

December - 03

TNPSC BITS

- ❖ Major General Al Raisi was awarded the INTERPOL Medal of the Highest Order in recognition of his outstanding leadership in global security.
 - Al Raisi is the first Arab to be elected as the President of Interpol and the first President of Interpol from the Middle East since its foundation in 1923
- ❖ Tessy Thomas, India's 'Missile Woman', has been awarded with the Dr Paulos Mar Gregorios Award 2025 for her pioneering contributions to defence science.


TAMIL NADU NEWS

250th birth anniversary of Muthuswami Dikshitar

Sri Muthuswami Dikshitar

Sri Muthuswami Dikshitar (1776–1835) is one of the revered trinity of Carnatic music, alongside Tyagaraja and Syama Sastri. A prolific composer, veena expert and singer, and a deeply spiritual soul, his works are known for their Sanskrit lyrical beauty, deep philosophical content, and intricate raga treatment.

Born in Tiruvarur, Dikshitar was widely travelled and profoundly influenced by both South Indian and North Indian traditions and also by Western Music. His krithis are an invaluable treasure trove - marked by majestic phrasing, scholarly wordplay, rich raga bhava, and devotion. They are noted for their elaborate, poetic descriptions of Hindu deities, architectural descriptions of temples, and for capturing the essence of the raga forms through the vainika (veena) style that emphasizes gamakas



- ❖ The year 2025 marks the 250th birth anniversary of Muthuswami Dikshitar, one of the Trinity of Carnatic music.
- ❖ He was born in 1775 in Tiruvarur, Tamil Nadu.
- ❖ He created around 229 known compositions; many recorded in the Sangeetha Sampradaya Pradarshini.
- ❖ He composed in Sanskrit, using slow and detailed musical structures called vilamba kala.



- ❖ His compositions in ragas like Brindavana Saranga, Dwijavanti, Yamuna Kalyani, Manirangu, and Narayana Gowlai helped establish their structure.
- ❖ Some ragas such as Hemavathy, Kumudakriya, and Naga Gandhari became well-known mainly through his kritis (compositions).
- ❖ He created major works like the Kamalamba Navavarana and Abhayamba Vibhakti series, which are central to Carnatic music studies.
- ❖ A music movement named Guruguhaamrta, started in 2009, is organising the celebration to showcase its unique ragas and musical style.

NATIONAL NEWS

Renaming of Raj Bhavans

- ❖ The Ministry of Home Affairs (MHA) sent a letter to all Governors and Lieutenant Governors.
- ❖ It suggested renaming Raj Bhavans as Lok Bhavans because the old name has a “colonial” association.
- ❖ It also suggested renaming Raj Niwas (the Lieutenant Governor’s residence) as Lok Niwas.
- ❖ West Bengal and Ladakh changed their names soon after receiving the letter.
- ❖ Raj Bhavan is the official home of a State Governor, and Raj Niwas is the home of a Union Territory Lieutenant Governor.

இனி ராஜ்பவன் இல்லை!

2024ம் ஆண்டு நடந்த ஆளுநர்கள் மாநாட்டில் ‘ராஜ் பவன்’ என்ற சொல் காலனியாதிக்கத்தை நினைவூட்டுவதால், ராஜ்பவன்களை ‘லோக் பவன்’ எனப் பெயர் மாற்றிப் பரிந்துரைக்கப்பட்டது. அதன்படி, அனைத்து ஆளுநர் அலுவலகங்களும் ‘லோக் பவன்’ மற்றும் ‘லோக் நிவாஸ்’ என பெயர் மாற்றம் செய்ய அறிவுறுத்தப்படுவதாக உள்துறை அமைச்சகம் அறிவிப்பு.

HAL-GE Tejas Mk1A Engine Deal

- ❖ Hindustan Aeronautics Limited (HAL) signed a \$1-billion deal with GE Aerospace for 113 jet engines.

