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POLITY & GOVERNANCE

1. UNION PUBLIC SERVICE COMMISSION (UPSC)

Why in News?

UPSC marked the beginning of its centenary year on 1 October 2025. To commemorate this historic milestone, the Commission launched special centenary logo and launched outreach programmes.



About

The Union Public Service Commission is India's central recruiting agency responsible for appointments for most of the civil services of the Union.

- It is a constitutional body established under Articles 315-323 of the Constitution of India.
- The idea of a public service commission came under the Government of India Act 1919.
- Based on recommendation of the Lee Commission (1924) the first Public Service Commission for India was established on 1 October 1926.

Members

- The Chairman and Members are appointed by the President of India.
- The exact number of members is not fixed in the Constitution; it is determined by the President of India.

- It is noted that typically the commission consists of around 9 to 11 members including the chairman.
- Tenure of members, removal etc are regulated under the Constitution to ensure independence.

Functions and responsibilities

- UPSC is independent of the executive in its functioning i.e. conducting examination and recruitment etc.
- Advising the Government on matters relating to recruitment, promotions, transfers, suitability etc.
- Framing and amending Rules of Service.
- Provides a layer of institutional integrity in selection of civil servants, thereby strengthening the "steel-frame".

2. APPOINTMENT OF CHIEF JUSTICE OF INDIA

Why in News?

Justice Surya Kant has been recommended to be appointed as the 53rd Chief Justice of India (CJI) following the retirement of Justice Bhushan R. Gavai in October 2025.

About

- The Chief Justice of India is the head (presiding judge) of the Supreme Court of India, the highest judicial forum and final court of appeal in the country.
- The CJI by convention is the senior-most member of the Supreme Court and leads its judicial and administrative functioning.

- The CJI is appointed by the President of India under **Article 124(2) of the Constitution**. The Article states:
 - “Every Judge of the Supreme Court shall be appointed by:
 - the **President by warrant under his hand and seal** after consultation with such of the Judges of the Supreme Court and of the High Courts as the President may deem necessary.”
- Here “Every Judge” includes CJI.
- The **outgoing CJI traditionally recommends** their successor based on seniority (not age, but the duration of service in the Supreme Court.)
- The CJI can be **removed from office in the same manner as any other Supreme Court judge under Article 124(4) or** can resign by writing to the president.
- The Constitution sets the **eligibility for appointment** of the judges to the Supreme Court, **under Article 124(3)**:
 - A person must be **citizen of India, and**
 - has been for at **least five years a Judge of a High Court** or of two or more such Courts in succession; or
 - has been for at **least ten years an advocate of a High Court** or of two or more such courts in succession; or
 - is, in the opinion of the President, a **distinguished jurist**.
- **These are the constitutional minima for being a Supreme Court judge as the CJI is selected from among serving Supreme Court judges.**

- When a vacancy is imminent, the sitting CJI (or the seniormost colleagues if required) communicates a recommendation for the successor to the central government.

3. RIGHT TO SAFE ROAD A FUNDAMENTAL RIGHT

Why in News?

The Bombay High Court (on October 2025) declared that **the “Right to Safe and Good Roads” is a Fundamental Right under Article 21** of the Constitution as a part of the **Right to Life**.

Background

The judgment came after multiple public interest litigations (PILs) highlighting the deaths and injuries caused by potholes, open manholes, and poor road maintenance.

Key Observations by the Court

- **Citizens have a fundamental right to safe, pothole-free, and well-maintained roads** as part of their right to life and dignity.
- Civic bodies, Public Works Department (PWD), and contractors have a **constitutional and legal duty to maintain roads** in a safe condition..
- It **Directed criminal and disciplinary action** against negligent engineers and contractors.

4. RIGHT TO INFORMATION (RTI) Act, 2005

Why in News?

The RTI Act **completes 20 years on 12 October 2025**, prompting renewed debate on transparency. Concerns arose over rising case backlogs, vacancies, and the impact of

the Digital Personal Data Protection(DPDP) Act, 2023 on information access.

What is the RTI Act?

- The Right to Information Act, 2005 is a **landmark transparency law** came into force on 12 October 2005.
- It that empowers Indian citizens to seek information from any public authority.
- The overall administration and monitoring are under the **Ministry of Personnel, Public Grievances and Pensions**.
- It **operationalises Article 19(1)(a) of the Constitution i.e. Freedom of Speech and Expression**, by ensuring that citizens can access government information to hold authorities accountable.

Act mandates

- Public Authorities to maintain and **publish records proactively**.
- Public Information Officers (**PIOs**) to **respond within 30 days**.
- Appeals to be heard by State and Central Information Commissions (SIC/CIC).

Necessity of RTI

- **Democratic Accountability:** Enables citizens to know how decisions are made and how public funds are used.
- **Curbing Corruption:** Exposes misuse of power and promotes integrity in governance.
- **Empowering Citizens:** Transforms passive citizens into informed participants in democracy.
- **Good Governance Tool:** Encourages transparency, efficiency, and participatory decision-making.

- **Checks Executive Power:** Strengthens separation of powers by allowing public oversight of administration.

ECONOMY

5. STABLECOINS

Why in the news?

Stablecoins are increasingly used in cross-border transactions and crypto markets, prompting the governments to reconsider regulatory frameworks.



About

A stablecoin is a **type of cryptocurrency whose value is designed to remain stable by being tied, or pegged, to a reference asset** such as a national currency (e.g., the U.S. dollar), gold, or another financial asset.

Key Features

- **Price Stability:** Stablecoins are designed to maintain a consistent value by pegging to **fiat currencies**. This stability ensures reduced volatility compared to cryptocurrencies like Bitcoin or Ethereum.

Fiat Currency

It is government-issued money, like the US dollar or Euro, that is not backed by a physical commodity such as gold or silver but derives its value from public trust in the government and the balance of supply and demand.

- **Asset Backing:** Each stablecoin is supported by real world reserves such as fiat deposits, treasury assets, or crypto

collaterals or through algorithmic control that adjusts supply to maintain price equilibrium.

- **Transparency and Auditing:** Reputed stablecoin issuers regularly disclose their reserve holdings through audits or public attestations. This transparency builds user trust and regulatory compliance.
- **Security and Encryption:** Stablecoins use cryptographic protections to secure transactions. **Funds are stored in digital wallets protected by private keys, reducing risks of unauthorized access.**

6. SECURITIES TRANSACTION TAX (STT)

Why in the news?

The Supreme Court of India has recently agreed to examine the constitutional validity of the Securities Transaction Tax (STT).

About

STT (Securities Transaction Tax) is a **small tax you pay when you buy or sell stocks on recognised stock exchanges in India.**

It applies **only to taxable securities such as equities, equity derivatives, and equity mutual fund units. Government securities (G-secs, SDLs, T-bills) do not attract STT.**

Key Concepts

- **Established under:** The Finance Act, 2004 as a **direct tax**.
- **Administered by:** Central Board of Direct Taxes (CBDT), under Ministry of Finance.
- **Objective:** To ensure efficient tax collection, reduce speculative trading, and promote transparency in financial markets.
- **Governing Law:** The primary governing laws for securities transactions and the

regulation of the securities market in India are the Securities and Exchange Board of India Act, 1992 (**SEBI Act**) and the Securities Contracts (Regulation) Act, 1956 (**SCRA**).

Securities and Exchange Board of India Act, 1992 (SEBI Act): Establishes SEBI as the primary regulator of the securities market, responsible for investor protection, market regulation, and development.

Securities Contracts (Regulation) Act, 1956 (SCRA): The SCRA is a law that provides the framework for regulating securities contracts and stock exchanges and defines key terms like “securities” used by the STT Act and related laws.

SCRA regulates the contracts and exchanges themselves, while **SEBI Act** regulates the market and its participants.

How it works

- When you **buy or sell** shares or equity-oriented mutual fund units through a **recognized stock exchange, you pay STT**.
- STT ensures these are genuine, **traceable transactions**, because of that **the Income Tax Act provides concessional capital gains tax rates** on such transactions.
- These concessional rates apply **only if STT was paid on both purchase (for listed shares post-2018)** and sale
- If STT is **not paid** (e.g., off-market transactions, unlisted shares), then gains are taxed at **normal rates** applicable to the individual’s income slab.

7. H-1B VISA

Why in the news?

The new \$100,000 fee for H-1B visa applications will not apply to “**change of status**” requests.

What “change of status” means?

When a person already in the U.S. on a different visa (for example, an F-1 student visa) wants to switch to an H-1B visa without leaving the country is called Change of Status.

Background

U.S. President Donald Trump signed a proclamation raising the annual fee for H-1B visas to a staggering \$1,00,000 a year.

About

The H-1B visa is a **non-immigrant visa program in the United States** allowing U.S. employers to temporarily employ foreign workers in specialty occupations that require highly specialized knowledge and at least a bachelor's degree or its equivalent. These specialty occupations typically include fields like **engineering, technology, medicine, science, and business**.

Key Features

- It **permits foreign professionals to work in the U.S.** for an initial period of up to three years, extendable to six years.
- The visa is **employer-sponsored**, meaning a U.S. company must file petitions and sponsor the worker.
- H-1B status holders **can pursue permanent residency (green card)** through a separate process since the visa allows “dual intent”.
- It is a crucial visa for addressing U.S. skill shortages, especially in STEM fields, and holds significant importance for **Indian**

IT professionals as they **constitute the majority of H-1B visa holders**.

- Employers must pay prevailing wages and comply with US labour standards for the visa holder.

Exemptions from \$100,000 H-1B fee:

- Individuals with H-1B visas issued before September 21, 2025.
- Current H-1B visa holders, including those traveling internationally.
- Petitions for **renewal, amendment, or change of status (COS)** filed inside the US for persons already in the country.
- Change of status from **F-1 visa to H-1B** for international students inside the US.
- **OPT (Optional Practical Training)** participants shifting to H-1B status.

8. FOMOFATION

Why in the news?

The term gained prominence after the US president signed a proclamation raising the H-1B visa fee to \$100,000, sparking **panic-driven demand for flight tickets and other services**. This caused a sharp increase in prices, illustrating Fomoflation.

The interplay between **psychology and economics** causing price hikes in real-world scenarios.

About

Fomoflation (Fear of Missing Out + inflation) is a **behavioural-economic trend** where fear of scarcity triggers panic buying, creating artificial demand and pushing prices up faster than normal economic factors would justify.

How Fomoflation Operates

- Fomoflation refers to **inflation driven by fear of missing out (FOMO)** rather than traditional economic factors.

- Unlike regular inflation caused by macroeconomic issues, Fomoflation stems from consumer psychology, often amplified by social media. When people expect shortages or price increases, they rush to buy more than necessary, creating **artificial demand and rapid price surges**.
- Similar patterns appear in consumer goods-during festive seasons, reports of possible shortages in staples like cooking oil or pulses trigger bulk buying, even when supply is sufficient.

	Inflation	Fomoflation
Meaning	Price rise due to real economic factors.	Price rise due to fear and panic buying.
Main Cause	Supply demand gap, production cost, policies.	Fear of shortage or future price Hike (FOMO).
Demand Type	Natural increase in demand.	Artificial Demand from panic buying.
Role of Media	Limited influence.	Major role in spreading fear and rumours.
Duration	Slow and long-term.	Sudden and short-term.
Example	Global rise in fuel prices.	Sri Lanka's 2022 fuel hoarding.

9. NET FDI

Why in the news?

Net Foreign Direct Investment (FDI) plunged 159% as capital outflows outpaced inflows, **signalling reduced foreign investment confidence** and heightened caution among global investors.

Definition

- **Net FDI = FDI Inflows – FDI Outflows.**
- FDI net inflows are the value of inward direct investment made by non-resident investors in the reporting economy.
- FDI net outflows are the value of outward direct investment made by the residents of the reporting economy to external economies + repatriations.

Recent Trend (2025)

- **August 2025:** Net FDI fell 159%, where outflows exceeded inflows
- **April–August 2025:** Net FDI up by 121% compared to same period last year.

Causes of Outflow

1. Repatriation of profits
2. Disinvestment by foreign companies
3. Investments abroad by Indian firms

Monitoring Body

Reserve Bank of India (RBI) collects and publishes FDI data.

Remember the distinction between FDI inflow, FDI outflow, and Net FDI.

- FDI Inflow: Money coming **into a country** from foreign investors.
- FDI Outflow: Money going **out of a country** to invest in other countries.
- Net FDI: FDI Inflow minus FDI Outflow, showing the **overall foreign investment gain or loss.**

10. TRADE AND ECONOMIC PARTNERSHIP AGREEMENT (TEPA)

Why in the news?

India signed the Trade and Economic Partnership Agreement (TEPA) with the four EFTA countries – **Iceland, Liechtenstein, Norway, and Switzerland** in March 2024, effective from October 1, 2025.

EFTA (European Free Trade Association) – A regional trade organization and free trade area consisting of four European countries created to promote free trade and economic cooperation among its members and with other countries. These countries are **not part of the European Union.**

Strategic Investment Commitment

EFTA will invest **USD 100 billion in India over 15 years**, USD 50 billion in the first 10 years and another USD 50 billion in the next 5, to create **1 million jobs.**

Objectives

- Boost **bilateral trade.**
- Promote **foreign direct investment (FDI)** in India.
- Establish India as a **manufacturing and production hub** for EFTA companies.

Key Sectors Targeted:

1. Clean energy
2. Green technology
3. Energy efficiency
4. Fisheries
5. Medical equipment

Market Access & Tariff Concessions:

- EFTA offers **92.2% tariff covering 99.6% of India's exports** (non-agricultural and processed Agri-goods).

- India offers **82.7% tariff covering 95.3% of EFTA exports**, including gold (no change in effective duty).
- **Indian rice** (basmati and non-basmati) to get **duty-free access** without reciprocity.

Safeguards & Exclusions:

- Sensitive sectors like **dairy, soya, coal, and PLI-linked sectors are excluded.**

(Refer Pulse Digest May 2025 edition for details about Production Linked Incentive.)

- **Sovereign wealth funds** are also exempted from FDI obligations.

Services & Mobility:

Supports Indian services in **IT, education, culture, and sports. Enables Mutual Recognition Agreements (MRAs)** in nursing, accountancy, and architecture.

11. GLOBAL FINTECH FEST 2025

Why in the news?

Prime Minister Narendra Modi inaugurated the event, the Global Fintech Fest (GFF) 2025. Held in Mumbai from October 7-9, it is one of the world's largest fintech event, bringing together policymakers, Innovators, regulators, investors, and industry leaders from attracting over **1,00,000 delegates from 100+ countries.**

Theme: "Empowering Finance for a Better World Powered by AI."

Key focus areas include

AI-driven financial innovation, digital payments, financial inclusion, sustainable finance, cybersecurity, and regulatory cooperation.

Key highlights

- Showcased India's digital public goods like **UPI (Unified Payments Interface), ONDC (Open Network for Digital**

Commerce), OCEN (Open Credit Enablement Network), India Stack, and MOSIP (Modular Open-Source Identity Platform).

- Announced the launch of Forex Settlement System at GIFT IFSC for real-time foreign currency settlement reducing processing time drastically.
- Emphasized India's leadership in fintech and AI innovation, digital identity, and global collaborations like India-UK Fintech Corridor.
- **India ranks among the top three globally in fintech startup funding for 2024 and early 2025**, with growth supported by innovations such as interoperable QR codes, open finance initiatives, and AI-driven financial services.

12. INDEX OF EIGHT CORE INDUSTRIES (ICI)

Why in the news?

In October 2025, the eight core sectors in India saw a **slowdown** in growth to 3%, which was the slowest in three months, this deceleration was primarily due to contractions in fuel-related sectors like coal, crude oil, natural gas, and refinery products, despite positive growth in steel, cement, electricity, and fertilizers. This marks a slower pace than the previous month's growth of 6.5%.

About

- Index of Eight Core Industries (ICI) **measures the combined and individual performance of eight key industries that are crucial for the Indian economy.**
- These industries have a major impact on overall economic activity and industrial growth.

- Released monthly by the Office of the Economic Adviser (OEA), Department for Promotion of Industry and Internal Trade (DPIIT), **Ministry of Commerce & Industry**.
- *Base year:* The ICI series with **base year 2011-12** was **introduced in April 2017** (revised from the earlier base year 2004-05).

Core Sector In India

- It comprises eight industries: **Coal, Crude oil, natural gas, refinery products, fertilizers, steel, cement, and electricity**.
- The weightage of eight core industries is Petroleum Refinery Products (28.04%) > Electricity (19.85%) > Steel (17.92%) > Coal (10.33%) > Crude Oil (8.98%) > Natural Gas (6.88%) > Cement (5.37%) > Fertiliser (2.63%).
- The Eight Core Industries comprise 40.27 per cent of the total weight of the entire industrial economy measured in **the Index of Industrial Production (IIP)**.

(Refer Pulse Digest May 2025 edition for details about Index of Industrial Production.)

