UPSC Daily Current Affairs| One Liners 28-04-2025

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History, Art and Culture

Passing of Historian Muttayil Govinda Sankara Narayanan

Recently, India mourns the demise of the eminent historian MGS Narayanan, widely known as M G S Narayanan, who passed away at 92, leaving a significant void in Indian historiography.

• **Early Life and Background -** Born on August 20, 1932, in Ponnani, Kerala, a region steeped in cultural history.

• **Leadership Roles in Historical Research -** Narayanan held key positions, serving as Member Secretary and later as Chairman of the esteemed Indian Council of Historical Research (ICHR), guiding historical scholarship in India.

• **Academic Contributions -** He was closely associated with the University of Calicut, making substantial contributions to its research endeavors and overall academic development.

• **Prolific Author and Researcher -** Authored over 200 books and articles, including an impressive 112 research papers published in renowned national and international journals.

• **Specialization in South Indian History -** His research extensively focused on Kerala's ancient history, temple inscriptions, Brahmin settlements, and broader social transformations across South India.

Geography

Extraordinary Bullseye Galaxy

LEDA 1313424, or the Bullseye Galaxy, is a captivating giant elliptical galaxy located 567 million light-years away in the Pisces constellation.

• It stands out due to an unprecedented phenomenon: nine glowing star rings encircling its core.

• **Basic Characteristics -** Approximately 2.5 times larger than our Milky Way, the Bullseye Galaxy spans about 250,000 light-years in diameter. Its defining feature is the spectacular series of stellar rings, resembling a cosmic bullseye.

• **Formation Through Galactic Collision -** Scientists believe these unique rings formed from a violent galactic collision. Around 50 million years ago, a smaller blue dwarf galaxy plunged through the Bullseye's center, triggering a ripple effect. This compressed gas and initiated waves of new star formation, leading to the distinct rings.

• **Unprecedented Number of Stellar Rings -** While typical ring galaxies might have one to 3 rings, the Bullseye Galaxy boasts nine distinct stellar rings, an unprecedented number that makes it a unique subject in galactic studies.

Krishna River Faces Early Drying

Krishna River to dry up prematurely this year due to extreme heat, severely impacting irrigation in Karnataka's Bagalkot, Vijayapura, and Yadgir districts.

• **Source and Course** - Originating near Mahabaleshwar in Maharashtra's Western Ghats, the Krishna River flows eastward for approximately 1,400 km, eventually emptying into the Bay of Bengal near Vijayawada in Andhra Pradesh.

• **Key Tributaries** - Include the Venna, Koyna, Panchganga, Dudhganga, Ghataprabha, Malaprabha, and Tungabhadra. The major left bank tributaries are the Bhima, Musi, and Munneru.

• **Unique Characteristics** – It is a 2nd -largest east-flowing river in Peninsular India and is heavily reliant on rainfall, leading to considerable fluctuations in its water flow throughout the year.

• **Major Hydroelectric Projects** - Installations along the river include Srisailam, Nagarjuna Sagar, and the Tungabhadra project.

• **Important Irrigation Projects** - Key irrigation initiatives include the Tungabhadra Project in Karnataka, the Srisailam and Nagarjuna Sagar Dams in Andhra Pradesh/Telangana, the Prakasam Barrage in Andhra Pradesh, and the Ghataprabha & Bhima Projects in Maharashtra.

Economy

Digilocker

Recently, at Indira Gandhi Stadium in New Delhi, the Union Minister of Youth Affairs & Sports and Labour & Employment inaugurated the digital issuance of sports certificates through DigiLocker.

Key points about DigiLocker

• Launched in 2015 under the Digital India program, it's a flagship initiative of the Ministry of Electronics & IT (MeitY).

• It's a government-approved application maintained with strict security protocols.

• The DigiLocker app allows users to securely store their digital records.

• It facilitates various processes like passport applications, marksheet verification, and identity proof during travel.

• As part of India's paper-free initiative, it enables users to access, verify, and store essential documents digitally for easy retrieval and presentation.

• Digitally issued documents in DigiLocker are legally equivalent to original physical documents, as per IT Rules, 2016.

• It employs robust security measures, including 2048 Bit RSA SSL encryption, multi-factor authentication (OTP), consent mechanisms, timed logouts, and regular security audits.

Environment

Similipal National Park

Recently, the ecologically significant Similipal in Odisha has been officially declared a national park by the state government. This makes it India's 107th national park and the second in Odisha, following Bhitarkanika's designation.