- ❖ The engines, F404-GE-IN20, will power Tejas Light Combat Aircraft (LCA) Mk1A jets.
- ❖ The Defence Ministry approved a ₹62,370-crore deal for 97 Tejas Mk1A jets for the Indian Air Force (IAF).
- ❖ Tejas Mk1A is a single-engine, multi-role fighter for air defence, maritime reconnaissance, and strike missions.



INTERNATIONAL NEWS

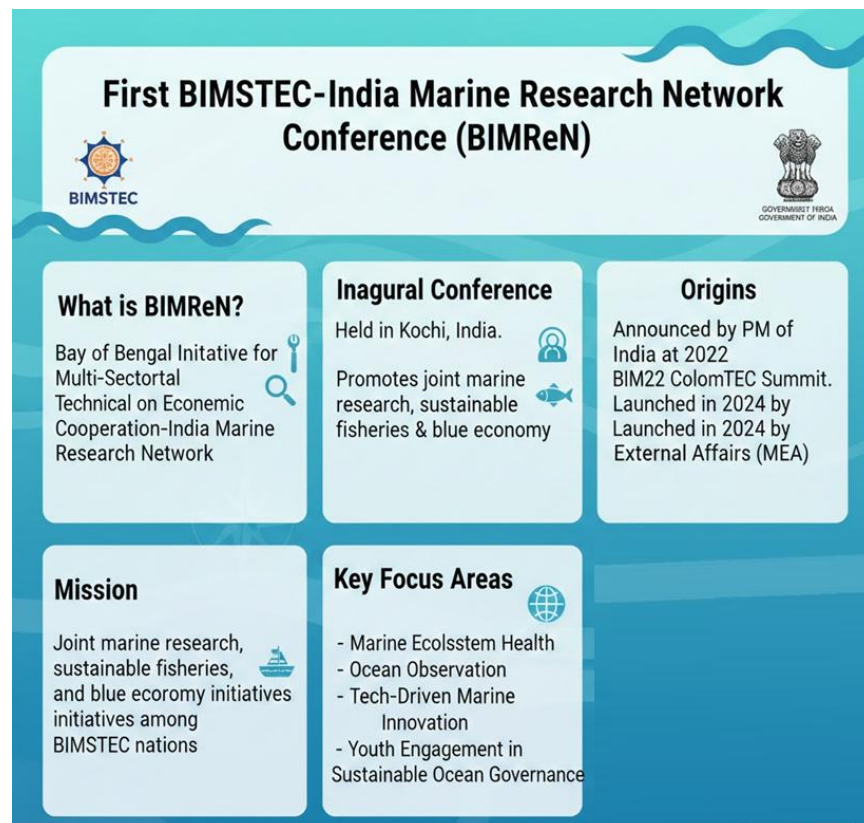
FATF Asset Recovery Update

- ❖ The Financial Action Task Force (FATF) released new global guidance to recover assets from crimes like fraud, cybercrime, investment scams, and money laundering.
- ❖ The guidance explains a full life-cycle process: finding assets, freezing them, managing them, and returning them across countries.
- ❖ FATF included India's examples, such as the Agri Gold, India Realty & Infrastructure Opportunities (IREO) realty scam, and BitConnect crypto fraud cases.

- ❖ The new rules focus on helping victims, with cases like India's Rose Valley example.
- ❖ FATF is an intergovernmental body formed in 1989 in Paris to stop money laundering, terror financing, and illegal financial activities.



First BIMReN Conference



- ❖ BIMReN stands for Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation-India Marine Research Network.

- ❖ The first conference was held in Kochi.
- ❖ BIMReN promotes joint marine research, sustainable fisheries, and blue economy initiatives among BIMSTEC nations.
- ❖ The initiative was announced by the Prime Minister of India at the 2022 Colombo BIMSTEC Summit and launched in 2024 by the Ministry of External Affairs (MEA).
- ❖ Focus areas include marine ecosystem health, ocean observation, technology-driven marine innovation, and youth engagement in sustainable ocean governance.