GEOGRAPHY

13. BARRIER LAKE FLOODING

Why in News?

Following months of heavy rain and rock avalanche, the Matai'an barrier lake (Taiwan) that got formed as a result of a landslide, breached for the second time in late October 2025.

About

- Also called as **Landslide dams**, Barrier lakes are formed when a natural blockage, such as a **landslide, rockslide, or debris flow**, dams a river.
- This natural dam can cause water to accumulate upstream, creating a lake that is often **unstable** and can break at any time, leading to a potential flood.
- They are **secondary disasters** associated with natural events like earthquakes or heavy rainfall.

14. ARABIAN SEA MINI WARM POOL

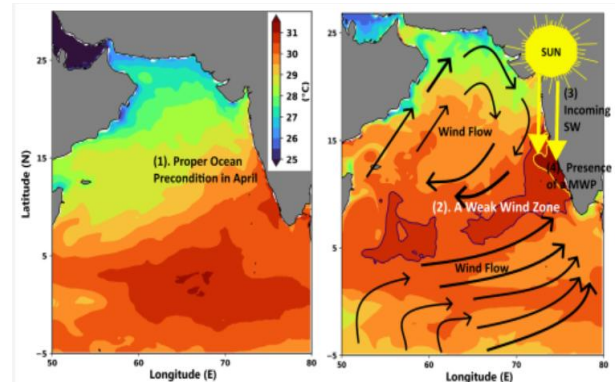
Why in news?

A recent study has revealed that a hidden mini warm pool in the Arabian Sea has been silently helping the Indian Monsoon recover from the disruptions caused by the previous El-Nino.

About

- The Arabian Sea Mini Warm Pool (MWP) is a **small patch of warm water** (a few hundred kilometers wide) in the **southeastern Arabian Sea** (near the Kerala coast).
- It forms usually during April and May, just before the onset of the Indian Summer Monsoon.

- **Weak Easterly winds** blow across the equatorial Indian Ocean, following the months of an El-Nino event.



- These winds create a **weak wind zone** (2nd figure) in the southeastern Arabian Sea, where the Mini Warm Pool (MWP) forms due to favorable conditions of **high sea surface temperature, less mixing and proximity to land**.
- Because weaker winds mean less surface cooling, the ocean retains its heat, and the MWP becomes **stronger and more extensive**.

The Indian Ocean Capacitor Effect

The Indian Ocean acts as an electrical capacitor, as it **responds to the warming of waters** caused due to El Nino in the Pacific Ocean. El Niño typically peaks between **November and January** in the Pacific Ocean but the Indian Ocean reacts to this **four to five months later**. Such an effect has been observed to **play a key role** in shaping the Mini Warm Pool near the Kerala coast.

- On the other hand, the same easterlies that helped form the MWP, delays the onset of the South West Monsoon. (El-

Nino is known for delaying the Indian Monsoon).

- Now as the warm pool grows stronger in the Arabian sea, it creates a **low-pressure area** that starts pulling the weak moisture laden S-W monsoon winds towards the Kerala coast.
- So, while El Nino tries to delay the monsoon, the MWP helps by nudging the monsoon back on track.

15. SWELL WAVES

Why in news?

The **Indian National Centre for Ocean Information Services (INCOIS)** had issued a coastal alert to select districts of Kerala and Tamil Nadu; warning of potential high waves and sea erosion linked to a swell wave phenomenon.

About

- Swell waves are **long-wavelength ocean waves** that travel over large distances with minimal energy loss. **They are distinct from local wind waves** because they are not generated by local winds and often have a more regular, organized, and powerful appearance.
- **Cause:** The phenomenon is triggered by weather systems like **hurricanes** or prolonged periods of **fierce winds** in distant parts of the ocean, often the **Southern Ocean**.
- **Impact:** The swell waves are notorious for their sudden impact, arriving unexpectedly even when the local weather is calm. These sudden waves are known to cause **flash floods, coastal erosion and damage to infrastructure**.
- **Early warning:** The Swell Surge Forecast system designed by the INCOIS

in 2020 provide warning up to seven days in advance, helping coastal communities prepare and reduce potential damage.

- **About INCOIS:** It was established in 1999 as an autonomous organisation under the **Ministry of Earth Sciences**. Based in Hyderabad, INCOIS provides ocean information, advisory services, and conducts ocean observations and research.



India's **southeastern coast**, including Tamil Nadu and Andhra Pradesh, is **shielded** from the destructive Southern Ocean swells by the **Sri Lankan landmass**, which blocks approximately 96% of these long-period waves from reaching the region. However, **Kerala's coast** continues to be **vulnerable** to coastal erosion from these swells. Local fishermen have nicknamed these swell waves as "**Kallakadal**".

16. GEO-HERITAGE SITE

Why in news?

Kashmir's Guryul Ravine has been declared a National Geo-heritage site by the Geological Survey of India (GSI).

About

The Guryul Ravine located at Khonmoh, Srinagar is of immense geological significance as it records the Permian-Triassic mass extinction, which occurred about 252 million years ago, wiping out nearly 90% of marine and 70% of terrestrial life. Known as the "Great Dying," this event marked the transition from the Paleozoic to the Mesozoic Era.

The Guryul Ravine section is globally renowned for its complete sedimentary succession and rich fossil record, providing valuable insights into ancient climate change and biological evolution.

The declaration of Guryul Ravine as a National Geo-heritage site is expected to promote geo-conservation, research and geo-tourism in the region.

National Geo-heritage sites

Geological Survey of India (GSI) recognizes, declares and maintains the Geo-heritage sites in India.

GSI identifies such sites for its unique geological formations, fossils or landscapes of scientific, educational or cultural importance.

Some Geo-Heritage sites in India include the Lonar Lake (Maharashtra), Ramgarh Crater (Rajasthan), Varkala cliffs (Kerala) etc.

17. MIG LA PASS

Why in news?

The Border Roads Organisation (BRO) has surpassed its own world record by constructing a road through Mig La Pass in **eastern Ladakh**, now recognised as the **world's highest motorable pass** at an altitude of 19,400 feet. (Earlier record by BRO - the Umling La Pass at 19024 feet)

About

- **Project Himank** of the BRO has constructed this road as part of the **Likaru-Mig La-Fukche alignment**. It holds **strategic significance**, forming a third key axis to **Fukche village**, which is located near the **Line of Actual Control (LAC)**.

- It enhances both **strategic preparedness and infrastructure development** near the border and also promises to **boost tourism** in Ladakh.

Line of Actual Control

The LAC is an unofficial demarcation line that separates Indian administered areas from Chinese controlled areas. However, its lack of clear demarcation has led to frequent tensions between the two countries.



- **Project Himank** was established in 1985 to facilitate the construction of road infrastructure in Leh. The project has been instrumental in **building all-weather roads and airfields** in exceptionally difficult terrains in Ladakh and Jammu & Kashmir.
- **Border Roads Organisation (BRO)** is a road construction executive force under the **Ministry of Defence**, that provides support to Indian Armed Forces. Instrumental in significantly upgrading and building new India-China Border Roads, BRO undertakes infrastructure operations in **19 bordering states and three union territories** (including Andaman and Nicobar Islands) and **neighboring countries** such as

Afghanistan, Bhutan, Myanmar, Tajikistan and Sri Lanka.

18. SIR CREEK/ BAN GANGA

Why in news?

The Defence Minister recently cautioned against any aggression or misadventures by Pakistan in the Sir Creek area.

About

- Sir Creek, previously called as Ban Ganga, is a **narrow 96-kilometre-long tidal estuary** separating Gujarat's Rann of Kutch from Pakistan's Sindh province.
- The determination of the boundary defines the starting point of each country's Exclusive Economic Zone (EEZ). The implications involve **maritime rights, fishing grounds, seabed resources and possibly oil and gas reserves** which are said to be lying under the sea bed in Sir Creek.

Exclusive Economic Zone (EEZ)

- It is a maritime area where a coastal country has the **right to exploit and explore natural resources**. The EEZ is generally **200 nautical miles from the shore**.
- However, when two coastal states are **closer than the threshold**, United Nations Convention on the Law of the Sea (**UNCLOS**) mandates the countries involved to **negotiate and mutually agree** upon a precise maritime boundary.
- **The Dispute:** India identifies Sir Creek as a Navigable channel, thereby upholding the **Thalweg principle**. However, Pakistan insists that the eastern bank

marks the border, effectively granting it control over the entire creek.

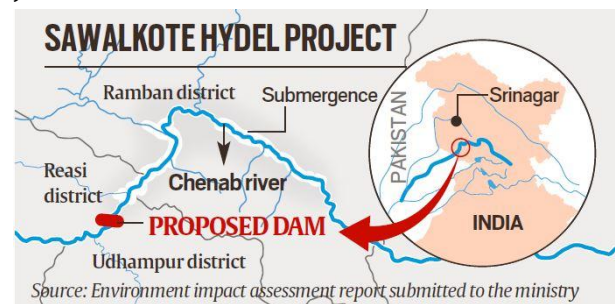


- The "**Thalweg principle**" is a concept in international law where the **boundary** between two states separated by a river (navigable waterway) lies **along the line of the deepest channel**.

19. SAWALKOTE HYDROELECTRIC PROJECT

Why in news?

The Centre has provided environmental clearance to the 1,856-MW Sawalkote Hydro Electric Project on the **Chenab River** in Jammu and Kashmir.



About

- The Sawalkote project is poised to be one of the **largest hydropower schemes** in the Chenab basin and a key part of the government's push to **fully utilise its share of western river waters** under the **1960 Indus Water treaty (IWT)**.
- The project carries both **developmental and strategic weight** and once commissioned, it is set to provide **crucial**

peaking power and grid stability for northern states.

THE INDUS WATER TREATY (1960)

It is an **agreement between India and Pakistan**, mediated by the **World Bank**, that governs the use of the Indus River and its tributaries. It divides the rivers, allocating the three **Western rivers (Indus, Jhelum, and Chenab)** to Pakistan and the **three Eastern rivers (Ravi, Beas, and Sutlej)** to India, with specific rights for both countries to use the water.

- The project will also **enhance India's ability to manage and store the Chenab's waters**, a right allowed under the IWT but rarely exercised fully due to engineering challenges and diplomatic sensitivities with Pakistan.

20. NAMCHIK NAMPHUK COAL MINE

Why in news?

The **Union Minister for Coal and Mines** inaugurated the Namchik Namphuk Coal Mine in **Changlang district of Arunachal Pradesh**.

About

- This event marks a historic milestone as the **state's first commercial coal mining project**.
- The Namchik Namphuk Coal Mine holds a reserve of **1.5 crore tonnes of coal** and is expected to play a role in boosting the state's economy, creating employment opportunities, and generating steady revenue for Arunachal Pradesh.
- To **boost domestic production and reduce imports**, it was decided by the Cabinet in 2020 to commercialize coal mining. Under the ambit of **Coal Mines**

(**Special Provisions**) **Act, 2015** coal mining was opened to private players and auction processes were undertaken.

21. RECLASSIFICATION OF LIMESTONE

Why in news?

The **Ministry of Mines** have issued a notification classifying all Limestone as a "major mineral".

About

- The reclassification **removes the end-use distinction** that previously classified it as both a minor and a major mineral. **Previously**, limestone used for building materials in kilns was a minor mineral, while its use in cement, chemicals, steel, and fertilizers was classified as a major mineral. **Now regardless of its end-use, limestone is to be treated as a major mineral.**
- This is set to **increase the availability of limestone** from minor mineral leases to cement industry. It will enable quick **expansion of cement manufacturing capacity** in the country.
- This measure will give **boost to construction activities** in the country leading to **employment generation and economic growth**.
- **Limestone:** It is a common **sedimentary rock** composed mainly of the mineral **calcite** (calcium carbonate) and often contains **fossils** from marine organisms like shells and coral.
 - It is used in the construction industry and is a chief material from which **aggregate, cement, lime and building stone** are made.
 - It is also used in **steel manufacturing** where lime is used

as a flux to remove impurities such as phosphorus and sulphur.

- Lime is used in **Flue Gas Desulfurization (FGD) systems** to remove sulphur from the emissions in coal powered thermal powerplants.
- Lime is also used in **mining, paper and paper pulp production and in wastewater treatment.**

Major and Minor Minerals

- In India, the distinction between major and minor minerals is determined by statutory classification under the **Mines and Minerals (Development and Regulation) Act, 1957.**
- The regulation of minor minerals is largely the responsibility of state governments, while the central government governs major minerals.
- However, the **Central Government** has the power to classify any mineral as a minor/major mineral based on its economic importance, end use, and availability.

22. MUD VOLCANO

Why in news?

A mud volcano erupted on the **Baratang island in the Andaman and Nicobar archipelago** after a gap of two decades.

About

- A mud volcano is a landform **created by the eruption of mud or slurries**, water and gases from the earth's surface. These are formed by **natural gases released** from the decomposition of organic matter deep underground.
- Mud volcanoes are not true igneous volcanoes as they **do not**

produce lava and are **not necessarily driven by** magmatic activity.

- Mud volcanoes may range in size from less than a meter high and 1 or 2 meters across, to 700 meters tall and 10 kilometers wide.
- There are at least **11 mud volcanoes** in the Andaman group of islands; eight in the Middle Andaman Islands and three in North Andaman Islands.
- About **86% of the gas released** from these structures is **methane**, with much **less carbon dioxide and nitrogen** emitted.



23. FLYING RIVERS

Why in news?

Recent studies indicate that deforestation in the Amazon is disrupting moisture flow and suggests that continuing tree loss will **worsen droughts** in the southwestern Amazon.

About

- The Amazon rainforest receives rain from the **westward moving trade winds** carrying moisture from the **Atlantic Ocean.**
- The movement of moisture across the rainforest is known as a **“flying river”** (or **“aerial river”**), and in some cases is the primary water source for huge swaths of the **western Amazon.**

- The **forest acts like a pump**, effectively relaying the water thousands of miles westward as the **trees absorb water**, then **release it back** into the air.



- Deforestation interrupts this process and it has been estimated that more than **50% of the water runs off instead of being recycled**. Less moisture means a higher probability of turning the rainforest into a **savanna ecosystem**.
- **Southern Peru and northern Bolivia** are especially dependent on recycled moisture, putting them at higher risk than other parts of the Amazon.



The Amazon rainforest is the world's largest tropical rainforest, spanning nine countries in South America: **Brazil, Peru, Colombia, Bolivia, Ecuador, French Guiana, Guyana, Suriname, and Venezuela**. However, nearly 60% of the rainforest is situated in Brazil.

ENVIRONMENT

24. CENTRAL ASIAN MAMMALS INITIATIVE

Why in news?

Central Asian countries came **together to protect 17 shared species** like the Saiga and Bukhara Deer. Delegates from India also took part in the meeting.

About

- The **Central Asian Mammals Initiative (CAMI)** is a cooperative conservation framework under the **Convention on the Conservation of Migratory Species of Wild Animals (CMS)**. It aims to ensure the survival and ecological connectivity of migratory and nomadic mammals across Central Asia.

Convention on the Conservation of Migratory Species of Wild Animals, is also known as the Bonn Convention, is an intergovernmental treaty under **UNEP**. Signed in 1979 and effective since 1983, it currently has 133 member countries (as of March 2022), **including India**.

- Launched in **2014** during the **11th Conference of the Parties (COP11)** to the **CMS** held in **Quito, Ecuador**.

Objective:

- Preserve **migratory connectivity** and **ecological corridors** across international borders.
- Address key threats such as **habitat fragmentation, illegal poaching, infrastructure barriers**, and **climate-induced migration shifts**.
- Enhance **regional cooperation** for joint conservation, research, and monitoring.

Species Covered:

- Focuses on **17 flagship migratory species** of Central Asia that inhabit the region's mountains, steppes, and deserts.
- They are *argali sheep, Asiatic cheetah, Asiatic wild ass, Bukhara deer, Eurasian lynx, gobi bear, goitered gazelle, kiang, Mongolian gazelle, Pallas's cat, Persian leopard, Przewalski's horse, saiga antelope, snow leopard, urial, wild camel, and wild yak*.

Participating Countries:

- Involves **14 countries** from Central and South Asia, including **India, Afghanistan, Bhutan, China, Iran, Kazakhstan, Kyrgyzstan, Mongolia, Nepal, Pakistan, Russia, Tajikistan, Turkmenistan, and Uzbekistan**.

Conservation Approach:

- **Ecosystem-based:** Focuses on managing entire ecosystems rather than individual species.
- **Threat Mitigation:** Tackles key issues such as **habitat fragmentation, poaching, human-made barriers** (like fences and roads), and **climate change impacts**.
- **Cross-border Cooperation:** Encourages **data sharing, joint monitoring, policy coordination, and removal of physical migration barriers** between countries.

