Galwan Valley, DBO, Chumar, Batalik, and Dras, enhancing connectivity near the LAC.

• **Significance** – This initiative addresses the critical need for improved communication in high-altitude areas, particularly for troops facing isolation and harsh conditions.

• It sets a precedent for future infrastructure projects in remote areas, highlighting the importance of digital connectivity in national development and improving lives in high-altitude regions.

New World Screwworm (NWS) Myiasis

NWS myiasis, recently detected in Mexico which is a parasitic infection caused by Cochliomyia hominivorax larvae, primarily affecting livestock but occasionally humans.

• **Development of infection** – It occurs when screwworm fly larvae infest warm-blooded animals. Female flies lay eggs in open wounds, which hatch into larvae that burrow into living tissue, causing significant damage.

• **Symptoms** – Presence of maggots in wounds, unhealing and painful lesions with bleeding, a foul odour, and potential secondary infections leading to fever or chills.

• **Higher risk** – Those travelling to endemic regions (South America, Caribbean), individuals with open wounds, weakened immune systems, or those around livestock are at increased risk of infection.

• **Transmission** – It spreads when female screwworm flies are attracted to open wounds and lay eggs. Hatched larvae then burrow into the tissue, establishing an infestation.

• **Prevention** – Keeping wounds clean and covered, using insect repellents, wearing protective clothing, and sleeping in screened areas.

• **Treatment** – It requires professional medical intervention for the physical removal of larvae, often surgically.

Miscellaneous

Pope Francis

Recently, Pope Francis, aged 88, has passed away following a prolonged illness, including a recent bout of double pneumonia, as announced by the Vatican.

• **Historic Papacy** – The first Latin American and Jesuit pope, Francis's reign was defined by reform, compassion, controversy, and a strong commitment to social justice.

• **Born on** – 1936, Jorge Mario Bergoglio in Buenos Aires, he was the son of Italian immigrants, known for his simple lifestyle and advocacy for the poor.

• Francis became the first pope from the Americas, the first Jesuit pope, and the first non-European pope in over 1,200 years.

• **Election** – His election marked a significant moment for the Catholic Church, symbolizing its efforts to renew itself and embrace global diversity.

• **Lasting legacy** – Pope Francis leaves behind a legacy of significant reforms and a profound impact on the Church and the world, characterized by his dedication to the marginalized and his efforts to modernize the Church.