SCIENCE AND TECHNOLOGY NEWS

India's 500 km Quantum Network

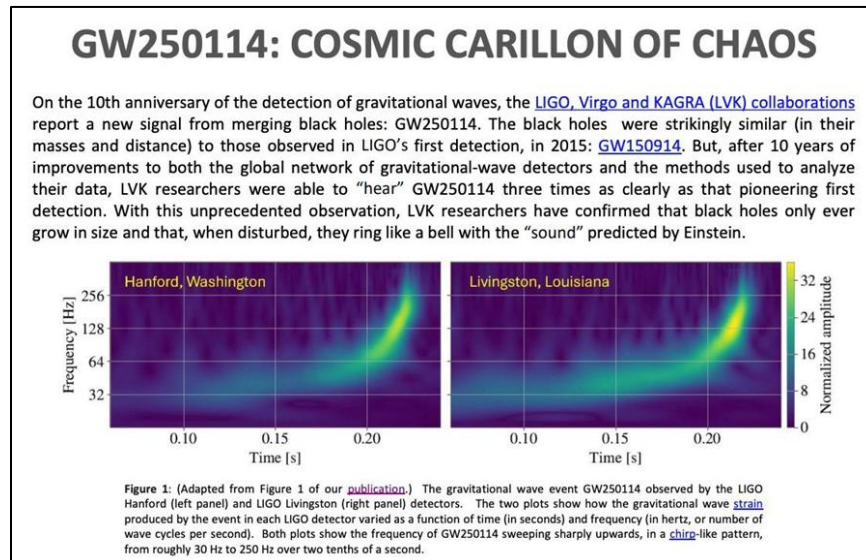


- ❖ Quantum Key Distribution (QKD) uses quantum physics to share secret encryption keys securely.
- ❖ The network was developed by QNu Labs Private Limited under the National Quantum Mission (NQM) of the Department of Science and Technology (DST).
- ❖ It sends photons (light particles) through optical fibres, encoding data as quantum bits (qubits).

- ❖ Any attempt to intercept the photons changes their state, alerting the communicating parties.
- ❖ The 500 km network uses trusted nodes, Quantum Suraksha Kavach hardware, and Quantum Random Number Generator (QRNG) technology for encryption.

Gravitational Wave GW250114 Discovery

- ❖ GW250114 is a gravitational wave event from the merger of two black holes.
- ❖ Each black hole was about 30 times the mass of the Sun.
- ❖ The merger formed a single, rotating black hole 1.3 billion light-years away.
- ❖ The signal is the clearest and strongest gravitational wave recorded so far.
- ❖ The event confirmed Stephen Hawking's Black Hole Area Theorem, showing total event horizon area increased after the merger.



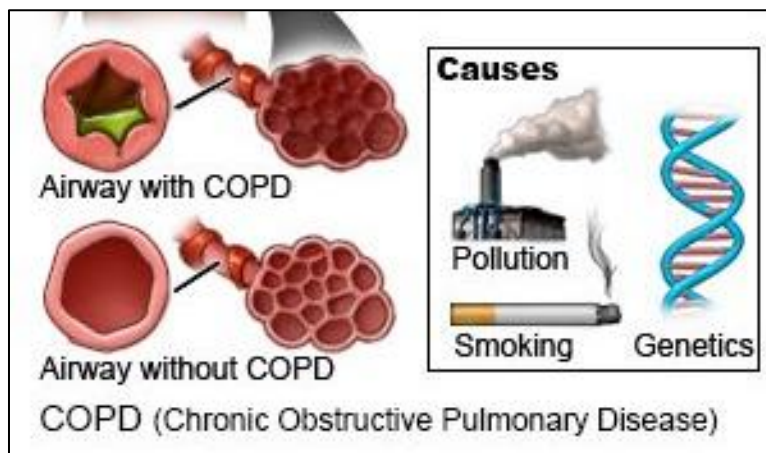
Project Suncatcher

- ❖ Google announced Project Suncatcher, a plan to build AI-powered data centres in space.
- ❖ These data centres will be solar-powered satellites to save energy and water used on Earth.
- ❖ They will use free-space optical links to transfer data at tens of terabits per second.
- ❖ Google aims to launch two prototype satellites by early 2027 to test space-based Tensor Processing Unit (TPU) hardware.
- ❖ Space-based solar panels are up to 8 times more efficient than those on Earth.

