UPSC Daily Current Affairs| One Liners 30-05-2025

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History, Art and Culture

National Institute of Naturopathy (NIN), Pune Celebrates Vat Amavasya with Harit Yoga

Recently, NIN Pune, uniquely combined Vat Amavasya festivities with the Ministry of Ayush's Harit Yoga initiative, leading up to the 11th International Day of Yoga (IDY) 2025.

• **Event Highlights -** On Vat Amavasya, the event was organized by NIN Pune and linked to the Harit Yoga initiative and IDY 2025.

• **Theme** - Is "Yoga for One Earth, One Health."

• **Banyan Tree Significance:** - Also known as Vat Vriksh holds deep cultural meaning, symbolizing longevity and wisdom. Ecologically, it improves air quality, provides habitat, and stabilizes soil.

• **The event aimed** - To blend tradition with environmental consciousness, promote Harit Yoga, and raise sustainable living awareness.

• **Activities**- Included tying threads around the Banyan tree and enjoying mango juice.

• **Background -** Vat Amavasya is a traditional festival, while Harit Yoga is a Ministry of Ayush initiative combining yoga with eco-awareness, preceding IDY 2025 on June 21st.

Vice-President (VP) Commissions Statues of Ancient Physicians

VP recently commissioned statues of Charaka and Sushruta at Raj Bhavan, Goa, acknowledging their profound contributions to ancient Indian medicine.

• **Charaka** - Known as the "Father of Medicine," Charaka (c. 2nd century BCE - 2nd century CE) served as the royal physician of Kanishka.

• **Authored -** The Charaka Samhita, a foundational Ayurvedic text. This work was a revision of the earlier Agnivesha Samhita, divided into eight sections.

• **Sushruta** (c. 7th–6th century BCE) - Is celebrated as the "Father of Surgery" and "Father of Plastic Surgery." A disciple of Dhanvantari, he authored the Sushruta Samhita, one of the earliest texts on surgical procedures.

• **Surgical Prowess** - Sushruta documented over 300 surgical procedures, including pioneering rhinoplasty (nose reconstruction), fracture management, and even caesarean deliveries. He also performed numerous lobuloplasty and otoplasty cases.

• **Key Texts** - The Sushruta Samhita is part of Ayurveda’s "Great Trilogy," alongside the Charaka Samhita and Astanga Hridaya, underscoring its historical importance.

Geography

Jarosite: A Martian Geological Clock

A recent study reveals jarosite as a natural luminescent mineral capable of recording ancient Martian events like dust storms and flooding.

• **Jarosite -** This yellow-brown mineral, rich in potassium, iron, and sulphate, thrives in arid, salty environments and exhibits radiation-induced luminescence, acting as a geological clock.

• **Dating Capability -** Can record geological events up to 25,000 years ago, offering crucial timing insights into planetary history.

• **Occurrence on Earth -** On Earth, jarosite is found in acid mine drainage, sulfur-rich volcanic zones, and arid sedimentary rocks, including Gujarat's Kutch region.

• **Occurrence on Mars -** NASA's Opportunity and Curiosity rovers detected jarosite on Mars in Meridiani Planum and Gale Crater.

• **Dating Method -** It's effectively used with the Potassium-Argon (K-Ar) dating method, a radiometric technique that determines age based on potassium-40 decay.

International Relations and Issues

International Day of UN Peacekeepers

Observed on May 29th, the International Day of UN Peacekeepers commemorates the 1948 launch of the first UN peacekeeping mission, UNTSO, in the Middle East.

• **Theme for 2025** -"The Future of Peacekeeping

• **UN General Assembly -** Designated this day in 2002.

• **Role** - UN peacekeepers are vital for global peace and security, working to prevent conflicts, protect civilians, facilitate political processes, and restore stability in war-torn regions.

• **Peacekeeping Operations** - Deployed to conflict areas, they monitor ceasefires, implement peace agreements, and prevent renewed hostilities, serving as a neutral presence to de-escalate tensions.