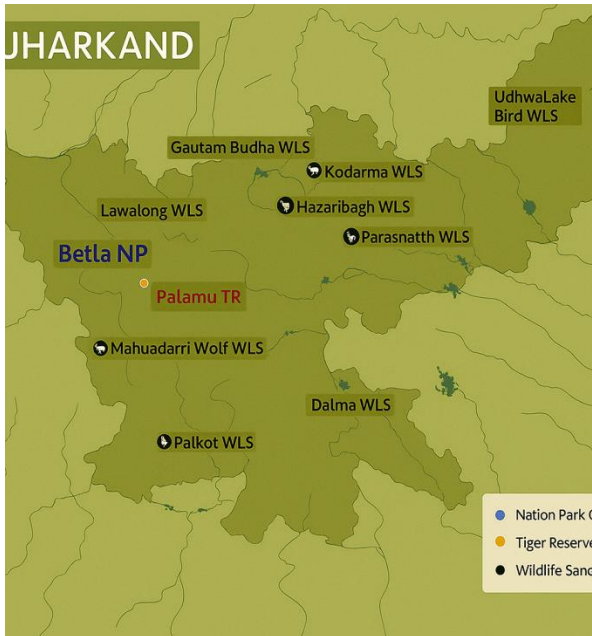
India's Role:

- India is a **key signatory** to both the **CMS** and **CAMI** frameworks.
- Contributes through **transboundary species management, data sharing, and research collaboration**.

25. BETLA NATIONAL PARK:

Why in News?

- An AI-enabled nature experience centre has been set up at Betla National Park in Jharkhand.



About

- Located in **Latehar district, Jharkhand**, within the **Palamu Tiger Reserve** on the **Chhotanagpur Plateau**.
- One of India's **first nine Tiger Reserves (1973)** under **Project Tiger**; declared a **National Park in 1986**.
- Dominated by **moist deciduous forests**, Sal, bamboo, mahua; home to **tiger, elephant, gaur, sambar, and leopards**.
- Drained by the **North Koel River** and its tributaries.
- **India's first of its kind. It uses AI assistants, 3D holographic projections, and augmented reality** to give visitors a realistic feel of jungle life, showing animal movements and ecosystem activities in an interactive way.

26. NEW ADDITION ON RAMSAR SITES

Why in News?

India has added **two new Ramsar sites, Gokul Jalashay and Udaipur Jheel in Bihar** bringing the **total to 93**(as of October, 2025). This strengthens India's global ranking in wetland conservation.

About Ramsar convention

- It is an international agreement for **promoting the conservation and wise use of wetlands**.
- It was established in **1971, in Ramsar (Iran)** as the "Convention on Wetlands of International Importance especially as **Waterfowl Habitat**".

Waterfowl Habitat

Habitats are environments where waterfowl, like ducks and geese, live; including coastal wetlands, inland marshes, ponds, and shallow waters.

- **UNESCO acts as its depository** (meaning it holds the official texts and the instruments of ratification or accession by countries).
- A **Ramsar site** is a **wetland site designated to be of international importance** under the Ramsar Convention.

Gokul Jalashay, Buxar, Bihar

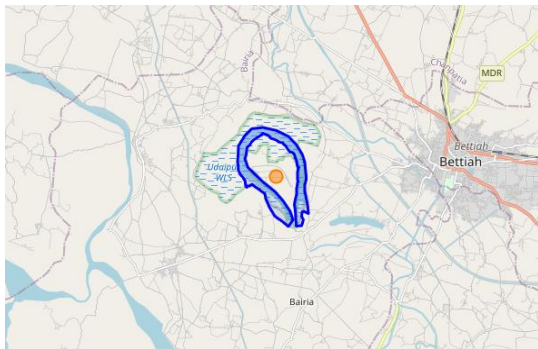
- Gokul Jalashay is a **natural inland permanent oxbow lake** spread over an area of 448 hectare and located at Buxar district of Bihar.
- The wetland is situated on the southern edge of the Ganges.
- The river **Dharmavati** joins the Gokul Jalashay near Gaighat.

- It is an important stopover for **migratory waterbirds** in the Central Asian Flyway.
- Important habitat for **Blackbuck** (*Antelope cervicapra*), Spotted Deer (*Axis axis*), **Wild Boar** (*Sus scrofa*), Mongoose (*Herpestidae*), Golden Jackal (*Canis aureus*) etc.



Udaipur Jheel, Champaran, Bihar.

- The Site is an **oxbow lake** bordered to the north and west by the dense forest of **Udaipur Wildlife Sanctuary**.
- Over 280 plant species are found in the wetland, including **Alysicarpus roxburghianus**, a **perennial herb endemic** to India.



- The wetland is an important wintering ground for around 35 migratory bird species, including the vulnerable common pochard (*Aythya ferina*).
- Jamun trees (*Syzygium cumini*) line the wetland and their fallen fruits are believed by locals to purify the water.

Oxbow Lake

An **oxbow lake** is a **U-shaped water-body** formed when a **river meander** gets cut off from the main channel. This happens due to **erosion on the outer bank** and **sediment deposition on the inner bank**, which eventually isolates the loop, leaving behind a **crescent-shaped lake**.

27. IUCN WORLD CONSERVATION CONGRESS 2025

Why in news?

- India launched its **National Red List Roadmap and Vision 2025–2030** at the **IUCN World Conservation Congress 2025** to create a **scientific framework for assessing and conserving species**.
- The initiative, led by the **Ministry of Environment, Forest and Climate Change**, aims to identify **endangered flora and fauna**, guide **future conservation policies**, and publish **National Red Data Books by 2030**.
- It reinforces India's commitment to biodiversity protection and aligns with global IUCN and biodiversity goals.

About IUCN World Conservation Congress 2025

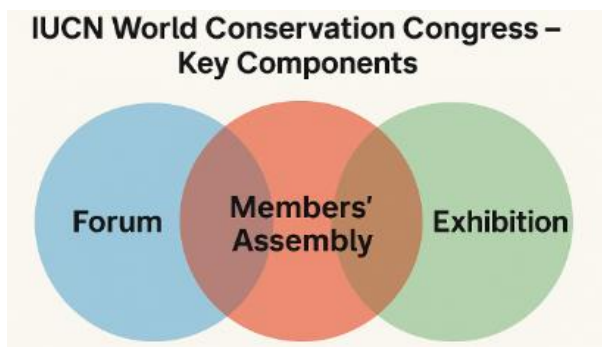
- It is **the world's largest gathering** of experts, leaders, and decision-makers in the field of **nature conservation**.
- The Congress plays a key role in **shaping global priorities** for biodiversity protection and **climate action** for the coming decade and beyond.
- It is **organized once every four years**.
- **Theme for 2025:** "Powering Transformative Conservation."



Key Components

1. Forum:

- Serves as a **platform for public debate** on global conservation and sustainability issues.
- Includes **high-level dialogues, workshops, and training sessions** focusing on innovation and conservation practices.



2. Members' Assembly:

- It is the **highest decision-making body** of IUCN.
- Functions as a **global environmental parliament**, where **governments and NGOs** jointly take decisions on conservation and sustainable development.

3. Exhibition:

- Open to both **IUCN Congress participants and the general public** (free access).
- Provides a platform for **IUCN Members, Commissions, businesses, and academia** to showcase **research, innovations, and conservation projects**.

About IUCN

- **Founded in 1948**, the **International Union for Conservation of Nature (IUCN)** is the world's largest environmental organization, headquartered in **Gland, Switzerland**.
- It works to **conserve nature and promote sustainable use** of natural resources through global cooperation among governments, NGOs, and experts.
- IUCN maintains the **RED List of Threatened Species**, the world's most comprehensive **inventory of the conservation status** of plants and animals.

28. NATIONAL ENERGY CONSERVATION AWARDS (NECA) 2025

Why in news?

- The **Bureau of Energy Efficiency (BEE)** has announced the **35th National Energy Conservation Awards (NECA) 2025**.

About BEE

The **Bureau of Energy Efficiency (BEE)** was established on **March 1, 2002** under the **Energy Conservation Act, 2001** as a **regulatory body** and to promote energy efficiency and conservation in India.

BEE works in coordination with **designated consumers, agencies, and organizations** to implement energy-saving measures and effectively use existing resources.

About

- **Established in 1991** by the **Bureau of Energy Efficiency (BEE)** under the **Ministry of Power** to promote energy efficiency and conservation across India.

- The awards recognize **industries, buildings, transport, and institutions** for their **innovation and excellence** in reducing energy consumption.
- **NECA 2025** introduces a **new category for Digital Content Creators and Influencers** to promote public awareness under **Mission LiFE (Lifestyle for Environment)**.
- The initiative supports **India's Nationally Determined Contributions (NDCs)** by encouraging sustainable practices and energy-efficient technologies.
- The awards will be presented on 14th December 2025, observed as National Energy Conservation Day.
- Home to the **Chenchu tribe**, a Particularly Vulnerable Tribal Group (PVTG); the reserve plays a crucial role in **tiger conservation** and **community-based eco-tourism**.

29. AMRABAD TIGER RESERVE (TR)

Why in news?

A 54 km elevated road bridge over the Nallamala forests in Amrabad Tiger Reserve is planned as **India's first-of-its-kind project** to protect wildlife while ensuring smooth traffic movement.

About Amrabad TR

- It is situated in **Nagarkurnool and Nalgonda districts** of **Telangana**, it lies in the **Nallamala Hills** of the Eastern Ghats.
- It was part of the **Nagarjunsagar-Srisailem Tiger Reserve**, the largest in India, before bifurcation in 2014 created Amrabad TR.
- It covers the area around **2,800 sq. km**, making it one of the **largest tiger reserves in southern India**.
- Dominated by **dry deciduous forests**, it harbours species like **tiger, leopard, sloth bear, wild dog, sambar, chital, and four-horned antelope**.

SPECIES IN NEWS

30. PALLAS'S CAT (*OTOCOLOBUS MANUL*)



Why in News?

A landmark wildlife survey by WWF-India published the **first photographic evidence** of the cat in **Arunachal Pradesh** (Eastern Himalayas), significantly expanding its known distribution in India.

IUCN Status

Least Concern (LC) (Globally, but extremely rare and elusive in the Indian Himalayas, making this discovery highly significant for national conservation efforts.)

Special Characters

- A small wild cat perfectly adapted to the **cold, high-altitude steppes** and rocky rangelands, surviving by preying mainly on pikas and voles.
- Its survival is tied to these specific, harsh environments.

Unique Features

- Famous for its **exceptionally dense, long fur**, which makes it look stocky and contributes to its classic, **perpetually "grumpy"** facial expression.
- It has rounded pupils instead of vertical slits, and its ears are set very low to help it peer over obstacles while hunting in its rocky habitat.

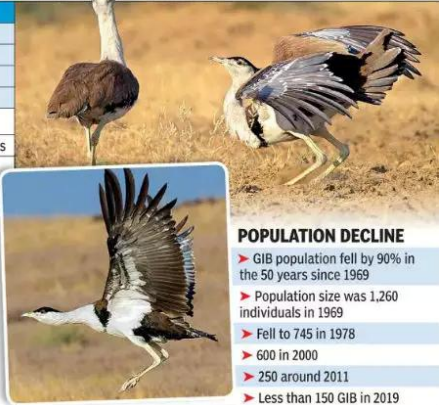
31. GREAT INDIAN BUSTARD (*ARDEOTIS NIGRICEPS*)

PRESENT GIB POPULATION

State	Birds
Rajasthan	128
Gujarat	10
Maharashtra	8
Karnataka & AP	10

THREATS

- ▶ Fatal collision with power-lines
- ▶ Nest predation by native predators (fox, mongoose, crow, monitor lizard) and free-ranging dogs
- ▶ Hunting in Pakistan
- ▶ Agricultural expansion
- ▶ Pesticide prevalence (food reduction and contamination),
- ▶ Grazing pressure
- ▶ Plantation of shrubs and tree species in grasslands,
- ▶ Poor land-use policies
- ▶ Habitat Loss



POPULATION DECLINE

- ▶ GIB population fell by 90% in the 50 years since 1969
- ▶ Population size was 1,260 individuals in 1969
- ▶ Fell to 745 in 1978
- ▶ 600 in 2000
- ▶ 250 around 2011
- ▶ Less than 150 GIB in 2019

IUCN Status

Critically Endangered (CR) (One of the most critically threatened bird species globally, with only around 150 individuals remaining.)

Special Characters

- A large, ground-dwelling bird inhabiting arid and semi-arid grasslands. It is a flagship species for **grassland conservation** in India.
- Known for its elaborate courtship display by males.

Unique Features

- It is among the **heaviest flying birds** in the world.
- Its primary threat is collision with high-tension power lines, which it often fails to see due to its poor frontal vision and heavy body.

AGRICULTURE

32. SOILIFICATION TECHNOLOGY

Why in News?

Researchers have developed a **new farming technology** in Rajasthan that can **convert desert sand into fertile soil** using **special polymers**, offering a potential breakthrough to combat desertification and promote sustainable agriculture in arid regions.

About

- Desert soilification technology is an **innovative biotechnological solution** that **transforms barren desert sand into fertile, moisture-retaining soil** capable of supporting **agriculture and vegetation growth**.
- It works by using **biodegradable polymers** or **soil modifiers** that bind sand particles, improve water retention, and enable plant roots to thrive, offering a sustainable way to **combat desertification** and **restore degraded ecosystems**.

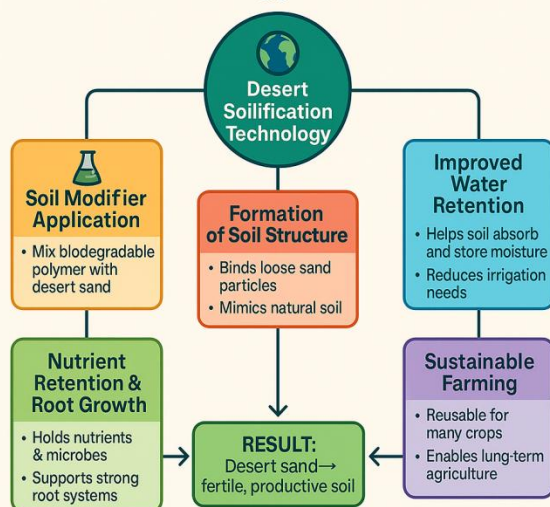
Key Significance of Desert Soilification Technology

- Boosts Agricultural Productivity
- Promotes Water Conservation
- Combats Desertification
- Enhances Climate and Disaster Resilience
- Improves Food and Economic Security

Desertification

It is the **process of land degradation** in arid, semi-arid, and dry sub-humid regions resulting from **various factors**, including **climatic variations and human activities**, leading to the **loss of soil fertility, vegetation cover, and productivity**.

How Desert Soilification Technology Works



SCIENCE AND TECHNOLOGY

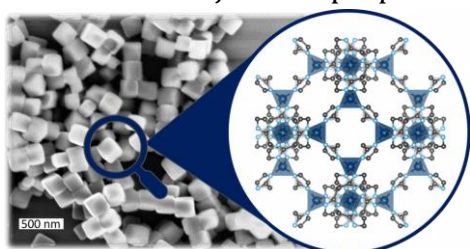
33. METAL ORGANIC FRAMEWORKS

Why in the news?

The **2025 Nobel Prize in Chemistry** was awarded to Susumu Kitagawa, Richard Robson, and Omar M. Yaghi for discovering and creating a class of materials called **metal-organic frameworks(MOFs)**.

Features

- MOFs are **porous crystalline** material made of metal ions or clusters linked by organics molecules, forming a **3D lattice structure** with adjustable properties.



- Its open framework contains **large cavities** that can **store, trap or convert** molecules. Some MOFs also act as **catalysts** or show **electrical conductivity**.
- With a very high surface area (over **7,000 m² per gram**), MOFs can **absorb and store large amount of gases or liquids**.
- Changing the metal components and organic linkers allows scientist to control pore size and chemistry, making MOFs useful in **industry, energy and environmental applications**.

Applications

- Carbon capture and storage
- Water harvesting in dry and desert regions
- Gas storage
- Pollution control and purification
- Energy storage and conversion
- Catalysis and chemical syntheses

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34. MACROSCOPIC TUNNELLING

QUANTUM

Why in the news?

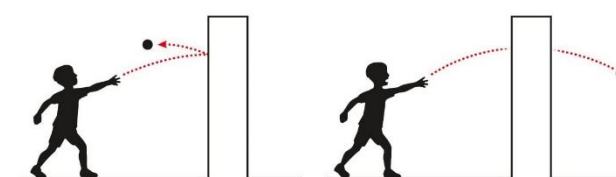
The **Nobel Prize in Physics 2025** was awarded by the Royal Swedish Academy of Sciences to John Clarke (UK), Michel H. Devoret (France) and John M. Martinis (USA) “for the discovery of **macroscopic quantum-mechanical tunnelling and energy quantisation in an electric circuit.**”

Features

In **quantum mechanics**, particles can traverse potential barriers even when they lack the classical energy required to do so. This phenomenon known as **quantum tunnelling**.