- ❖ TPUs called Trillium v6e are being tested for radiation resistance and extreme condition performance.



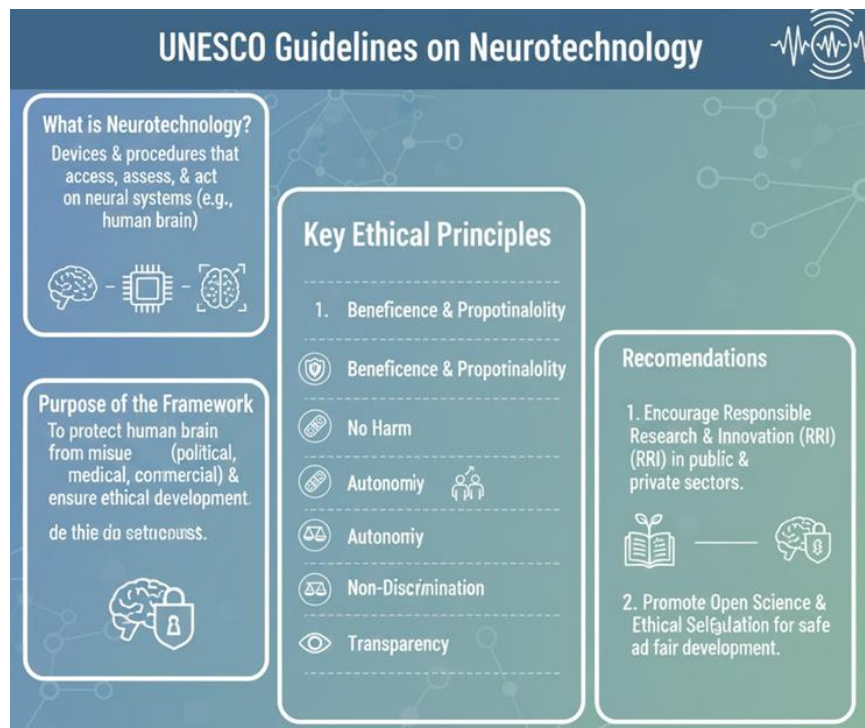
Chronic Obstructive Pulmonary Disease



- ❖ According to the WHO, Chronic Obstructive Pulmonary Disease (COPD) was the fourth-leading cause of death worldwide in 2021, causing 3.5 million deaths.
- ❖ COPD is a lung disease that makes it hard to breathe and is caused by permanent lung damage.

- ❖ There are two main types: chronic bronchitis (inflammation of airways) and emphysema (damage to air sacs).
- ❖ Major causes include smoking, indoor air pollution, exposure to chemical fumes or dust, and rare genetic disorders.
- ❖ Symptoms include cough with mucus, shortness of breath, wheezing, chest tightness, and frequent infections.
- ❖ COPD affects 37.6 million people in India, with higher prevalence in urban areas (11%) than rural areas (5.6%).