• **Protecting Civilians** - A primary duty involves shielding vulnerable civilians by establishing safe zones, providing humanitarian aid, and ensuring the safety of displaced populations.

• **Conflict Resolution** - Peacekeepers actively engage in mediation, fostering dialogue between warring factions, supporting peace processes, and striving for peaceful dispute resolutions.

• **Disarmament Efforts** - In post-conflict settings, they facilitate weapon collection, oversee the demobilization of armed groups, and support the reintegration of former combatants into society.

One Big Beautiful Bill Act" (OBBBA) Passes House

• The US House of Representatives passed the One Big Beautiful Bill Act of 2025 (OBBBA), encapsulating President Trump's policy agenda. It now awaits Senate deliberation, with its key elements set to impact the US economy.
• **Features** - The OBBBA has five main components: permanent extension of 2017 income and estate tax cuts, new tax reductions on overtime/tips/Social Security income, increased funding for border security and military, reduction of government waste, and raising the debt ceiling.
• **Tax Cut Claims** - The White House claims Americans earning between $30,000 and $80,000 will see a 15% tax cut next year.
• **Economic Concerns** - Economists warn the bill's tax cuts and spending could exacerbate the federal deficit, potentially pushing the debt-to-GDP ratio unsustainably high and increasing borrowing costs.
• **Redistributive Aspects** - Critics argue the OBBBA disproportionately benefits the wealthy. The CBO predicts resource decreases for lowest-income households, while highest-income households see increases.
• **Legislative Process** - The OBBBA moves to the Senate for scrutiny and negotiation. Both chambers must agree on the final version before presidential approval.
• **Future Implications** - The bill's passage is expected to have lasting implications for the US economy and the Republican Party's future.

Environment

India at Sagarmatha Sambaad

Recently, India's Environment Minister attended Nepal's inaugural Sagarmatha Sambaad, emphasizing climate action and Himalayan protection.
• **Sagarmatha Sambaad -** This biennial global dialogue, named after Mount Everest, focuses on mountain ecosystems and climate resilience. Its first edition's theme was "Climate Change, Mountains and the Future of Humanity."
• **Focus -** Discussions centered on climate change impacts like glacial melt and biodiversity loss.
• **India's 5-Point Call -** India proposed enhanced scientific cooperation (e.g., **Project Snow Leopard**), building climate resilience, empowering mountain communities, providing green finance, and advocating for mountain perspectives.
• **Himalayan Importance -** The Himalayan ecosystem is crucial for India’s environmental and economic well-being.
• **Significance -** The Sambaad highlights the urgent need for global cooperation on critical mountain region climate challenges.

Security

DRDO Opens Quantum Technology Research Centre (QTRC)

Recently, DRDO inaugurated the Quantum Technology Research Centre (QTRC) in Delhi. This boosts India's quantum ecosystem for national defense and security, fostering sovereign capabilities in quantum technologies.

• **QTRC aims** - to develop indigenous quantum technologies for national security, enhance secure quantum communications (QKD), and strengthen India's strategic edge in post-quantum cryptography and sensing.

• **Major Capabilities -** The center features laser characterization setups, quantum communication testbeds, precision timekeeping systems, and advanced materials development.

• **Leadership -** The Scientific Analysis Group (SAG) and Solid State Physics Laboratory (SSPL) spearhead QTRC, with DRDO Chairman Dr. Samir V Kamat's involvement.

• **Broader Significance -** QTRC supports India's National Quantum Mission, promoting self-reliance and global participation in quantum supply chains.

• **Future Impact -**This initiative positions India as a potential quantum leader in Asia and globally.

Science

Mendel's Pea Mystery Recently Solved

Gregor Mendel's 1856 pea experiments identified seven inheritance traits, but his work was largely unrecognized until independently rediscovered in 1900.

• **Mendel's Core Discoveries -** Mendel established predictable 3:1 trait ratios and concepts of dominant/recessive genes, forming modern genetics' foundation.