Macroscopic Quantum Tunnelling (MQT) extends this concept to **larger, engineered systems**, where an entire device or circuit can effectively “*tunnel*” through an energy barrier that classical physics would consider impenetrable.

The tunnel effect



When you throw a ball at a wall, you can be sure it will bounce back at you.

You would be extremely surprised if the ball suddenly appeared on the other side of the wall. In quantum mechanics this type of phenomenon is called tunnelling and is exactly the type of phenomenon that has given it a reputation for being bizarre and unintuitive.

1. **Quantum basis** – MQT arises from the **wave-particle duality** of matter, where particles exhibit both wave-like and particle-like behaviour, allowing them to exist probabilistically beyond classical limits.
2. **Energy Barrier:** An **energy barrier** is a region of high potential energy that

normally prevents movement. In MQT, systems are able to **transition through this barrier** without possessing the required classical energy.

3. **Scientific Significance:** The observation of tunnelling in **macroscopic circuits** confirms that **quantum laws extend beyond subatomic particles**, bridging the gap between the **quantum and classical realms**. It demonstrates that **quantum mechanics governs even large, observable systems**, not just microscopic entities.

Application

- Quantum computing –superconducting qubits.
- Quantum sensors and amplifiers enabling ultra-sensitive measurements.
- Quantum communication and cryptography ensure secure information transfer.

Qubit

A qubit, or quantum bit, is the basic unit of information in quantum computing, analogous to a classical bit

HEALTH

35. ROTAVIRUS VACCINE

Why in the news?

Rotavirus vaccine effective against gastroenteritis in children.

Key Features

- India's indigenously developed oral vaccine to protect infants and young children from rotavirus-induced gastroenteritis was **introduced in 2016 under the Universal Immunisation Programme (UIP)** and is provided free of cost to all eligible beneficiaries.
- **Dosage:** Administered orally in three doses at 6, 10 and 14 weeks of age.
- **Development:** Developed through a collaborative public-private partnership involving the Department of Biotechnology (DBT), Bharat Biotech, the NIH, CDC, Stanford University, and PATH, with support from the Bill & Melinda Gates Foundation.

Rotavirus

- A **double-stranded RNA virus** (Reoviridae family). Major cause of severe acute **gastroenteritis in infants and young children** worldwide.
- A highly contagious virus causing severe diarrhea, vomiting, fever, and abdominal pain, leading to **rapid dehydration in children under five**.
- **Transmission:** Primarily through the **fecal-oral route** via contaminated **hands, food, water, or surfaces**.
- **Complications:** Can cause electrolyte imbalance, malnutrition and death in severe cases.

36. MONOCLONAL ANTIBODIES

Why in the news?

The Indian Council of Medical Research (ICMR) has invited Expressions of Interest (EoI) from eligible organisations, companies, and manufacturers for the **development and production of monoclonal antibodies (mAbs) against Nipah viral disease.**

About

- Monoclonal antibodies are **identical lab-produced antibodies derived from a single cloned white blood cell.**
- Each binds precisely to a specific antigen, **mimicking the immune system's natural defence.**
- Due to their **high specificity**, monoclonal antibodies minimize **off-target effects** and **adverse reactions.**

Medical Application

- **Treatment of cancers, autoimmune disorders, and infectious diseases,** as well as **diagnostic and therapeutic** uses in modern medicine.
- Used in precision medicine, offering targeted, effective, and safer therapeutic options.

37. NAFITHROMYCIN

Why in the news?

Union minister claimed India has developed **Nafithromycin, the country's first indigenous Macrolide antibiotic,** which is effective against drug resistant **respiratory infections.**

About

Nafithromycin, marketed as '*Miqnaf*', is a new antibiotic developed in India with support from the Biotechnology Industry

Research Assistance Council (BIRAC). It is the country's first **fully indigenous antibiotic** to be conceptualized, developed, and clinically tested in India.

Key features

- Targets **Antimicrobial Resistance Targets (AMR)** and is effective against **drug-resistant respiratory infections,** making it particularly beneficial for **cancer patients** and **individuals with uncontrolled diabetes.**

Antimicrobial Resistance (AMR)

AMR arises when **bacteria, viruses, fungi, or parasites** evolve to resist the effects of antimicrobial drugs. This makes infections **harder or impossible to treat,** increasing the risk of **severe illness, prolonged disease, and mortality.**

Although AMR occurs naturally through **genetic mutations,** its spread is accelerated by **human activities** such as:

- Overuse or misuse of antibiotics
- Incorrect dosing and self-medication
- Use of antibiotics in livestock farming
- Poor hygiene, sanitation, and infection control in healthcare settings.
- Limited research and development of new antibiotics.

- Designed for treating **Community-Acquired Bacterial Pneumonia (CABP),** Nafithromycin acts against both **typical and atypical pathogens.**

SPACE

38. GAGANYAN MISSION**What's in the news?**

Gaganyaan Mission has tried a crew escape system mechanism.

About

The **Gaganyaan Mission** is a major project by **ISRO**, carried out in collaboration with research institutions, Indian industries, and academic bodies.

Its goal is to **send Indian astronauts to Low Earth Orbit (LEO) of about 400 km above Earth and bring them back safely**, demonstrating India's capability for **human spaceflight**.

Key Features

- It aims to **build the base for future Indian human space exploration programs**.
- The **Mission** will use a **human-rated LVM3 (HLVM3)** a modified version of ISRO's reliable **LVM3 rocket (formerly GSLV Mk III)** designed to **safely carry astronauts into orbit**.
- It has **three propulsion stages** solid, liquid, and cryogenic and includes a **Crew Escape System (CES)** for emergency safety.

Main Components

- **Orbital Module (OM):** The main spacecraft that orbits earth, made up of two parts the **Crew Module (CM)** and the **service module(SM)**.
- **Crew Module (CM):** Provides an **Earth-like environment** for astronauts with life support, control systems, and safety features for re-entry and landing
- **Service Module (SM):** Contains systems for **power, propulsion, temperature control, and communication**,

supporting the Crew Module during flight.

Launch Vehicle Mark III (LVM3)

- The Geosynchronous satellite launch vehicle Mark III is India's heaviest and most powerful rocket developed by ISRO.
- It is a **three-stage launch vehicle** consisting of **two solid strap-on boosters**, a **liquid core stage**, and a **cryogenic upper stage**.
- The cryogenic engine is **indigenously developed** and uses **liquid hydrogen (fuel)** and **liquid oxygen (oxidizer)**.
- The rocket can carry **up to 4 tonnes of payload to Geosynchronous Transfer Orbit (GTO)** or **about 10 tonnes to Low Earth Orbit (LEO)**.

- **Vyommitra:** A **female humanoid robot** developed by ISRO to fly in **unmanned test missions** before the actual human flight.
- The **final mission** will send Indian astronauts into space and ensure their **safe return with a soft landing in the Arabian Sea** near Gujarat.

39. CHANDRAYAAN 2**Why in the news?**

The **lunar orbiter of Chandrayaan-2** has, for the **first time**, observed the **impact of a solar coronal mass ejection (CME)** on the **Moon's surface**.

Key Findings

- India's Chandrayaan-2 orbiter made the **first-ever observation of the Sun's Coronal Mass Ejection (CME)** effects on the Moon using its **CHACE-2 instrument**.

- The data showed a **sharp rise in the pressure and number density of the lunar exosphere** when the CME struck, confirming earlier theoretical predictions.
- **The Moon's exosphere, formed by solar radiation, solar wind, and meteorite impacts, is extremely sensitive to solar activity since the Moon lacks a protective magnetic field.**
- This rare CME event, helped scientists better understand lunar space weather and highlighted challenges for designing future lunar habitats exposed to such solar phenomena.

Coronal Mass Ejections

A coronal mass ejection is a significant release of plasma and accompanying magnetic field from the solar corona.

It can disrupt radio communications.

Key Features

- The Chandrayaan-2 is India's second lunar mission and the first attempt to achieve soft landing on the moon using indigenous technology.
- Its primary objective was to **study the Moon's surface in detail** to better understand its **origin, composition, and evolution**.
- The mission aimed to **land near the Moon's South Pole**, specifically in the **highland region between the Manzinus C and Simpelius N craters (around 70°S latitude)**.
- However, the **Vikram lander lost contact during descent and crash-landed**, though the **orbiter continues to function successfully**.
- It was launched using **GSLV Mk III**, ISRO's most powerful rocket, into an **Earth parking orbit** before heading to the Moon.
- The **Chandrayaan-2** mission comprised three components an **Orbiter**, a **Lander** called *Vikram*, and a **Rover** named *Pragyan*.

Orbiter Payloads and Their Objectives

- **CLASS (Chandrayaan-2 Large Area Soft X-Ray Spectrometer):** Identifies and maps key elements on the Moon's surface such as magnesium, calcium, iron, and titanium.
- **IIRS (Imaging Infrared Spectrometer):** Performs mineralogical mapping and studies the surface composition of the Moon.
- **DFSAR (Dual Frequency Synthetic Aperture Radar):** Surveys the Lunar Polar Regions to detect water-ice and examine the nature of the **regolith** (the loose, unconsolidated layer of dust, soil, broken rock, and other related materials that covers solid rock on Earth, the Moon, Mars, and other terrestrial planets).
- **CHACE-2 (Chandrayaan-2 Atmospheric Composition Explorer-2):** Analyzes the composition of the Moon's exosphere.
- **Dual Frequency Radio Science Experiment:** Explores the structure and dynamics of the lunar ionosphere.
- Importantly, **CHACE-2 recorded the first ever evidence of the Moon's response to solar coronal mass ejections (CMEs)**, offering new insights into Sun-Moon interactions.

40. INTERSTELLAR MAPPING AND ACCELERATION PROBE (IMAP)

Why in the news?

NASA's **Interstellar Mapping and Acceleration Probe (IMAP)** mission aims to study how solar particles are energized and how the Sun's magnetic field shields our solar system from harmful cosmic radiation.

The data from IMAP will be crucial for **future human space exploration beyond Earth**, helping scientists **plan safer travel routes** and **design more effective radiation shielding** for spacecraft and astronauts.

Significance

- The **Interstellar Mapping and Acceleration Probe (IMAP)** is a **NASA mission** launched to study how **solar particles are accelerated** and how the **heliosphere** (the vast bubble created by the **solar wind**) protects the solar system from harmful **cosmic radiation**.
- The mission aims to **map the boundary of the heliosphere**, understand the **interaction between solar and interstellar particles**, and improve **space weather forecasting**, which is crucial for satellite operations and astronaut safety.
- IMAP is positioned at the **first Earth-Sun Lagrange point (L1)**, about **1 million miles from Earth** toward the Sun. From this vantage point, it provides **real-time data on solar wind, energetic particles, and magnetic activity**, helping to predict **solar storms** that can affect **communication systems, GPS networks, and power grids** on Earth.
- The mission will also study the **fundamental physics of particle**

acceleration, explore the **composition of interstellar space**, and enhance understanding of how the **heliosphere shields life** on Earth.

- IMAP's findings will contribute to global efforts in **space weather monitoring** and deepen insights into the **Sun-Earth relationship**, aligning with India's growing interest in **space science and solar missions** such as **Aditya-L1**.

DEFENCE

41. KONKAN -25 EXERCISE

Why in news ?

The **India-UK bilateral naval exercise** “Konkan 2025” was conducted recently to enhance maritime cooperation and interoperability between the Indian Navy and the Royal Navy.

About

- It was **first established in 2004** and has since been held either annually or biennially.
- The exercise is conducted alternately off the Indian coast and the United Kingdom’s coast, featuring both **harbour and sea phases**.

Significance

- This edition, marks the first-ever exercise involving the Carrier Strike Group(CSG) of both nations - **the U.K.’s HMS Prince of Wales and India’s INS Vikrant**.
- This exercise is a reaffirmation of the shared commitment to ensure secure, open and free seas and a part of Comprehensive Strategic Partnership outlined in ‘India-UK Vision 2035’.

Other military exercises between India and UK

- Ex AJEYA WARRIOR(Army)
- Ex KONKAN(Navy)
- INDRADHANUSH-IV(AirForce)

42. NAG MK-2 MISSILE SYSTEM ORDER

Why in news?

The Defence Acquisition Council (DAC) has recently granted Acceptance of Necessity (AoN) for the procurement of 2,408 Nag Mk-2 anti-tank guided missiles along with

107 NAMICA Mk-II tracked launch vehicles for the Indian Army.



About

- Nag Missile system (NAMIS) Mk-2 is an **upgraded version of India’s indigenously developed third-generation “fire-and-forget” anti-tank guided missile (ATGM)**, designed by the Defence Research and Development Organisation (DRDO) and manufactured by Bharat Dynamics Limited (BDL)
- **Extended range:** The range is up to 10 km, a significant improvement over the original Nag Mk-1.
- The procurement will be executed under the **“Buy (Indian-IDD)”** category, ensuring design, development, and manufacturing are entirely indigenous.

Significance

- The missile can engage targets in **top-attack and direct-attack** modes and is designed for **day and night** operations.
- It uses an imaging infrared (IIR) seeker and a tandem high-explosive anti-tank (HEAT) warhead capable of defeating explosive reactive armour (ERA) on modern battle tanks.
- The system is launched from a **tracked carrier platform NAMICA** (Nag Missile Carrier) Mk-II, which is based on a modified BMP-2 chassis, providing high

mobility and protection in desert and plain terrains.

- The procurement of NAMIS (Tracked) will enhance the Indian Army's capability of neutralising enemy's combat vehicles, bunkers & other field fortifications.

43. JAIMEX 2025

Why in news?

The **Japan-India Maritime Exercise (JAIMEX 2025)** was conducted from 16-18 October 2025 (sea phase) and 21 October 2025 (harbour phase) at Yokosuka, Japan.

About

- JAIMEX is a bilateral maritime exercise between the Indian Navy and the Japan Maritime Self-Defense Force (JMSDF).
- It aims to enhance operational cooperation, interoperability, and maritime security between the two navies.
- The 2025 edition was conducted west of Kyushu (sea phase) and Yokosuka/Sasebo (harbour phase).
- Indian Naval Ship **(INS) Sahyadri**, an **indigenously built Shivalik-class Guided Missile Stealth Frigate**, participated in the JAIMEX-25.
- Along with that, JMSDF Ships Asahi, Oumi and Submarine Jinryu participated in the sea phase of JAIMEX-25.
- The exercise forms part of the India-Japan 'Special Strategic and Global Partnership' established in 2014.

INS Sahyadri(F-49)

- Third ship of the Shivalik-class stealth frigate of the Indian Navy, commissioned in 2012.
- The ship is part of the **Eastern Naval Command**, based at Visakhapatnam.

- It is designed for **multi-dimensional warfare**, capable of engaging air, surface, and sub-surface threats.
- Indigenously built by Mazagon Dock Shipbuilders Limited (MDL), Mumbai.



Other military exercises between India and Japan

- Malabar exercise (Naval Exercise),
- Ex Veer Guardian (Air Force),
- Ex Shinyu Maitri (Air Force),
- Ex Dharma Guardian (Army).

44. BrahMos CRUISE MISSILE EXPORT DEAL

Why in news?

Defense Minister Rajnath Singh and Uttar Pradesh Chief Minister Shri Yogi Adityanath, on October 18, 2025, jointly flagged-off the first batch of BrahMos missiles manufactured at the BrahMos Integration and Testing Facility Centre in UP Defence Corridor in Lucknow.

About BrahMos

- BRAHMOS is a **universal long range supersonic cruise missile** system.
- It can be **launched from land, sea and air**.
- BRAHMOS has been jointly developed by **DRDO, India, and NPOM, Russia**.

- The name is derived from two rivers- **Brahmaputra** (India) and **Moskva** (Russia).
- BrahMos is a two-stage missile with a solid propellant booster engine.
- The missile can travel at speeds up to **Mach 2.8 to 3.0** and can carry a conventional warhead up to 200kgs.
- The system has been designed with two variants for **Anti-Ship and Land-Attack roles**.
- **BrahMos-NG (Next Generation)**: A smaller, lighter version under development for wider platform integration.



BrahMos Aerospace

- **BrahMos Aerospace Private Limited** is a **joint venture** between:
 - Defence Research and Development Organisation (DRDO), India, and
 - NPO Mashinostroyeniya, Russia.
- It was established in 1998, headquartered in New Delhi, India. The company is responsible for the design, development, production, and marketing of the BrahMos supersonic cruise missile system.
- According to the agreement, the two countries agreed to develop and manufacture the missile jointly, with India owning 50.5% of the JV and Russia owning the remaining 49.5%

Brahmos Exports

- The **Philippines is the first nation to sign an agreement with India** to import BrahMos.
- India has secured two export orders for its BrahMos supersonic cruise missile system worth approximately 4000 crores Indian rupees (\$450 million). Defense Minister Rajnath Singh announced the development recently but did not disclose the customer nations.