UNESCO Guidelines on Neurotechnology

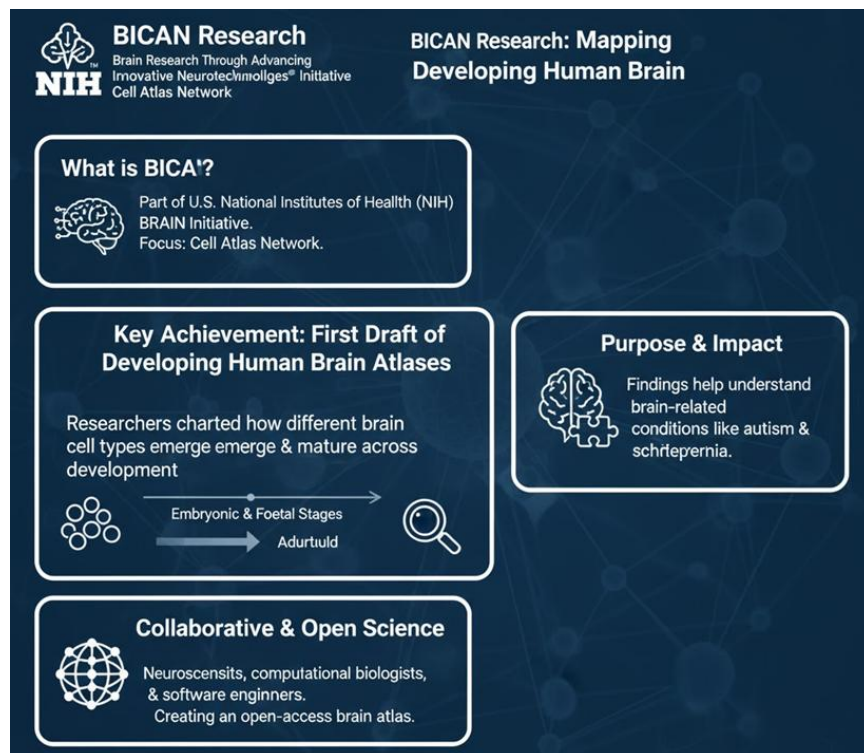


- ❖ UNESCO issued its first global framework on the ethics of neurotechnology.
- ❖ Neurotechnology refers to devices and procedures that access, assess, and act on neural systems, including the human brain.
- ❖ The framework aims to protect human brain data from misuse in political, medical, and commercial contexts.
- ❖ It emphasizes principles such as beneficence, proportionality, no harm, autonomy, non-discrimination, accountability, and transparency.
- ❖ The framework encourages responsible research and innovation (RRI) in public and private sectors.

- ❖ It recommends open science models and ethical self-regulation to ensure safe and fair neurotechnology development.

BICAN Research

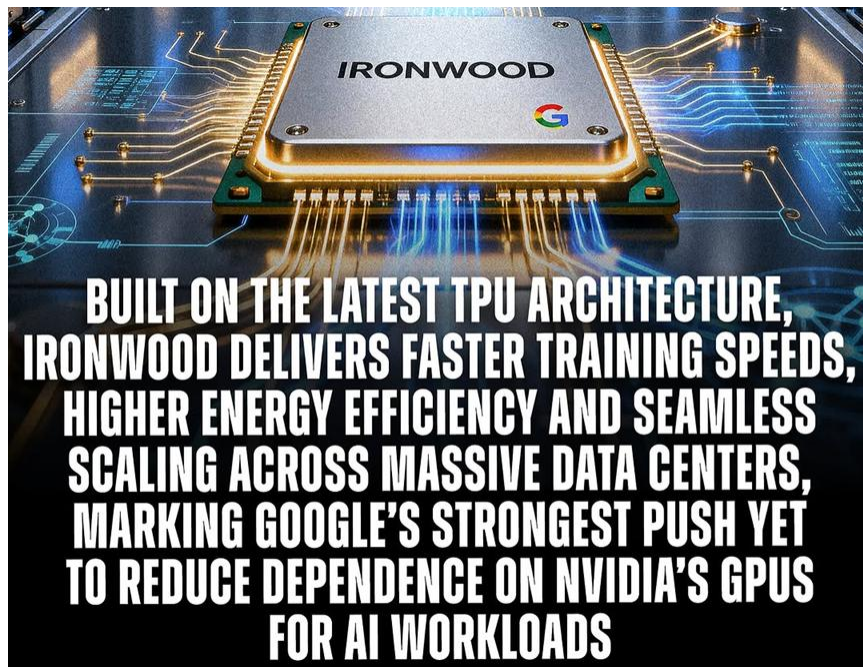
- ❖ BICAN stands for Brain Research through Advancing Innovative Neuro Technologies Initiative Cell Atlas Network.
- ❖ It is part of the U.S. National Institutes of Health (NIH) BRAIN Initiative.
- ❖ Researchers completed the first draft of atlases of the developing human brain.
- ❖ The study charts how different types of brain cells emerge and mature from embryonic and foetal stages to adulthood.
- ❖ The findings aim to help understand brain-related conditions like autism and schizophrenia.
- ❖ BICAN is a collaboration of neuroscientists, computational biologists, and software engineers creating an open-access brain atlas.