• **Enduring Mystery -** Despite advancements, the genetic basis for all seven of Mendel's traits remained unexplained until recently, with only four previously characterized.

• **Recent Breakthrough Study -** A *Nature* paper "Genomic and genetic insights into Mendel's pea genes" utilized next-generation sequencing on 697 pea variants, generating extensive DNA data.

• **Key Genetic Discoveries -** The study recently identified the genetic basis for the remaining three traits: pod color (ChlG gene deletion), pod shape (MYB and CLE-peptide changes), and flower position (CIK-like-coreceptor-kinase gene deletion).

• **Implications -** This breakthrough resolves a 160-year-old genetics puzzle, offering a blueprint for improved plant breeding and demonstrating the power of modern genomics.

India's First Sickle Cell Disease Stigma Scale Launched

The Indian Council of Medical Research (ICMR) has developed the ICMR-SCD Stigma Scale for India (ISSSI), the country's first tool to measure and address stigma faced by sickle cell disease (SCD) patients and caregivers.

• **Features of ISSSI** - This multi-dimensional tool assesses stigma across five areas: familial/reproductive, disclosure, illness burden, discrimination, and healthcare. It is culturally grounded, developed in six SCD-endemic districts, and psychometrically validated for reliability.

• **Need for a Local Tool**- Existing SCD stigma scales from Africa and America were deemed unsuitable due to India's unique phenotypic, socio-cultural, and contextual differences.

• **Sickle Cell Disease (SCD)** - SCD is a hereditary blood disorder caused by a genetic mutation in the hemoglobin gene, leading to abnormal, sickle-shaped red blood cells (RBCs).

• **Impact of SCD** - These less flexible, sickle-shaped RBCs impede blood circulation, causing anemia, organ damage, severe pain, and reduced lifespan.

• **Purpose and Benefits** - ISSSI provides a crucial instrument for clinical use, research, and policy evaluation to effectively address and mitigate stigma associated with SCD in India.

Miscellaneous

Padma Awards Conferred at Rashtrapati Bhavan

The Civil Investiture Ceremony-II recently saw the official presentation of Padma Awards 2025 at Rashtrapati Bhavan.

• **About Padma Awards -** Instituted in 1954, these awards are conferred by the President of India. They include Padma Vibhushan (exceptional service), Padma Bhushan (high-order distinguished service), and Padma Shri (distinguished service).

• **Objectives of Awards-** Padma Awards honor individuals for excellence and achievements across diverse fields like Art, Literature, Science, Medicine, Sports, and Public Affairs.

• **Ceremony Highlights -** PM Modi attended and lauded awardees' inspiring journeys. Vice-President Dhankhar and Union Ministers were also present, acknowledging contributions from diverse personalities.

• **Significance-** The awards highlight India's diverse talent and honor contributions beyond mainstream recognition, reinforcing the "Nation First" principle.

India Unveils 9000 HP Electric Locomotive

PM Narendra Modi flagged off Indian Railways' first 9000 HP electric locomotive in Dahod, Gujarat.

• **This "Make in India" initiative in collaboration** – With Siemens, aims to revolutionize freight transport by boosting efficiency and reducing congestion.

• **Key Features** - This is Indian Railways' most powerful single-unit electric engine. Built in Dahod, it's designed to haul heavier freight trains and is factory-fitted with Kavach, India's indigenous collision avoidance system.

• **Aims** - The locomotive targets decongesting freight routes, improving logistics, and lowering costs. It also supports "Make in India" and "Make for World" visions, generating local employment.

• **Background Facts** - Unlike traditional 4500/6000 HP locomotives or coupled 12,000 HP units, this is a single 9000 HP engine. The Dahod facility will produce 1,200 such locomotives, with 89% indigenous components.

• **Significance -** This locomotive reduces the need for multiple engines, enabling faster, cost-effective freight movement. It supports sustainable growth, enhances safety, and creates local employment.

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