45. Anant Shastra

Why in news?

Recently, the Indian Army issued a ₹30,000 crore tender to BEL for acquiring five to six regiments of Anant Shastra to strengthen **air defense along the borders with China and Pakistan**.



About

- Anant Shastra **air defense missile** system is an **indigenous surface-to-air** missile system developed by India's DRDO, Bharat Electronics Limited (BEL), and Bharat Dynamics Limited (BDL)
- This system, **previously known as the Quick Reaction Surface-to-Air Missile (QRSAM)**, is designed to protect advancing troops and armored vehicles

against aerial threats like drones and missiles.

Significance

- The uniqueness of the QRSAM weapon system is that it can operate on the move with **search and track capability & fire on short halt**.
- This makes it suitable for challenging terrains of Ladakh and Arunachal Pradesh.
- Known for its **high mobility and rapid engagement**.
- With an effective range of about 30kms, Anant Shastra provides a crucial **short-medium range protective shield**.

46. Thales multirole missile purchase from UK

Why in news?

Prime Minister Narendra Modi has signed a new £350 million defense deal with the United Kingdom's Prime Minister Keir Starmer to **buy Light Weight Multirole (LMM) missiles** for the Indian army.

About

- **Martlet or the Lightweight Multirole Missile (LMM)** is a lightweight **air-to-surface, air-to-air, surface-to-air, and surface-to-surface** missile developed by Thales Air Defence for the United Kingdom.
- **Weight:** Super lightweight at 13 kg.
- **Speed:** Exceeds Mach 1.5.
- **Range:** Operational range of over 6 km.

Significance

- **Guidance:** Utilizes a precision laser beam riding guidance system for accuracy with minimal collateral damage.

- **Warhead:** Equipped with a triple-effect warhead and proximity fuse for effectiveness against a variety of targets.
- **Deployment:** Can be deployed from multiple platforms, including infantry carried systems, vehicle-integrated systems, and helicopters.

47. AMCA backed by Russia

Why in news?

Russia reaffirmed its commitment to deepen defence cooperation with India, with its Ambassador Denis Alipov expressing his country's readiness to support India's **Advanced Medium Combat Aircraft (AMCA)** programme through the "local production" of the Su-57 fifth-generation fighter jet.



About AMCA

- The **Advanced Medium Combat Aircraft (AMCA)** is a planned Indian **single-seat, twin-engine, all-weather fifth-generation stealth fighter, multirole combat aircraft** being developed for the Indian Air Force and the Indian Navy.
- The aircraft is being designed by the **Aeronautical Development Agency**, an autonomous aircraft design body under the Ministry of Defence and manufactured by Hindustan Aeronautics Limited (HAL).

Features of AMCA

- **Stealth:** The 25-tonne, twin-engine AMCA is designed with advanced stealth technology, enabling it to evade detection by enemy radars and enhance survivability during combat missions.
- **Fuel and Weapons:** It will feature a large internal fuel capacity of around **6.5 tonnes**, allowing extended range and endurance. The aircraft will also house an **internal weapons bay** capable of carrying a variety of armaments, including **indigenous precision weapons**, concealed within its fuselage to maintain stealth.
- **Engine:** The **AMCA Mk-2** variant will feature a more powerful **110 kN engine**, currently under development by **DRDO's Gas Turbine Research Establishment (GTRE)** in collaboration with a foreign defence partner.

Fifth generation fighter jets

- Fifth-generation fighter jets are **advanced aircraft** capable of performing multiple roles, including **air-to-air combat, ground strikes, and electronic warfare missions**.
- The current operational fifth-generation fighters include the **F-22 Raptor** and **F-35A Lightning II** from the United States, **J-20 Mighty Dragon** from China, and the **Sukhoi Su-57** from Russia.

48. INS Vikrant

Why in news?

The Hon'ble Prime Minister of India, Shri Narendra Modi, celebrated Diwali 2025 onboard the Indian Naval Ship (INS) Vikrant, honouring the dedication and

courage of Indian Naval sailors and armed forces personnel.

History & Development

INS Vikrant takes its name from **India's first aircraft carrier, INS Vikrant (R11)**, which was decommissioned in 1997. The erstwhile INS Vikrant played a crucial role in the 1961 Goa Liberation Operation and the 1971 Indo-Pak War, earning a lasting place of pride in India's naval history.



About

- INS Vikrant, **India's first indigenous aircraft carrier**, was commissioned on 2 September 2022
- Designed by the Indian Navy's Warship Design Bureau and built by Cochin Shipyard Limited (CSL), it is **the largest warship ever constructed in the country**.
- Equipped with advanced automation, it operates an air wing of 30 aircrafts.
- It operates on the **Short Take-Off But Arrested Recovery (STOBAR) system**, which allows aircraft to take off using a ski-jump and land with the help of arrester wires.

49. INDIA- SOUTH KOREA Bilateral Exercise

Why in news?

The first India–South Korea bilateral naval exercise, IN–RoKN, took place in October 2025 in Busan, South Korea.

About

- **Participants:** The Indian Navy (IN) and the Republic of Korea Navy (RoKN).
- **Location:** Busan Naval Base, South Korea.
- **Key Vessels:**
 - India: INS Sahyadri (a Shivalik-class guided missile stealth frigate).
 - South Korea: ROKS Gyeongnam.
- It is conducted in two phases – Harbour phase and Sea phase.

Significance

- It is a part of the Indian Army's new "Mission Sudarshan Chakra" to enhance border security and indigenous defences capabilities.

50. AK-630 Emergency purchase

Why in news?

In October 2025, the Indian Army initiated an emergency procurement of six AK-630 mobile air-defence gun systems to **strengthen protection against low-altitude aerial threats**, especially along the Pakistan border and sensitive forward areas.

About

- The AK630 system consists of a 30mm automatic gun mount remotely controlled from the radar fire control system.
- Intended for **arming the ships** for annihilation and destruction of antiship missiles, aircraft, small-size seaborne surface targets and fire emplacements of the enemy on the coast.
- **Range:** Has an effective range of approximately 4 km.
- **Deployment:** Mounted on a trailer and towed by high-mobility vehicles for flexible and rapid deployment.
- **Targeting:** Features an all-weather electro-optical fire control system for precision targeting in day, night, and adverse weather conditions

INTERNATIONAL RELATIONS

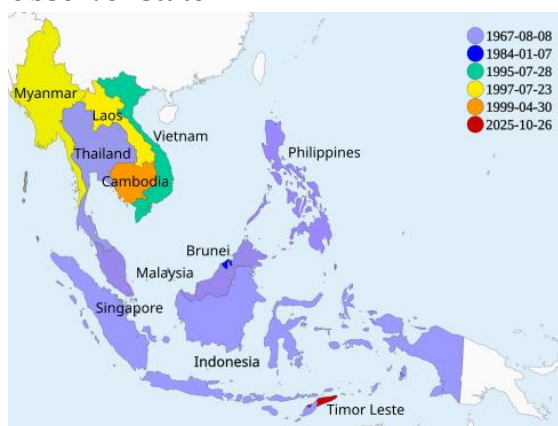
51. ASEAN-India Summit

Why in News?

The 22nd ASEAN-India Summit was held virtually on 26 October 2025, with Prime Minister Narendra Modi participating.

ASEAN

- The Association of Southeast Asian Nations (ASEAN), is a **regional & intergovernmental organisation**, with its **headquarters located in Jakarta, Indonesia**.
- It was established on 8 August 1967 in Bangkok, Thailand, with the signing of the ASEAN Declaration (**Bangkok Declaration**) by the Founding Fathers of ASEAN: Indonesia, Malaysia, Philippines, Singapore and Thailand.
- Currently, it comprises **11 member countries** including **Indonesia, Malaysia, Philippines, Singapore, Thailand, Brunei Darussalam, Viet Nam, Lao PDR, Myanmar, Cambodia, and Timor Leste** (joined in October 2025 as the 11th member), while **Papua New Guinea** is an Observer state.



- The organisation with the motto: **“One Vision, One Identity, One Community”** aims to accelerate the economic growth, social progress and cultural development in the region through joint

endeavours in the spirit of equality and partnership.

- It has three Key Pillars:
 - ASEAN Political-Security Community (APSC)
 - ASEAN Economic Community (AEC)
 - ASEAN Socio-Cultural Community (ASCC)

ASEAN Summit

- The ASEAN Summit is the **highest policy-making body** in ASEAN comprising the Head of States or Government of ASEAN Member States.
- The ASEAN Summit is **held twice annually** at a time to be determined by the Chair of the ASEAN Summit in consultation with other ASEAN Member States.

ASEAN-India Summit 2025 Key Outcomes

- **Timor Leste joined as the 11th full member of ASEAN**; India extended support for its human development.

Timor-Leste, or East Timor, is a Southeast Asian nation occupying half the island of Timor, while West Timor is part of the Nusa Tenggara province of Indonesia.

- India reaffirmed commitment to ASEAN Centrality, **Unity, and the ASEAN Outlook on the Indo-Pacific (AOIP)**.
- Emphases on early review of the ASEAN-India Trade in Goods Agreement (AITIGA) for deepen economic integration.

- Adoption of the ASEAN–India Plan of Action (2026–2030) to guide future cooperation.
- 2025 declared as the **ASEAN–India Year of Tourism** with a focus on sustainable and eco-friendly tourism.
- India to continue as a First Responder in crises and strengthen Disaster Preparedness and HADR cooperation.
- India committed to training of 400 **renewable energy professionals to support the ASEAN Power Grid.**
- Talked on establishment of a **Centre for Southeast Asian Studies at Nalanda University.**
- Highlighted connectivity projects like the **India–Myanmar–Thailand Trilateral Highway and Kaladan Multi-Modal Transport Project.**
- Launch of the **ASEAN–India Track 1 Cyber Policy Dialogue** to tackle cybersecurity threats.

52. India Maritime Week 2025

Why in News?

India is hosting **India Maritime Week (IMW) 2025** is a premier five-day event held from October 27 to 31, 2025, at the NESCO Exhibition Centre in Mumbai-the **4th Global Maritime India Summit.**



About

- IMW is a **flagship international maritime event** organized by the **Ministry of Ports, Shipping and Waterways (MoPSW)** in partnership with the Indian Ports Association.

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- It unites maritime experts, innovators, and leaders from over 85 countries with more than 100,000 delegates expected.
- The theme for IMW 2025 is **"Uniting Oceans, One Maritime Vision,"** showcasing India's ambition to become a global maritime leader by 2047.

Objectives

- To **showcase India's maritime capabilities, infrastructure, and strategic vision** under Maritime India Vision (MIV) 2030 and Maritime Amrit Kaal Vision 2047.
- To **facilitate investment**, technology adoption, and sustainability in the maritime sector.
- It **promotes blue economy** initiatives and supports the development of infrastructure.



India's coastline of 11,098 km along 13 coastal states & UTs and 23.7 lakh sq. km Exclusive Economic Zone making India a natural maritime power providing it with unparalleled strategic advantage.

Major Investments and Agreements

- Major port authorities like **V.O. Chidambaranar and Paradip Port** secured significant green ammonia and hydrogen projects.
- The **Green Tug Programme**, aiming for **100 eco-friendly tugs** by 2040 was announced to **accelerate decarbonization.**
- To **enhance domestic capacity, develop greenfield and brownfield shipyards, and create employment.**

Other Highlights

- The logo of the proposed National Maritime Heritage Complex (NMHC) at Lothal in Gujarat was unveiled.
- Unveiling of Bharat Container Shipping Line (a new national carrier with 51 vessels) and major upgrades by Oil & Gas PSUs.
- The 2nd edition of “Sagarmanthan: The Great Oceans Dialogue”, organized to promote blue economy collaboration.
- Maritime Excellence Achievers Awards were given. Deendayal and Paradip Port Authorities were recognized for leadership and innovation.

53. Mutual Legal Assistance Treaty

Why in News?

The Assam government has requested the Ministry of Home Affairs to invoke the Mutual Legal Assistance Treaty (MLAT) with Singapore to assist in the ongoing probe into superstar Zubeen Garg’s death in Singapore.

About

- Mutual Legal Assistance is a mechanism whereby **countries cooperate with one another** in order to provide and obtain **formal assistance in prevention, suppression, investigation and prosecution of crime** to ensure that the criminals do not escape or sabotage the due process of law for want of evidence available in different countries.
- India provides mutual legal assistance in criminal matters through Bilateral, multilateral Treaties/Agreements or International Conventions or on the basis of assurance of reciprocity.

- Requests for criminal matters are routed **through the Ministry of Home Affairs**, and such treaties create legal obligations for the signatory countries to provide assistance as per agreed terms.

54. India-UK Trade Deal

Why in News?

The India–UK Joint Statement followed UK Prime Minister Sir Keir Starmer’s official visit to India (8–9 October 2025), his first since the signing and implementation of the India–UK CETA in July 2025, strengthening bilateral cooperation.

About

- CETA aims to **double bilateral trade** from USD 56 billion to over USD 100 billion by 2030.



- It provides **duty-free access on about 99% of India's exports** to the UK, including textiles, leather, marine products, gems and jewellery, engineering goods, chemicals, and auto components.
- **India opens approximately 89.5% of tariff lines to UK imports**, protecting sensitive and strategic sectors with phased tariff reductions on some products **under Make in India and PLI schemes**.
- Simplified compliance through self-certification of rules.
- Services sector access expanded in IT, financial services, education, and

healthcare, with streamlined visa regimes and professional mobility provisions.

- **The Double Contribution Convention** exempts Indian professionals from dual social security contributions in the UK for up to three years, saving costs for over 75,000 workers and 900 companies.
- **Inclusive growth focus** empowers farmers, fisherfolk, women, youth, and MSMEs, alongside cooperation for green growth, digital trade facilitation, and innovation.
- The agreement also fosters investment, skilling, and a strategic partnership **aligned with India-UK Vision 2035** for long-term economic cooperation.

Free Trade Agreement

Trade agreements are frameworks that facilitate international economic cooperation by reducing or eliminating trade barriers. Depending on their coverage, they are classified as:

Types of FTA	Key Feature	Impact on Imports
FTA - Free Trade Agreement	Full tariff elimination or significant reduction between signatories	Imports from member countries benefit from minimal or no tariffs
PTA - Partial Trade Agreement	Tariff reduction applies only to specific goods or sectors.	Preferential tariff rates on selected goods
CECA - Comprehensive Economic Cooperation Agreement	- Includes trade, investment, and cooperation in multiple areas	Benefits from tariff reduction and enhanced cooperation on various aspects of trade
CEPA - Comprehensive Economic Partnership Agreement	- Broader scope than CECA, often includes labour mobility, IP, and regulations	Imports benefit from tariff cuts, and other economic integration measures
CETA - Comprehensive Economic and Trade Agreement	- Advanced form of FTA covering goods, services, investments, government procurement, intellectual property, and sustainability standards	Near-total tariff elimination leading to significant increase in imports, particularly high-value industrial and service-related goods

PLACES IN NEWS

55. MOUNT LEWOTOB IAKI-LAKI

Why in News?

Mount Lewotobi Laki-Laki, a volcano in Indonesia's East Nusa Tenggara province, erupted in October 2025, spewing volcanic ash up to 10 km into the sky. Authorities raised the alert level and evacuated nearby residents due to ashfall and potential lava flow hazards.



About

- Type: **Stratovolcano** (composite volcano)
- Location: Flores Island, East Nusa Tenggara, Indonesia

Stratovolcano

It is a **large, steep-sided cone built by alternating layers of lava and ash.** It forms at **convergent** plate boundaries where viscous, gas-rich magma causes explosive eruptions. The lava solidifies quickly, creating steep slopes.

NOTE: The Barren Island volcano in the Andaman Sea (India) is an example of the stratovolcano, which is the only active volcano in the country.

- The volcano is part of a twin-peaked system called Lewotobi, meaning "husband and wife", which consists of:
 - Lewotobi Laki-Laki (Male Lewotobi)
 - Lewotobi Perempuan (Female Lewotobi)

56. THE DURAND LINE

Why in News?

The on-going border dispute between Pakistan and Afghanistan.

About

- Durand line is a 2,640-km **frontier running from the Wakhan Corridor in the north** to Balochistan in the south, dividing today's Pakistan from Afghanistan and bisecting Pashtun and Baloch homelands.



- It was **created in 1893** when Sir Mortimer Durand and Amir Abdur Rahman Khan signed an **agreement to separate British India's sphere from Afghanistan's.**

- The line follows watersheds and passes through Khyber, Kurram, and Waziristan—areas where kinship ties routinely ignore maps.

57. SAHEL REGION

Why in News?

The UN has warned that around four million people have been displaced across the Sahel (especially in Burkina Faso, Mali and Niger) due to violence, insecurity, climate-shock and food crises.