AI Computing Upgrade – Ironwood

- ❖ Google has launched a new computer chip named Ironwood.
- ❖ Ironwood is a 7th generation Tensor Processing Unit (TPU) designed for Artificial Intelligence (AI) tasks.

- ❖ It is optimized for Large Language Models (LLMs) and Mixture of Experts (MoEs) to generate insights.
- ❖ The TPU supports up to 9,216 chips per pod, delivering 42.5 Exaflops of computing power.
- ❖ Ironwood uses advanced liquid cooling and delivers double the performance per watt compared to the previous generation.
- ❖ TPUs are specialized processors for AI, more efficient than CPU (Central Processing Unit) and GPU (Graphics Processing Unit), and are used in Google services like Search, YouTube, and DeepMind.

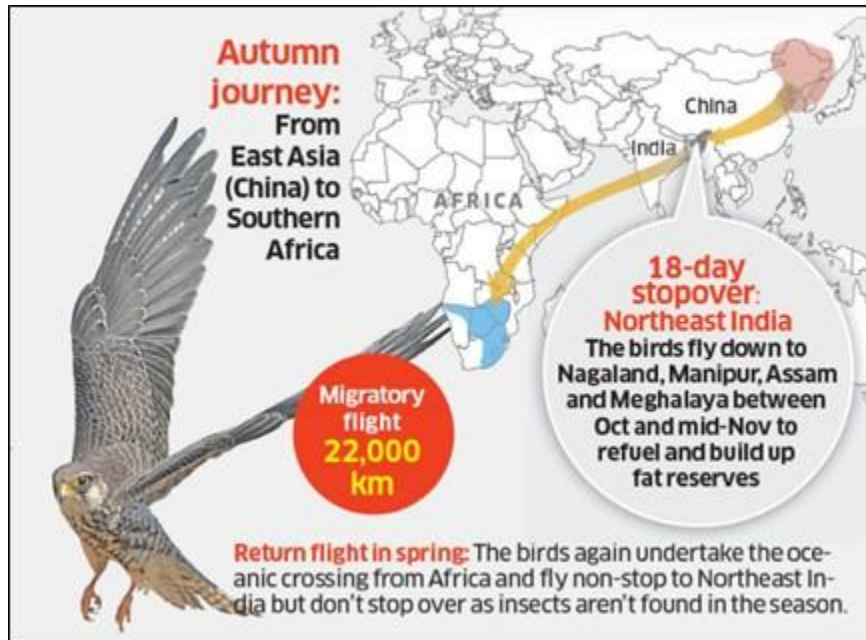


ENVIRONMENT NEWS