Key facts about Similipal National Park:

• **Located** - In the Mayurbhanj District of northern Odisha, it spans 2750 sq. km and features scenic waterfalls like Joranda and Barehipani.

• **Initially designated -** As tiger reserve in 1973 and a wildlife sanctuary in 1979, a 303 sq. km area was proposed as a National Park in 1980.

• **UNESCO recognized** - It as a Biosphere Reserve in May 2009, and it falls under the Mayurbhanj Elephant Reserve, including nearby wildlife sanctuaries.

• **Physical Features**- Characterized by high plateaus, hills (with Khairiburu and Meghashini as the highest peaks), undulating terrain, grasslands, and forests.

• **Vegetation** - Is diverse, primarily Northern tropical moist deciduous forests with some semi-evergreen areas.

• **Fauna**-The park is renowned for its tiger, elephant, and hill mynah populations, holding the highest number of tigers in Odisha.

Security

Successful Missile Test by INS Surat

Indian Navy's guided missile destroyer INS Surat recently conducted a successful test-firing of a medium-range surface-to-air missile in the Arabian Sea, demonstrating its operational capabilities.

• **Commissioned in** - Indian Navy in January 2025.

• **Design and Construction** - The warship was indigenously designed by the Navy's Warship Design Bureau and expertly built by Mazagon Dock Shipbuilders in Mumbai, highlighting domestic shipbuilding prowess.

• **Project 15B Destroyer** - INS Surat is the 4th and final ship of the Project 15B stealth guided missile destroyer class, also known as the Visakhapatnam class, marking a significant advancement in India's naval power

• **Indigenous Content -** It is equipped with cutting-edge weapon-sensor packages and advanced network-centric capabilities

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DRDO has achieved a significant advancement in scramjet engine technology

Recently, DRDL Hyderabad achieved a major milestone in hypersonic technology by successfully ground-testing an active cooled scramjet combustor for over 1,000 seconds at the newly built state-of-the-art Scramjet Connect Test Facility at Hyderabad.

Key points about hypersonic missiles:

• Hypersonic missiles travel at or above Mach 5 (five times the speed of sound).

• Their key differentiating feature from ballistic missiles is their manoeuvrability during flight.

• Unlike ballistic missiles that follow a predictable trajectory, hypersonic missiles can adjust their course to reach the target.

• There are two main types: Hypersonic Glide Vehicles (HGVs) and Hypersonic Cruise Missiles.

• HGVs are launched by a rocket and then glide, while hypersonic cruise missiles use scramjet engines for sustained high-speed flight after reaching their target.



Science

Landmark Gene Therapy Trial for Haemophilia

18. *BRIC-inStem, Bengaluru, in collaboration with CMC Vellore, has achieved a significant milestone by successfully conducting India's first-in-human gene therapy trial for Haemophilia.*

• **Gene Therapy -** Gene therapy is an innovative biomedical technique focused on modifying or replacing faulty genes within a person's cells to treat or prevent diseases by introducing functional genes or inactivating malfunctioning ones.

• **Targeting Root Causes -** Unlike traditional medicines that address symptoms, gene therapy aims at the fundamental genetic causes of diseases at a cellular level.

• **Approaches in Gene Therapy -** Current clinical trials employ methods like ex vivo modification of blood stem cells and T-lymphocytes, as well as in vivo gene delivery or gene-editing reagents directly into the patient.

• **Haemophilia -** Haemophilia is a rare inherited bleeding disorder characterized by impaired blood clotting due to mutations in genes on the X chromosome, predominantly affecting males.

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World Immunization Week (WIW) 2025: A Global Effort

WIW 2025, observed globally from April 24th to 30th, is a crucial campaign led by the World Health Organization (WHO).

• Goal - Is to champion the life-saving power of vaccines and underscore their vital role in public health

• Theme for 2025 - Immunization for all is Humanly Possible, stresses the importance of universal vaccine access for all ages to prevent deadly diseases and improve health.

• Universal Access to Vaccines – which encourages individuals, communities, and governments to ensure everyone has access to necessary vaccines for a long and healthy life.

• Life-Saving Impact - Since 1974, immunization has saved roughly 6 lives per minute, protecting against over 30 diseases.

• Promoting Awareness - The campaign aims to tackle challenges like missed vaccinations that cause disease resurgence by increasing awareness and public education about immunization's importance.

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