About

- The Sahel region accounts for a very high share of global terrorism-related deaths.
- The military governments in several Sahel states have formed the Alliance of Sahel States (AES) and are shifting alliances away from Western powers, increasing their ties with Russia.
- The region is suffering **multiple overlapping crises including security, climate, governance**; thereby making it a high-priority issue for humanitarian assistance and international diplomacy.
- **Countries in sahel region includes:**
 - Senegal
 - Mauritania
 - Mali
 - Burkina Faso
 - Niger
 - Chad
 - Sudan
 - Eritrea



58. MALDIVES

Why in News?

Maldives has become the first country in the world to achieve the “triple-elimination” of mother-to-child transmission (MTCT) of three infections: HIV, Syphilis and Hepatitis B.

About

- The Maldives is a **small island nation in the Indian Ocean**, located southwest of India and Sri Lanka.
- Capital: Malé



- The **Eight Degree Channel** is a maritime channel located along the 8-degree line of latitude which separates the **island of Minicoy** (part of India's Lakshadweep archipelago) **from the Maldives**.
- The Maldives had earlier been validated in 2019 for elimination of MTCT of HIV & syphilis.
- In 2025, the country received WHO validation for elimination of MTCT of Hepatitis B as well, completing the triple elimination.
- The achievement has been lauded as a global public health milestone, showing how small island nations with committed health systems can meet ambitious targets.
- It is an environmentally sensitive ecosystem, thus posing the sustainability challenges of balancing ecological preservation with resource extraction.



59. The Atacama Desert

Why in News?

The Atacama Desert in **Chile**, witnessed **unusual heavy rains** triggered a **rare bloom of wildflowers**, transforming the arid landscape into a colorful expanse.

About

- Countries that fall in the Atacama Desert are:
 1. **Parts of Peru**
 2. **Chile**
 3. **Bolivia**
 4. **Parts of Argentina**
- The region also witnessed **rare snowfall** at higher altitudes, indicating growing climate variability.
- Additionally, debates resurfaced over **lithium mining** and water scarcity, as the **desert's salt flats hold key mineral reserves vital for green energy**.

ORGANISATION

60. NeGD

Why in news?

The National e-Governance Division (NeGD) was in the news in October 2025 for signing Memorandums of Understanding (MoUs) with Bharat Taxi to provide technical advisory support for its national ride-hailing platform and with National e-Governance Services Limited (NeSL) to enhance digital document management and execution.

About

- In 2009, **National e-Governance Division (NeGD) was created by the Ministry of Electronics & Information Technology (MeitY) as an Independent Business Division** under the Digital India Corporation, a section 8 **not-for-profit company**.
- It has been playing a pivotal role in supporting MeitY in Programme Management and **implementation of e-Governance Projects**; providing technical and advisory support to Ministries/ Departments, **both at Central and State levels** along with other Government organisations.



- NeGD has developed and is managing several National Public Digital Platforms.

Roles and Responsibilities

- Frames Digital India policies.
- Offers tech & advisory support.
- Reviews e-Gov projects.
- Develops digital frameworks.
- Builds tech capacity.
- Promotes citizen outreach.
- Conducts impact studies.
- Manages HR & best practices.

61. FSSAI

Why in News?

On World Food Day 2025, the Ministry of Ayush and FSSAI released the first definitive list of Ayurveda Aahara (Category A) products, promoting authentic Ayurvedic nutrition and sustainable food practices.

About

- The **Food Safety and Standards Authority of India (FSSAI) has been established under Food Safety and Standards, 2006.**
- FSSAI has been created for **laying down science-based standards** for articles of food and to regulate their manufacture, storage, distribution, sale and import to ensure availability of safe and wholesome food for human consumption.
- **Ministry of Health & Family Welfare**, is the Administrative Ministry for the implementation of FSSAI.

Functions

- Frame food standards, regulations, and enforcement systems.

- Accredit **certification** bodies and laboratories.
- Provide scientific **advice** to Central and State Governments.
- **Collect data** on food safety risks and contaminants.
- Build a nationwide **information network** on food safety.
- Conduct **training programmes** for food business operators.
- Develop international food **safety standards**.
- Promote **public awareness** on food safety and nutrition.

62. CCPA

Why in News?

Over 54 coaching institutes have received notices and ₹90.6 lakh penalties for **unfair, misleading advertisements**, by CCPA.

About

- The **Central Consumer Protection Authority (CCPA)** has been **established under the Consumer Protection Act, 2019** and has come in to force on 24th July 2020.

Powers

- To **protect, promote and enforce the rights of consumers as a class**, and prevent violation of consumer's rights under this Act.
- To **prevent unfair trade practices** and ensure that no person engages himself in unfair trade practices.
- To **ensure that no false or misleading advertisement** is made of any goods or services which contravenes the provisions of this Act or the rules or regulations made thereunder.



63. MCMC

Why in News?

The Election Commission of India (ECI) has barred political parties, candidates, or organizations from publishing print advertisements on poll eve and voting day without prior certification from the MCMC to ensure a fair campaign environment.

About

The **Media Certification and Monitoring Committee (MCMC)** is a **regulatory body** established by the **Election Commission of India**.

Composition

- **State Level MCMC:**
 - Comprised of senior officials including the Chief Electoral Officer, media experts, observers, and representatives from media departments.
 - It handles appeals regarding certification, examines paid news cases, and oversees media monitoring across the state.
- **District Level MCMC:**
 - Comprised of officials like the District Election Officer, an Assistant Returning Officer, social media

experts, and representatives from government and independent citizens.

- The committee is responsible for certifying political advertisements, monitoring paid news, and ensuring media compliance.

- **Appellate Committee:**

- Established at the ECI level to resolve appeals against decisions made by state and district committees.

Functions

- Its main function is to **ensure that all political advertisements comply with election laws and guidelines** before they are broadcast or posted.
- It **supervises transparency** in expenditure related to political advertising and monitors paid news connected to elections.
- Political parties and candidates **must obtain MCMC certification prior** to releasing advertisements on TV, social media, and other digital platforms.
- The MCMC also works closely with social media intermediaries for enforcing compliance.
- It **reviews applications** for advertisement approval, verifying content and cost details.
- Additionally, it can **hear appeals** regarding certification decisions.
- The committee functions as a key mechanism to maintain fairness, lawfulness, and transparency in election campaigning through digital and electronic media channels.

64. WOAAH

Why in News?

World Organisation for Animal Health (WOAH) has hosted its third Global Conference, with the goal of galvanising advocacy efforts to manage the rising risk of biological threats from across the world.

About

WOAH is an intergovernmental global authority on animal health which was founded in 1924, and operates **independently from the United Nations system.**

Structure

- It has a specific governance structure centered around two main bodies:
 - The **World Assembly of Delegates** (the highest authority of WOAAH and Meets at least once a year) and
 - The **Council** (Functions as an executive body between sessions of the World Assembly).
- WOAAH has **183 member countries, including India.**
- India is an active member of WOAAH and participates in the World Assembly of Delegates

Functions

- **Monitors and reports** on global animal diseases through the **World Animal Health Information System (WAHIS).**
- Coordinates global responses to animal disease outbreaks, **safeguarding both animal and human health (zoonoses).**
- Promotes **"One Health" approach** linking animal, human, and environmental health.
- Works to **combat antimicrobial resistance** and improve animal welfare worldwide.

- **Ensuring safe international trade** of animals and animal products by providing transparent scientific information.
- It is the **WTO's Referencing organisation** for standards relating to animal health and zoonoses.
- Reference organisation means: When the **WTO deals with disputes or trade rules about animal health, it relies on WOAH's international standards** to:
 - Define what counts as disease outbreak,
 - Assess safety for trade in live animals or animal products, and
 - Prevent countries from false disease claims to impose trade barriers.

65. FAO

Why in News?

India and the **Food and Agriculture Organization (FAO)** celebrated 80 years of partnership in 2025.

About

- The FAO is a specialized **agency of the United Nations founded in 1945, with its headquarters in Rome, Italy.**
- Its goal is to **achieve food security for all** and make sure that people have regular access to enough high-quality food to lead active, healthy lives.
- With **195 members** - 194 countries and the European Union, FAO works in over 130 countries worldwide.
- FAO collaborates with governments and development agencies to coordinate activities that improve agriculture, forestry, fisheries, and land and water resources.



- It conducts research, provides technical assistance, runs educational and training programs, and collects agricultural data.

Key Highlights of India-FAO 80 Years Relations

- The partnership supported **India's journey from food scarcity post-independence** to becoming a food-secure nation feeding 1.4 billion people.
- FAO provided **technical expertise and policy guidance** that contributed to the **Green Revolution** and enhanced agricultural productivity.
- The collaboration helped implement key food security measures such as the **Minimum Support Price (MSP), public food stockholding, and the National Food Security Act benefiting over 800 million people.**
- FAO's support extended to diversified agriculture, rural livelihoods, natural resource management, pest control, and sustainable farming practices.
- The partnership strengthened **India's capacity in nutrition-sensitive agriculture, climate resilience, and adoption of modern technologies.**
- India actively contributes as a global knowledge partner, sharing its agricultural development experiences.
- The India-FAO framework aligns with the United Nations **Sustainable Development Goals** and India's

development priorities for agrifood system transformation.

66. UNCTAD

Why in News?

Union Minister of Commerce and Industry, Shri Piyush Goyal, attended the XVIth Session of UNCTAD in Geneva, where he delivered India's national statement and participated in key discussions.

About

- UNCTAD, stands for the **United Nations Conference on Trade and Development**.
- It is **established in 1964** by the UN General Assembly and **headquartered in Geneva**, Switzerland.
- Its primary purpose is to **support developing countries to access the benefits of a globalized economy** more fairly and effectively.

Structure and Work

- UNCTAD is **part of the UN Secretariat**.
- It has **195 member countries** and works closely with **non-governmental organizations** around the globe.
- Ministerial **conferences are held every four years** to review progress and decide on future agendas.
- UNCTAD houses specialized divisions and programmes, including those focusing on Africa, Least Developed Countries, and inclusive entrepreneurship.

67. UNTCC

Why in News?

From 14-16 October 2025, the Indian Army hosted The UNTCC Chiefs' Conclave 2025.

About

- UNTCC stands for **United Nations Troop Contributing Countries**.
- It refers to **countries that volunteer and provide military or police personnel for United Nations peacekeeping missions globally**.
- The UNTCC Chiefs' Conclave is a **high-level forum** where senior military leaders from these troop-contributing nations **come together to deliberate** on operational challenges, share best practices, **discuss** evolving threats, interoperability, and the role of technology and training in strengthening UN peacekeeping efforts.

UN peacekeeping Force

- It is global initiative by the UN to help **maintain international peace and security** through the deployment of troops, police, and civilian personnel from UN Member States to **conflict zones** worldwide.
- It operates under the authority of the **UN Security Council**.
- **India is among the top contributors** to UN peacekeeping operations, consistently ranking as the largest troop-contributing country as of 2025.

REPORT & INDICES

68. THE STATE OF SOCIAL JUSTICE: A WORK IN PROGRESS

Why in news?

The **International Labour Organization (ILO)** released its flagship report *“The State of Social Justice: A Work in Progress”* ahead of the **30th anniversary of the 1995 Copenhagen Summit on Social Development**.

About

- **Released by:** International Labour Organization (ILO)
- **Published ahead of:** Second World Summit for Social Development, Doha (Nov 4–6, 2025)
- Evaluates global progress on **education, poverty reduction, labour rights, and social protection**.
- Anchored on **ILO’s four pillars of social justice:**
 1. **Human rights and capabilities**
 2. **Equal access to opportunities**
 3. **Fair distribution of outcomes**
 4. **Fair transitions** (for environmental, digital, and demographic shifts)

Key Findings

Progress achieved:

- Child labour has fallen from 20.6% in 1995 to 7.8% in 2024.
- Secondary school completion rates have increased by 22 percentage points since 2000.
- Extreme poverty dropped from 4 in 10 people in 1995 to 1 in 10 in 2023 while working poverty dropped from 27.9% in 2000 to 6.9% in 2024.

- Labour productivity per worker rose by 78% globally, and by 215% in upper-middle-income countries.
- Work-related mortality declined by over 10%.

Persistent challenges:

- The **top 1%** of the global population holds **20% of income and 38% of wealth**.
- 800 million people still live on **less than US\$3 per day**, and one in four people **lacks access** to safely managed drinking water.
- The **labour force participation gap** between men and women has narrowed by **only three percentage points** since 1995.
- **Informal employment** still covers **~58% of workers** globally.
- **Benefits of growth unevenly shared**, leading to frustration and weakening democratic legitimacy.

Similar Reports

- **World Social Report (released by UN DESA)** – tracks inequality & inclusiveness globally.
- **World Employment and Social Outlook (released by ILO)** – focuses mainly on jobs & labour trends.

69. ACCIDENTAL DEATHS & SUICIDES IN INDIA (ADSI) 2023 REPORT

Why in news?

The **National Crime Records Bureau (NCRB)** released its annual report **“Accidental Deaths and Suicides in India 2023” (ADSI 2023)** on **October 1, 2025**.

About

- Published annually since **1967**, the report compiles data from **States/UTs and Central agencies** under the **Crime in India (CII)** series.
- The report presents national data on **suicides, accidental deaths, and related causes**, offering insights into **mental health trends and socio-economic stressors**.
- Serves as an evidence base for **policy formulation on public safety, mental health, and occupational hazards**.

Key Findings

Overall trend:

- **Total suicides:** Increased by **0.3%** in 2023 compared to 2022.
- **Suicide rate:** Decreased by **0.8%** over 2022.

Major causes:

- Family Problems (31.9%)
- Illness (19.0%)
- Drug/Alcohol Addiction (7.0%)

Farmer Suicides:

- **10,786 farmers** died by suicide, constituting **6.3%** of total victims.
- Zero farmer suicides reported in West Bengal, Bihar, Odisha, Jharkhand, Himachal Pradesh, Arunachal Pradesh, and Goa.

Similar Reports

- **Crime in India (CII)** – another annual NCRB report (broader crime statistics).
- **National Mental Health Survey (NMHS)** – released by National Institute of Mental Health And Neuro Science (NIMHANS) under Ministry of Health and Family Welfare.

Initiatives for Suicide Prevention

- **National Suicide Prevention Strategy (2022):** Target - 10% reduction in suicide mortality by 2030
- **Tele-MANAS:** 24×7 toll-free tele-mental health service across States.
- **National Mental Health Programme (NMHP):** Provides accessible and decentralised mental healthcare.
- **Manodarpan (MoE):** Offers psychosocial support for students, teachers, and families.

70. STATE OF FINANCE FOR FORESTS (SFF) REPORT 2025

Why in News?

The **first State of Finance for Forests (SFF) Report** was released, providing the **first global overview of public and private financial flows** in 2023 toward forests.

About

- **Released by:** **United Nations Environment Programme (UNEP), Global Canopy, and the World Resources Institute (WRI).**
- It is part of the **UN Decade on Ecosystem Restoration (2021–2030)** initiatives.
- It analyses **public & private investments** directed toward forest protection, restoration, and sustainable land use.
- It integrates **multiple finance sources:**
 - Certified commodity supply chains
 - Impact investments

- Carbon & biodiversity markets
- Philanthropic funds
- Public-private blended finance
- It assesses the **funding gap** needed to realize forests' potential in tackling **climate change, biodiversity loss, and land degradation.**

Key Findings

The report finds that forests remain **significantly underfunded**:

- Annual investment must increase from US\$84 billion in 2023 to US\$300 billion by 2030 and US\$498 billion by 2050, leaving an **annual gap of about US\$216 billion.**
- **Private forest finance remains modest** at US\$7.5 billion in 2023.

71. GLOBAL FINANCIAL STABILITY REPORT (GFSR) – OCTOBER 2025

Why in News?

The **International Monetary Fund (IMF)** released its **October 2025** edition of the *Global Financial Stability Report (GFSR)* titled “*Shifting Ground Beneath the Calm.*”



About

- The **GFSR** assesses global financial systems, vulnerabilities in **capital and credit markets**, and potential contagion risks.

- It **complements the IMF's World Economic Outlook (WEO)** by analysing financial sector health, liquidity risks, and cross-border capital flows.
- **Frequency:** Biannual (April & October)

Key Findings

- The report warns that risks to global financial stability remain elevated, urging policymakers to remain vigilant.
- A key concern is the continued appreciation of risk asset prices especially in light of ongoing trade and geopolitical uncertainties.
- The US dollar has depreciated by 10% this year raising concerns about asset prices that could strain financial markets.

Similar Reports

- **Global Economic Prospects** – by **World Bank** (focus: growth outlook).
- **World Development Report** – by **World Bank**, thematic focus annually.
- **Global Risk Report** – by **World Economic Forum (WEF)**, non-financial risk trends.