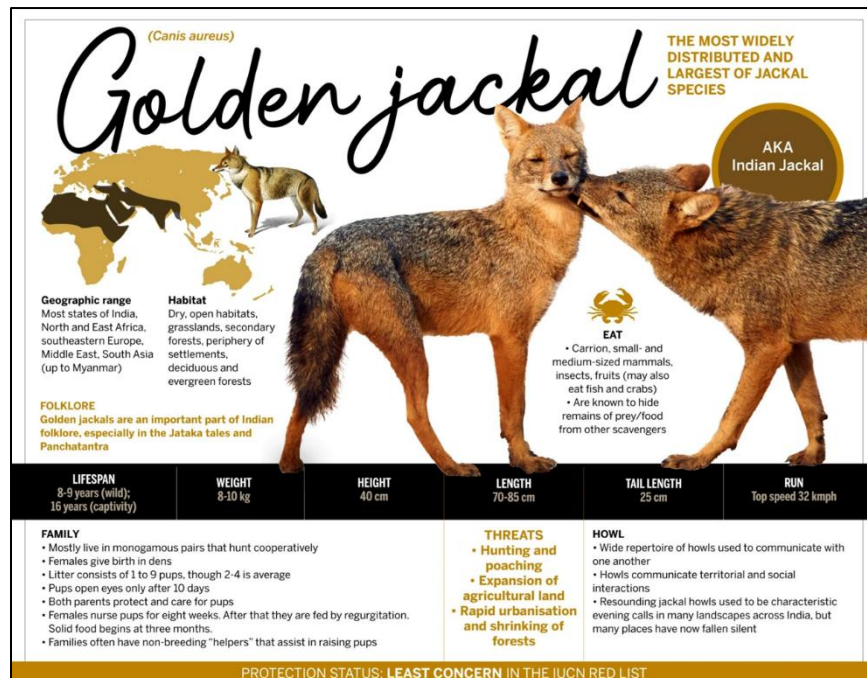
Amur Falcons

- ❖ Cyclone Ditwah blew two female Amur Falcons off their normal migratory path into Point Calimere, Tamil Nadu.
- ❖ These birds usually travel about 40,000 km from Siberia, northern China, and Mongolia to southern Africa.
- ❖ Their common Indian route is through Gujarat–Maharashtra.
- ❖ Point Calimere earlier recorded Amur Falcons in 2020 and 2024 during other cyclones.
- ❖ Amur Falcons are small raptors and classified under IUCN as Least Concern

- ❖ They are listed in CMS (Convention on Migratory Species) Appendix II, and Wildlife Protection Act, 1972 Schedule IV.



Golden Jackal Ambassadors Scheme

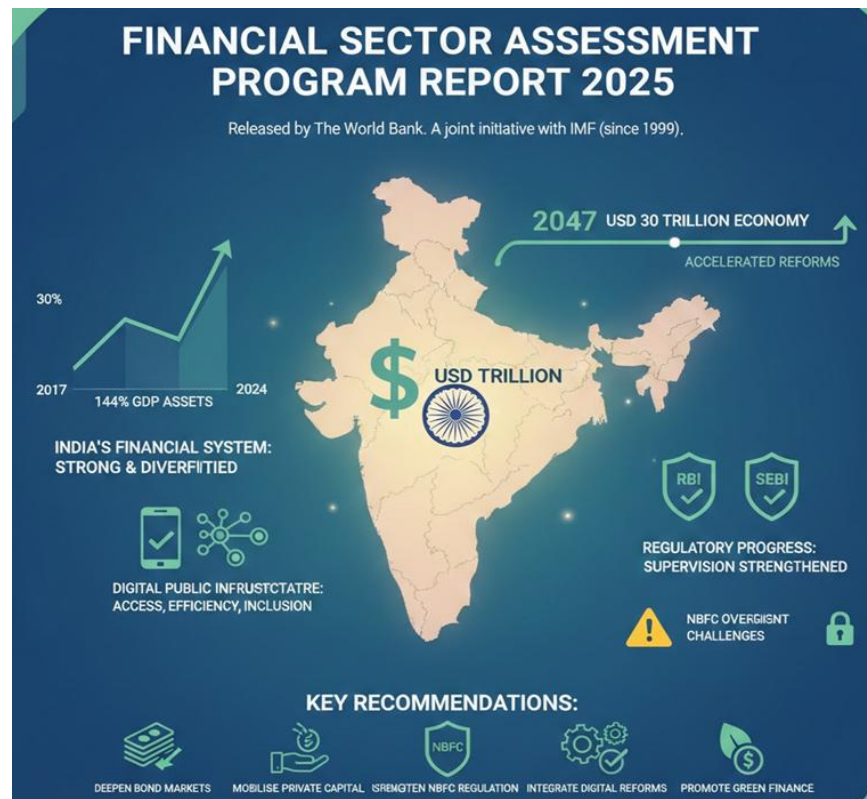


- ❖ Tenkasi Forest Division is launching a 'Golden Jackal Ambassadors' scheme in schools and colleges.