72. GLOBAL FOREST RESOURCES ASSESSMENT (GFRA) 2025

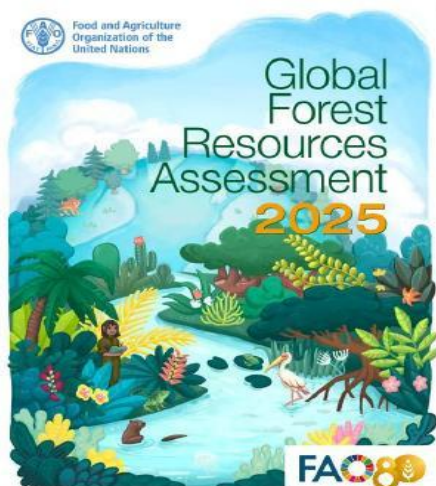
Why in News?

FAO launched the 2025 edition of the **Global Forest Resources Assessment** during the **Global Forest Observations Initiative (GFOI) Plenary** held in **Bali, Indonesia.**

About

- This report is **Food and Agriculture Organisation's** flagship global study that monitors **extent, condition, management, and use of forests.**

- Integrates satellite-based Earth observation and national forest inventories.
- Supports countries in tracking forest-related SDGs (SDG-15) and climate goals.
- Frequency: Every 5 years.



Key Findings

- **Global forest cover:** 4.14 billion hectares → 32% of world's land area.
- **Regional share:** ~50% in **tropics**, followed by **boreal**, **temperate**, and **subtropical** zones.
- **Europe:** Largest regional forest area (~25% of total).
- Natural regeneration: > **90% of forests regenerate naturally**.
- **Carbon stocks:** Total 714 gigatonne, majority in **soil**, followed by **biomass**, **litter**, and **deadwood**.
- **Prevailing concerns:**
 - Subtropics: Fire remains dominant threat.
 - Temperate & Boreal: Insects, disease, and extreme weather major causes.

Indian Context

- India has moved up to 9th position globally in terms of total forest area as per GFRA 2025.
- India continues to maintain 3rd position worldwide in terms of net annual forest area gain.
- India ranked 5th among the top global carbon sinks, with its forests removing 150 Mt of CO₂ per year during 2021-2025.

Similar Reports

- **Global Forest Watch** – Released by **World Resources Institute (WRI)**
- **India State of Forest Report (ISFR)** – Released by **Forest Survey of India**.

73. GLOBAL MULTIDIMENSIONAL POVERTY INDEX (GMPI) 2025

Why in news?

- The 2025 Global Multidimensional Poverty Index (GMPI), **jointly released by United Nations Development Programme (UNDP) and Oxford Poverty and Human Development Initiative (OPHI)**, highlights the **overlap between poverty and climate vulnerability**.
- For the **first time**, it maps poor populations' exposure to **four major climate hazards** — *high heat, drought, floods, and air pollution*.

About

- Measures **multidimensional poverty** using **health, education, and living standards** indicators.
- Recognises poverty as **multi-dimensional and climate-sensitive**, not just income-based.

- Integrates **climate vulnerability** into poverty analysis for the first time.

Key Findings

- 1.1 billion** people are multidimensionally poor; **over 80%** of them live in regions affected by **at least one climate hazard**.
- High heat** and **air pollution** are the most widespread threats to poor communities.
- 651 million** people face **multiple (two or more)** overlapping climate risks.
- South Asia** has the largest number of multidimensionally poor exposed to hazards, followed by **Sub-Saharan Africa**.
- The **poor** are **least responsible** for emissions but **most affected** by climate impacts, especially in **agriculture-dependent economies**.

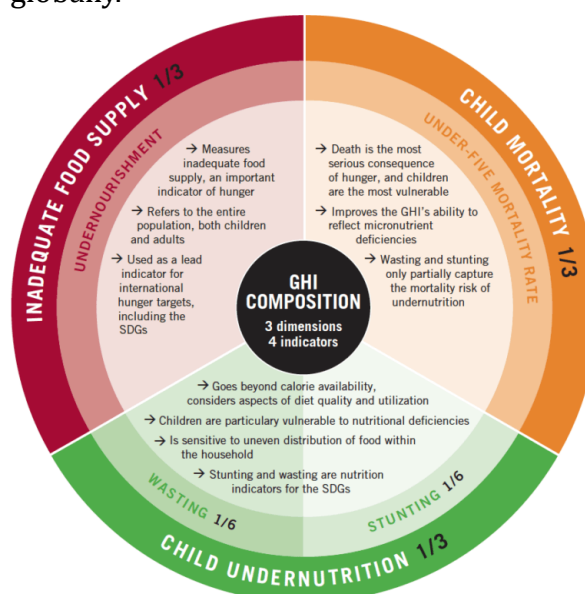
India-Specific Insights

- India shows one of the **world's fastest poverty reductions** — poverty fell from **55% (2005-06)** to **16.4% (2019-21)**; **over 400 million** people exited poverty.
- Yet, **climate exposure remains high**, especially in **heat- and flood-prone states**.
- The report notes **converging risks** of poverty and environmental stress across **India, Bangladesh, and Pakistan**.
- It calls for integrating **poverty alleviation with climate resilience and sustainable livelihoods**.

74. GLOBAL HUNGER INDEX (GHI) 2025

Why in news?

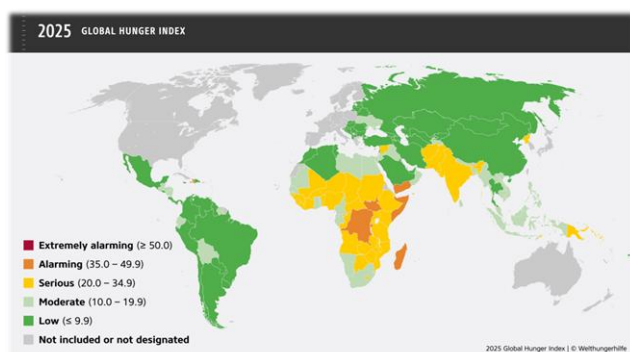
- The 2025 Global Hunger Index (GHI) was released marking two decades of tracking hunger and malnutrition worldwide.
- The report warns that progress toward **Sustainable Development Goal - 2: Zero Hunger** by 2030 has stalled globally.



About

- Released by:** Concern Worldwide (Ireland), Welthungerhilfe (Germany), and Institute for International Law of Peace and Armed Conflict (IFHV).
- 2025 Theme:** “20 Years of Tracking Progress: Time to Recommit to Zero Hunger”
- The GHI is a **composite measure** assessing hunger at **global, regional, and national** levels.
- It scores countries on a scale of **0 (no hunger)** to **100 (worst hunger)**.
- Computed using **four indicators**:
 - Undernourishment** – insufficient caloric intake.

2. **Child Stunting** – low height-for-age under 5.
3. **Child Wasting** – low weight-for-height under 5.
4. **Child Mortality** – under-five death rate.



Key Findings

- **Global hunger trends:** Little improvement since **2016**; progress has **stalled**, making **Zero Hunger by 2030** unlikely.
- **India's performance - Rank:** 102 out of 123 countries.
 - **Score:** 25.8 — classified as **"Serious"** hunger level.
 - 12.0% of the population is undernourished.
 - 32.9% of children under five are stunted.
 - 18.7% of children under five are wasted.
 - 2.8% of children die before their fifth birthday.

Global drivers of hunger crisis

- **Conflict and political instability** remain the **primary cause**.
- **Climate change and environmental shocks** damaging food systems.
- **Economic fragility:** Inflation, currency depreciation, and declining aid flows.

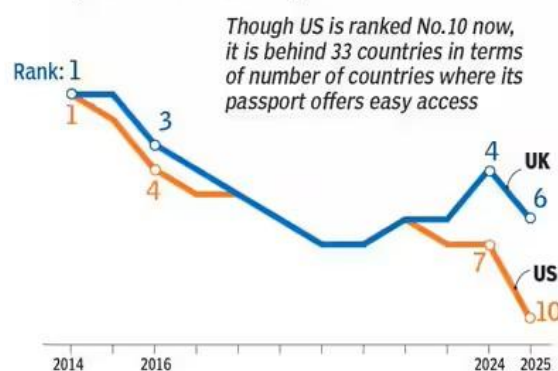
- **Widening inequality** limiting access to food and nutrition.

75. HENLEY PASSPORT INDEX 2025

Why in News?

US, UK Are No Longer The Powerhouses They Used To Be

The US and the UK were among the most powerful passports globally in 2014, with near-unrestricted access across the world. But over the past decade, both have steadily slid down the rankings



Note: The Henley Passport Index uses a complex ranking method that can assign the same rank to multiple countries with equal access

Source: Henley Passport Index, MEA; Graphic: **Anil Dinod**

- The Henley Passport Index 2025 was released in October 2025, ranking countries based on the **number of destinations their citizens can access visa-free**.
- The **United States** dropped out of the **Top 10** for the first time since the index began, while **Singapore** retains the **No. 1 spot**.

About

- **Released by:** Henley & Partners (UK-based global citizenship and residence advisory firm) using data from the **International Air Transport Association (IATA)**.
- Measures **global travel freedom** for passport holders by counting **visa-free or visa-on-arrival destinations**.

- Reflects the **strength of diplomatic relations, global mobility, and trust** among nations.

India's Position

- **Rank: 85th (2025) — down five places from 80th in 2024.**



- **Visa-free access to 57 destinations.**
- **Trend:** India's ranking has fluctuated — *highest (71st in 2006), lowest (90th in 2021).*
- Decline attributed to **tightened visa norms, limited reciprocal access, and post-pandemic travel policy realignments.**

SCHEMES & INITIATIVES

76. PRADHAN MANTRI- AYUSHMAN BHARAT HEALTH INFRASTRUCTURE MISSION (PM-ABHIM)

Why in news?

Recently, the operational guidelines and progress figures noting the number of sub-centres, public health units, labs and critical-care blocks planned under the mission has been updated.



About

- It was **launched on 25th October 2021** under the Ayushman Bharat initiative.
- It was launched by the **Ministry of Health and Family Welfare**.
- It is a **Centrally sponsored scheme**.

Objectives

- To **build resilient public health systems** to handle pandemics & emergencies.
- To establish an **IT-enabled National Disease Surveillance Network**.
- To advance **Universal Health Coverage (UHC)** and align with **SDG-3** (Good Health & Well-being).
- To establish and upgrade of **Ayushman Arogya Mandirs (AAMs), Block Public Health Units, Integrated District Public Health Labs, and Critical Care Hospital Blocks in every district**.

Key features

- **Surveillance System:** Real-time digital tracking from local to national level.
- **Infrastructure Focus:** Rural & urban health centres, infectious disease research, and community capacity building.

NATIONAL HEALTH MISSION

The National Health Mission-launched in 2005 establishes community-owned and decentralised health systems to provide accessible, affordable, and quality healthcare services to vulnerable populations.

AYUSHMAN BHARAT

Ayushman Bharat, a flagship scheme of Government of India, was launched as recommended by the National Health Policy 2017, to achieve the vision of Universal Health Coverage (UHC).

The scheme aims to undertake path breaking interventions to holistically address the healthcare system at the primary, secondary and tertiary level.

Ayushman Bharat scheme builds on NHM's foundation to strengthen primary healthcare delivery through four key pillars:

- Ayushman Bharat - Pradhan Mantri Jan Aarogya Yojana (AB-PMJAY),
- Ayushman Arogya Mandirs (AAM),
- Ayushman Bharat Digital Mission (ABDM)
- PM-Ayushman Bharat Health Infrastructure Mission (PM-ABHIM).

- **Integration:** Linked with National Health Mission, National Health Policy 2017, and Ayushman Bharat.

77. DEENDAYAL ANTYODAYA YOJANA – NATIONAL RURAL LIVELIHOODS MISSION (DAY- NRLM)

Why in news?

As of October 2025, DAY - NRLM has mobilized over 10 crore rural households into 90.9 lakh Self Help Groups (SHGs), supported 4.6 crore women farmers, and fostered 3.74 lakh micro-enterprises. Women's SHGs have accessed over ₹11 lakh crore in formal credit.

About

- Deendayal Antyodaya Yojana - National Rural Livelihood Mission (DAY-NRLM) is a **flagship poverty alleviation program** being implemented by the **Ministry of Rural Development**.
- It was **launched in 2010** as a mission-mode scheme by **restructuring the erstwhile Swarnajayanti Grameen Swarojgar Yojana (SGSY)**.
- In 2016, the program was renamed Deendayal Antyodaya Yojana – National Rural Livelihood Mission (DAY- NRLM).
- It is jointly funded by the Centre & States. **(Centrally sponsored scheme)**.

Objectives

- It aims to **reduce poverty** by enabling poor households to **access gainful self-employment and skilled wage employment opportunities**.
- It aims at **mobilizing rural poor households into Self Help Groups (SHGs)** and continuously nurturing and supporting them to take economic activities.

The Mission seeks to achieve its objective through investing in **four core components**:

1. **Social mobilization** and promotion and strengthening of self-managed and financially sustainable community institutions of the rural poor women;
2. **Financial inclusion**;
3. **Sustainable livelihoods**;
4. **Social inclusion**, social development and access to entitlements through convergence.

Skill Development and Employment Programs under DAY-NRLM

The Ministry implements two Centrally Sponsored Schemes under DAY-NRLM:

- 1) **Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY):** Provides **placement-linked skill training for rural youth** aged 15–35 years. The program ensures practical skill development aligned with job placements, enabling participants to earn wages at or above the minimum wage in the formal job market.
- 2) **Rural Self Employment Training Institutes (RSETIs):** Bank-sponsored centres for youth aged 18–50 that **provide entrepreneurship training and promote self-employment**, with financial support for infrastructure and training costs.

Women Empowerment via DAY-NRLM

- It has created strong women-led Self-Help Groups (SHGs) that connect with banks through trained

Bank Sakhis and Banking Correspondent Sakhis.

- The mission supports **farm and non-farm livelihoods**, empowering **Mahila Kisans** through agro-ecological training and extension services by **Krishi Sakhis** and **Pashu Sakhis**.
- It also fosters **micro-enterprises** under programs like the **Start-up Village Entrepreneurship Programme (SVEP)** and promotes **social awareness** on health, nutrition, education, and gender issues.

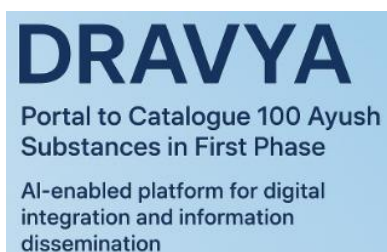
78. DRAVYA PORTAL (DIGITISED RETRIEVAL APPLICATION FOR VERSATILE YARDSTICK OF AYUSH)

Why in news?

The Ministry of Ayush launched the DRAVYA Portal recently.

About

- The DRAVYA portal was developed by Central Council for Research in Ayurvedic Sciences (CCRAS) and launched by the Ministry of Ayush.



- It acts as the digital repository of Ayurvedic ingredients and formulations.
- An AI-driven platform that connects with the Ayush Grid and allied initiatives to advance research, strengthen regulation, and promote India's medicinal heritage globally.

- **Phase I Objective:** Catalogue data on 100 major medicinal substances used in Ayush systems.

Key Features

- **AI-Ready Platform:** Integrates classical Ayurvedic texts with modern digital research tools.
- **Dynamic Database:** Consolidates pharmacotherapeutic, botanical, chemical, and safety data.
- **Integration:** Linked with the **Ayush Grid** and other Ministry initiatives on medicinal substances.
- **QR Code Support:** Standardises information display in **medicinal plant gardens** and **drug repositories**.
- **Open-Access Design:** Offers global reach and user-friendly search for students, researchers, and policymakers.

79. e-NAM (e-NATIONAL AGRICULTURE MARKET)

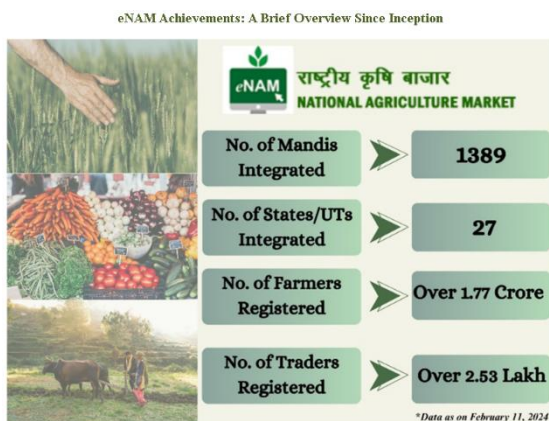
Why in news?

The Department of Agriculture and Farmers' Welfare, Government of India, has further strengthened the National Agriculture Market (e-NAM) by expanding its coverage with the inclusion of 09 additional commodities (Green tea, Tea, Ashwagandha Dry roots, Mustard oi, Lavender oil, Mentha oil, Virgin Olive oil, Lavender Dried Flower and Bren Rice), taking the **total number of tradable agricultural commodities on the platform to 247**.

About

- e-National Agriculture Market (NAM) is a **pan-India electronic trading portal launched on 14th April, 2016**.

- It is under the **Ministry of Agriculture and Farmers' Welfare**.
- It is **completely funded by Central Government** and **implemented by Small Farmers Agribusiness Consortium (SFAC)**.



Objectives

- Integrate agricultural markets across states through a **common online trading platform**.
- **Standardize and simplify** marketing and transaction procedures nationwide.
- Provide **farmers better access to buyers and fair prices** through real-time, transparent online trading.
- Establish **quality testing systems** for reliable price discovery.
- Ensure **stable prices and quality produce** for consumers.

Beneficiary

Farmers, Mandis, Traders, Buyers, Processers and Exporters.

Benefits

- **Transparent online trading** with easy market access.
- Real-time price discovery for fair and stable returns.
- **Lower transaction costs for buyers**.

- Commodity prices and details available on the e-NAM mobile app.
- SMS alerts for price and quantity sold.
- **Quality certification** for assured produce standards.
- **Efficient supply chain** with warehouse-based sales.
- **Direct online payment to farmers' bank accounts**.

80. PRADHAN MANTRI SKILLING AND EMPLOYABILITY TRANSFORMATION THROUGH UPGRADED ITIs (PM-SETU)

Why in news?

PM-SETU was launched on October 4, 2025, by Prime Minister Narendra Modi.

About

- It is a **centrally sponsored scheme** under the **Ministry of Skill Development and Entrepreneurship**.
- It is a **centrally sponsored scheme**.
- It aims to **transform 1,000 Government Industrial Training Institutes (ITIs) across India into modern, industry-aligned training institutions**.

How does it get implemented

PM-SETU will adopt a **hub-and-spoke model**, connecting 200 hub ITIs with 800 spoke ITIs. Each hub ITI will feature modern infrastructure, innovation and incubation centres, production units, trainer training facilities, and placement support, while the spoke ITIs will function as outreach centres to expand training access and coverage.

WHAT IS ITI?

- ITI stands for **Industrial Training Institute**.
- It is a **government-run or private vocational training institute** in India that provides **technical education and practical skills** so they can get jobs or become self-employed.

Key features

- **Introduce industry-aligned, demand-based courses** and upgrade existing programs in partnership with industry.
- **Establish Special Purpose Vehicles (SPVs)** with reputed anchor industry partners to manage training clusters and ensure outcome-oriented learning.
- **Develop multiple learning pathways** including long-term diplomas, short-term skill courses, and executive programs.
- **Upgrade five National Skill Training Institutes:** Bhubaneswar, Chennai, Hyderabad, Kanpur, and Ludhiana into **Centres of Excellence** through global collaborations.

81. SWASTH NARI, SASHAKT PARIVAR ABHIYAAN**Why in news?**

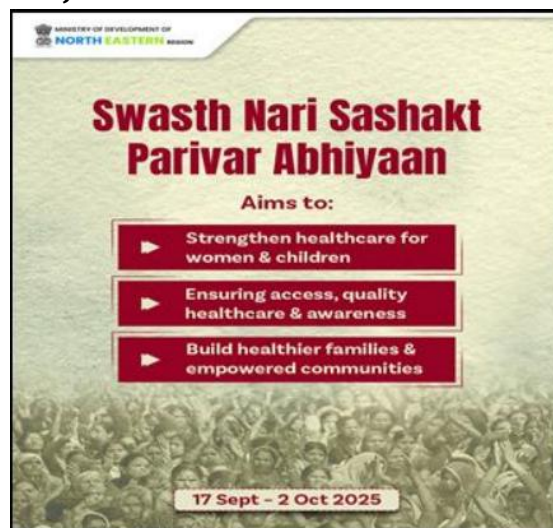
The Union Health Ministry has achieved three **GUINNESS WORLD RECORD** titles under the nationwide “Swasth Nari, Sashakt Parivar Abhiyaan” (SNSPA) campaign, recognizing India’s unparalleled commitment to preventive and women-centric healthcare.

The records achieved are:

1. Most people to register for a health care platform in one month (Over 3.21 Crore)
2. Most people to sign up for a breast cancer screening online in one week (Over 9.94 lakh)
3. Most people to sign up for vital signs screening online in one week (at state level) – (Over 1.25 lakh)

About

- The Hon’ble Prime Minister launched the nationwide campaign “Swasth Nari, Sashakt Parivar Abhiyaan” from 17th September to 2nd October 2025, in **conjunction with Poshan Maah**.



- The campaign **focuses on improving the health and nutrition of women, adolescent girls, and children**, with the objective of strengthening early detection, ensuring access to **essential health services, and empowering families to adopt healthier lifestyles** for a stronger and healthier India.
- To ensure **preventive, promotive and holistic healthcare for women**, recognising that a healthy woman → healthy family → healthy nation.

(Refer Pulse Digest September 2025 edition for details about Rashtriya Poshan Maah 2025.)

Key Initiatives under the Abhiyaan

1) Nationwide Women's Health Screening Drive (17 Sep - 2 Oct 2025)

- Over **6.5 crore women** screened across India.
- Conducted via **18 lakh health camps** organised at PHCs, Anganwadis, schools, and community centres.
- **Integrated screening** for:
 - Anaemia, Diabetes, Hypertension, Malnutrition
 - Breast, Cervical, and Oral Cancer (aligns with National Programme for Prevention and Control of NCDs)
 - Reproductive health, immunisation, menstrual hygiene awareness.

2) Jan Bhagidari Model of Governance

- Campaign implemented through **community participation** involving ASHA, Anganwadi and ANM workers.
- Local self-governments, women's SHGs and NGOs played a key role in mobilising beneficiaries.
- Builds on "Whole of Society" approach, which echoes *Swachh Bharat Mission* and *Fit India Movement* style participatory models.

3) Digital Health Integration

- Data on screenings uploaded to **Ayushman Bharat Digital Mission (ABDM)** portals.

- Health IDs created for participants that aids continuity of care and early diagnosis.

4) Nutritional Convergence

- Linked with **Poshan Tracker App** to monitor undernutrition among women and adolescent girls.
- Encourages Iron-Folic Acid (IFA) supplementation drives and millet-based diet promotion.

Institutional Support

- Implemented by **Ministry of Health & Family Welfare (MoHFW)** in coordination with **Ministry of Women & Child Development (MWCD)**.
- Supported by NITI Aayog's Women & Health vertical.

82. CRITICAL MINERAL RECYCLING INCENTIVE SCHEME

Why in news?

The **Ministry of Mines** has issued the Scheme Guidelines for implementation of the incentive scheme outlining incentive allocation, application, evaluation, disbursement, and performance monitoring.

About

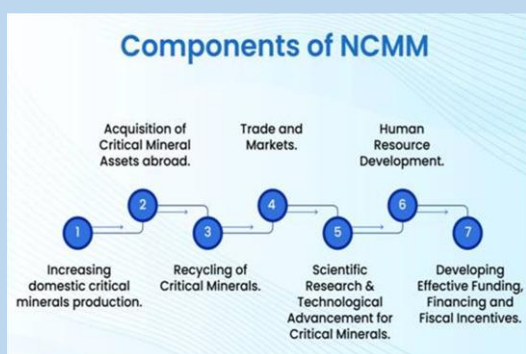
Critical Minerals Recycling Incentive Scheme:

- It is a 1500 crore incentive scheme to **boost critical mineral recycling**. The scheme **aims to reduce the country's dependence on imports** and build self-reliance in the critical minerals sector.
- It is part of the National Critical Mineral Mission and was approved by the Union Cabinet in September 2025.

- It focuses on developing **recycling capacity from secondary sources** such as **e-waste and spent** lithium-ion batteries.
- Promoting **circular economy**, the scheme aligns with global trends towards **sustainable resource management and technological innovation**.

National Critical Minerals Mission

Announced in the 2024-25 Budget, it is bestowed with the objective of securing India's critical minerals supply chain from both domestic and foreign resources.



ART & CULTURE

83. HERITAGE POLICY SHIFT

Why in news?

It has been reported that the Government of India plans to open up **conservation of protected monuments** to private players.

About

- The core conservation work of as many as **3,700 protected monuments** across the country has been **solely the mandate of the Archaeological Survey of India (ASI)**, which functions under the aegis of the **Ministry of Culture**.
- The Government aims to create a **public-private-partnership model in heritage conservation**, leading to capacity building and also fast-tracking of conservation projects.
- While funds have to be routed through the **National Culture Fund**, the conservation project will be under ASI's supervision and the detailed project report (DPR) has to follow the **National Policy for Conservation, 2014**.

NATIONAL POLICY FOR CONSERVATION 2014

(NPC-AMASR), 2014, is a policy by the Indian government to safeguard and manage heritage sites.

Its key features include encouraging traditional skills, capacity building, visitor management, community participation, and a dynamic approach to conservation that balances physical preservation with modern management needs.

- Earlier, the government had launched **Adopt a Heritage scheme** to allow corporates and PSUs to come in as "**monument mitras**" and help in creation of amenities for visitors but this is the first time that private donors can sign up for the **execution of the core conservation work** at the monuments.

NATIONAL CULTURE FUND

Set up in 1996, by the Ministry of Culture under **the Charitable Endowment Act, 1890**.

Its primary objective is to administer and apply the fund for conservation, maintenance, promotion, protection, preservation and up-gradation of monuments.

NCF can receive donations from Corporates, PSUs, Trusts and Individuals for maintenance and preservation of Centrally Projected monuments/ cultural projects.

84. UNESCO VIRTUAL MUSEUM OF STOLEN ARTIFACTS

Why in news?

The digital platform of Virtual Museum of Stolen Artifacts was launched recently by UNESCO.

About

- The platform aims to **reconnect communities with their stolen cultural treasures** and seeks to **confront the illicit trafficking** of heritage items, particularly as a result of colonialism.

- The digital museum currently displays almost 240 missing objects from 46 countries.
- The museum also aims to “**gradually empty itself**”, as the objects are recovered, and returned to their **countries of origin**.
- The website has been designed in the form of a **baobab tree**, which is a noted **symbol of strength** in the **African continent**.
- The museum is financially supported by the **Kingdom of Saudi Arabia**, and the project was developed in collaboration with the **INTERPOL**.
- The museum depicts at least two objects submitted from India: two **ninth-century sandstone sculptures** from the **Mahadev Temple** in **Pali, Chhattisgarh**.
- **Take a Tour:**
<https://museum.unesco.org/>

85. SREE NARAYANA GURU

Why in news?

The President of India, Smt Droupadi Murmu inaugurated the observance of the Mahasamadhi centenary of Sree Narayana Guru at Sivagiri Mutt, Varkala, Kerala.

About

- Sree Narayana Guru (1856-1928) was an **Indian philosopher, spiritual leader, and social reformer** who led a movement against the caste system and promoted universal brotherhood.
- **Key Philosophies and Teachings**
 - One Caste, One Religion, One God for All Human Beings
 - Advaita Vedanta
 - Education as a tool for upliftment

- Interfaith harmony
- **Major contributions and movements**
 - Aruvipuram Movement
 - Founding of Sree Narayana Dharma Paripalana Yogam.
 - Establishing temples open to all
 - Supporting the Vaikom Satyagraha.
- Sree Narayana Guru's influence extended beyond Kerala and continues to be relevant today. National leaders, including **Mahatma Gandhi and Rabindranath Tagore**, sought his counsel and were inspired by his ideals.
- His efforts paved the way for significant **social and political reforms** in Kerala and played a crucial role in the state's social renaissance.

86. SELF RESPECT MOVEMENT

Why in news?

This year marks the **centenary of the Self-Respect Movement**, which changed the course of the political discourse in Tamil Nadu.

About

- The Self Respect Movement was launched in 1925 by **E.V.Ramasamy** (Periyar) after leaving the Indian National Congress due to its neglect of caste-based inequalities.
- **Foundational Principles of the Movement are:**
 - Abolition of the caste system
 - Rationalism and anti-superstition
 - Assertion of self-respect
 - Gender equality
- Over 100 years, the movement's radical ideas have profoundly reshaped Tamil society and left a lasting political legacy.

- **Some of the Social Reforms include:**
 - Self-respect marriages legalized in 1967
 - Promoting inter-caste unions
 - Campaign against Upper Caste dominance
 - Women's empowerment
- **Political Influence**
 - The Self-Respect Movement laid the **ideological foundation** for **modern Dravidian politics** in Tamil Nadu
 - It shifted the political focus to prioritizing social equality and justice. This emphasis led to **landmark social policies** in Tamil Nadu, such as **reservations for backward classes**.

E.V.RAMASAMY

Erode Venkatappa Ramasamy (1879–1973), popularly known as Periyar, was a social activist, rationalist, and political leader from Tamil Nadu. He is revered as the "Father of the Dravidian Movement" for his tireless efforts to fight against caste-based discrimination, uplift marginalized communities, and promote rationalism and women's rights.

87. ABHIDHAMMA DIWAS

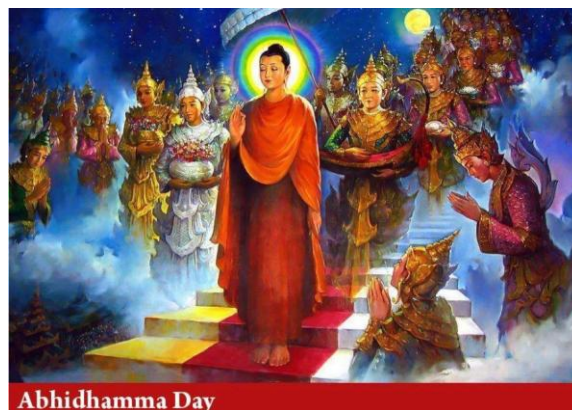
Why in news?

The International Buddhist Confederation (IBC), in collaboration with Gautam Buddha University (GBU) and the Ministry of Culture celebrated International

Abhidhamma Day on October 6 and 7.

About

- Abhidhamma Diwas commemorates the occasion when the **Buddha preached the Abhidhamma** to the gods of Tavatimsa Heaven, led by his mother Mahamaya, and later shared it with his disciple Arahant Sariputta.
- This day honours the deep doctrinal and ethical teachings contained in the Abhidhamma Pitaka, a major Buddhist scripture.
- It may be recalled that the Government of India declared **Pali** a Classical Language, recognizing its significance as the **canonical language of Theravada Buddhist texts**, including the **Abhidhamma Pitaka**.
- The **Abhidhamma Piṭaka** is the third of the three divisions of the **Pali Tripitaka**, the definitive canonical collection of scripture of **Theravada Buddhism**. The other two parts of the Tripitaka are the **Vinaya Piṭaka** and the **Sutta Piṭaka**.



Abhidhamma Day

88. IRON AGE SITES IN TAMILNADU

Why in news?

Recent excavations by the Tamil Nadu State Department of Archaeology (TNSDA) have revealed **Iron Age burial sites** near the **Western Ghats**.

About

- Spanning nearly 35 acres, the site lies **between two seasonal streams** originating from the Western Ghats. (**Thirumalapuram**, Tenkasi district) This strategic location may have influenced settlement and burial practices during the Iron Age.
- Chambers containing **urn burials** filled with cobbles were discovered. A variety of **ceramics** in graves and as grave goods were found. These included **white-painted black-and-red ware, red ware, red-slipped ware, black-polished ware, and coarse red ware.**
- Antiquities made from **bone, gold, bronze, and iron** including tweezers, swords, spearheads, gold rings, axes, daggers, chisels, bone heads, and arrowheads were found.
- Preliminary findings and comparison with other sites like **Sivagalai and Adichanallur** suggest that the site may date back to the **early to mid-third millennium BCE.**
- The findings contribute to the broader understanding of prehistoric settlement patterns and cultural developments in South India.



89. NOTEABLE FESTIVALS

Banni Festival, Andhra Pradesh: It is a traditional stick-fighting event celebrated

on the night of Vijaya Dasami in the Devaragattu temple area of Kurnool district. It is a violent form of celebration where people from five villages fight with long bamboo sticks.



Mera Hou Chongba, Manipur: The festival marks the brotherhood among different tribes (Hill – Valley) in the state. It is the **only festival in Manipur in which all indigenous communities participate,** and it has a significant importance in the unity and communal harmony of Manipur.



Bathukamma festival, Telangana: It is a **nine-day floral festival** celebrated by **women.** The festival is a major part of Telangana's cultural identity, symbolizing gratitude for nature and seeking blessings for the family and community. **Two Guinness world records** were made this year for the largest Bathukamma floral decoration consisting of about seven tonnes of flowers and of 63.11 feet high, 11 feet wide.

Naada Habba, Karnataka: It is the **State festival of Karnataka, celebrating Dusshera for 10 days** commemorating the victory of good over evil. It is featured by processions, parades, fairs and lighting up of the Mysuru Palace. The festivities were

held in the **Vijayanagar empire** as early as the 14th-15th Century and are shown in the relief artwork of the outer wall of the **Hazara Rama temple of Hampi**.