- ❖ The scheme aims to protect the golden jackal, whose population is declining due to construction and loss of shrubs and forests.
- ❖ Students will receive training and will spread awareness about conserving golden jackals and helping injured animals return to the forest.
- ❖ The plan also covers awareness about other small wildlife such as mongoose, ant-eater, tortoise, snakes, and monitor lizard.
- ❖ The model follows the 'Friends of Elephants' scheme, which has reduced human–elephant conflict by involving villagers in early alerts and food creation inside forests.

REPORTS AND INDICES

FSAP Report 2025



- ❖ The report was released by the World Bank.
- ❖ Financial Sector Assessment Program (FSAP) is a joint initiative by the World Bank and International Monetary Fund (IMF) started in 1999.
- ❖ The 2025 report urged India to accelerate financial sector reforms to reach a USD 30 trillion economy by 2047.

- ❖ India's financial system is strong and diversified, with assets rising to about 175% of GDP from 144% in 2017.
- ❖ Digital public infrastructure has improved access, efficiency, and financial inclusion in India.
- ❖ Regulatory progress by the RBI and SEBI has strengthened supervision, though NBFC (Non-Banking Financial Companies) oversight challenges remain.
- ❖ The report recommends deepening bond markets, mobilising private capital, strengthening NBFC regulation, integrating digital reforms, and promoting green finance.

IMPORTANT DAYS

Day of Remembrance for All Victims of Chemical Warfare 2025 – November 30



- ❖ The day is officially recognised by the United Nations (UN) and has been observed since 2005.
- ❖ Earlier, April 29 was chosen as the date for the event's celebration because the Chemical Weapons Convention entered into force on that day in 1997.
- ❖ Meanwhile, April 29 was designated "International Day for the Foundation of the Organisation for the Prohibition of Chemical Weapons" instead.



- ❖ The date was changed to November 30 at the 20th COP to the Chemical Weapons Convention in 2015.

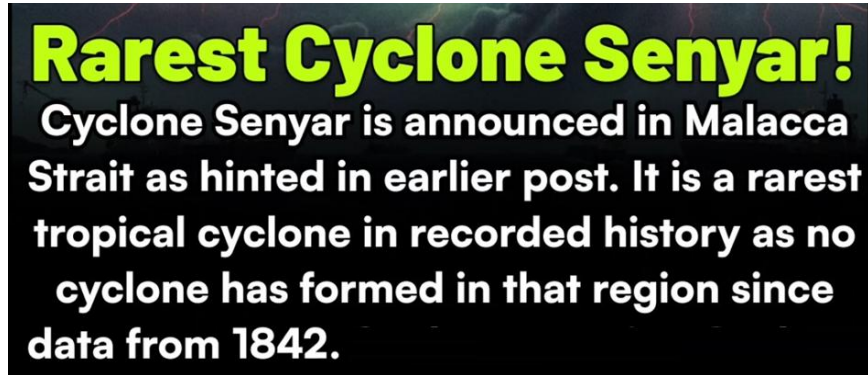
MISCELLANEOUS NEWS

Cyclone Ditwah

- ❖ Cyclone Ditwah is a tropical cyclone that brought heavy rain to Sri Lanka and South India.
- ❖ The name “Ditwah” means “lagoon” and was given by Yemen (referring to Detwah Lagoon in Socotra).
- ❖ It became a cyclone when winds crossed 63 km per hour, as per World Meteorological Organisation (WMO) rules.
- ❖ The cyclone moved over coastal Sri Lanka and towards the southwest Bay of Bengal near Tamil Nadu and Andhra Pradesh.
- ❖ It is the third post-monsoon Bay of Bengal cyclone of Oct–Nov 2025.



Cyclone Senyar



- ❖ Cyclone Senyar formed over the Strait of Malacca and northeast Indonesia.



- ❖ The name “Senyar” means “lion”, which was suggested by the United Arab Emirates (UAE).
- ❖ The storm made landfall on northern Sumatra (Indonesia) on November 26.
- ❖ It then moved across the Strait of Malacca and caused heavy rain, floods, and landslides in Indonesia, Malaysia, and southern Thailand.

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