

# **Factly Weekly**

**Compilation**

**2025**

**For UPSC CSE Prelims  
Exam**

**1<sup>st</sup> Week**

**April 2025**

## INDEX

Key Facts about Tonga.....	2
Tribhuvandas Patel.....	3
Fully Accessible Route (FAR).....	3
Karimpuzha Wildlife Sanctuary.....	4
Naini Lake .....	5
Nagarahole National Park .....	6
NITI NCAER States Economic Forum Portal.....	7
Arctic Council.....	8
ChaSTE PROBE.....	9
Sangama Dynasty.....	10
Key Facts about Chile.....	11
Vibe Coding.....	12
Cape Town Convention, 2001.....	13
Heard Island and McDonald Islands (HIMI) .....	15
Biological Weapons Convention (BWC).....	15
Binturong.....	16
Ottawa Convention, 1997 .....	17
Agasthyamalai Biosphere Reserve .....	18
Dhansiri river .....	19
Kannadippaya.....	20
CAPTCHA .....	21
New Pamban Bridge.....	23
Technology and Innovation Report, 2025 .....	23
Jaya Sri Maha Bodhi Tree.....	24
UGC Equivalence Certificate Regulations 2025 .....	26
BIMSTEC Summit, 2025.....	27
Hadean protocrust .....	28
Bear Market.....	29
Biomass mission .....	30
Woolly flying squirrel.....	31
INS Varsha.....	32

### Key Facts about Tonga

**News:** Recently, a powerful 7.1 magnitude earthquake struck near Tonga, triggering a tsunami warning for the Pacific island nation.

#### About Tonga

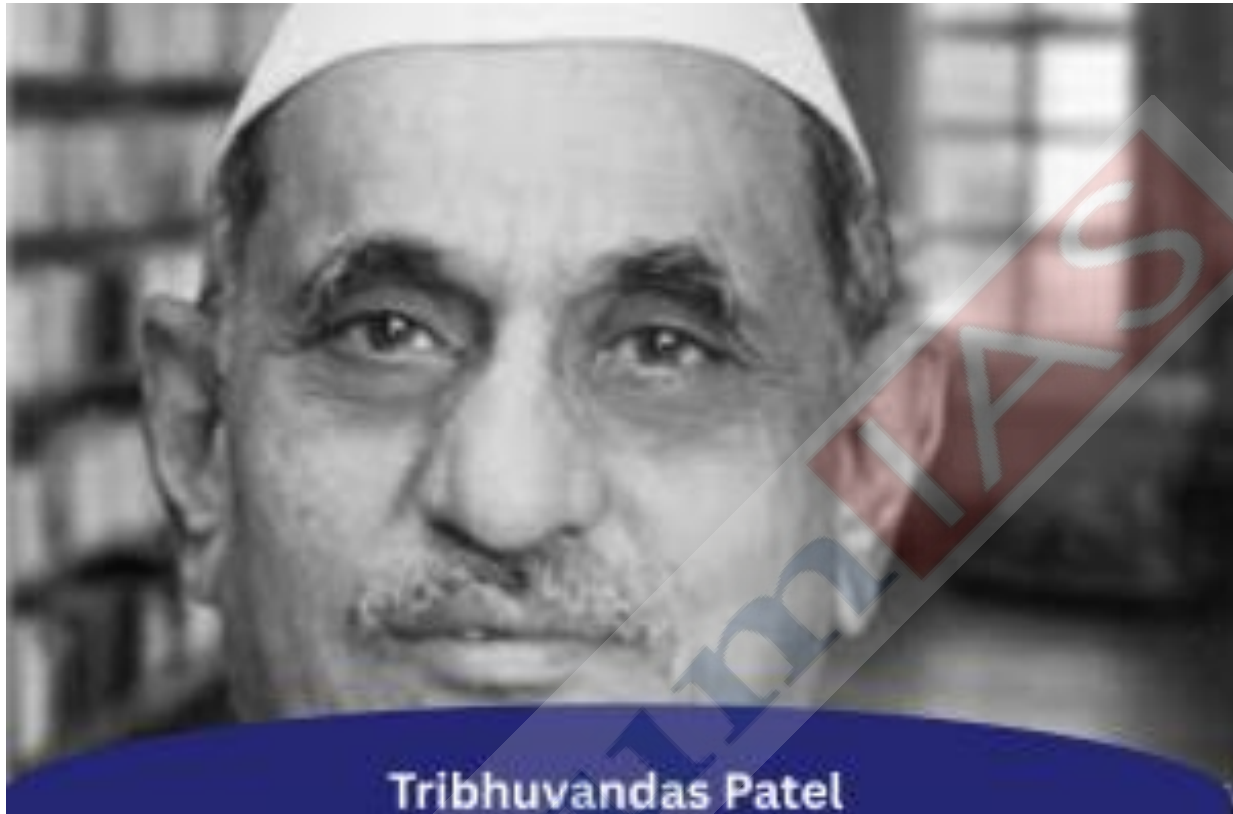


Source- WorldAtlas

- **Location**– It is located in the southwestern Pacific Ocean.
- It is an archipelago composed of 169 islands, of which only 36 islands are inhabited.
- The islands are spread across three main island groups: Tongatapu, Ha'apai, and Vava'u.
- **Capital**– Nuku'alofa, situated on Tongatapu Island, which is the largest and most populated island.
- Tonga is situated within the Pacific Ring of Fire, experiences frequent volcanic activity.
- The Tonga Trench is located east of Tonga. It is one of the deepest parts of the Pacific Ocean.
- **Political System**: It is a constitutional monarchy.
- Tonga is a member of the Commonwealth and of the United Nations.

### Tribhuvandas Patel

**News**– The Lok Sabha has approved a Bill to establish Tribhuvan Sahkari University in Anand, Gujarat.



#### About Tribhuvandas Patel

- **Tribhuvandas Patel** is considered the “father of the cooperative movement” in India.
- He was pivotal in founding the **Kaira District Cooperative Milk Producers’ Union (KDCMPUL)** in 1946, which later became **Amul**.
- **Verghese Kurien** was brought into the cooperative movement by Patel, leading to the White Revolution.
- He was an active participant in India’s **freedom struggle**, being a disciple of Mahatma Gandhi and involved in movements like the **Salt Satyagraha** and campaigns against untouchability.
- He set up Amul as a **revolt against the exploitation of farmers** by the Polson Dairy in Anand, Gujarat.
- His leadership was crucial in building the **first milk powder and butter plant** in India in 1955.
- He played a significant role in the establishment of key institutions like the **National Dairy Development Board (NDDB)**, **Institute of Rural Management Anand (IRMA)**, and the **Gujarat Cooperative Milk Marketing Federation**.
- He was also a **two-time Rajya Sabha MP** and received the **Padma Bhushan** and **Ramon Magsaysay Award** for his contributions to community leadership.
- He founded the **Tribhuvandas Foundation** to support community health after retiring from Amul.

### Fully Accessible Route (FAR)

**News**– Despite selling heavily in the Indian stock market, foreign investors have invested over Rs 51,730 crore (\$6 billion) in Indian bonds through the Fully Accessible Route (FAR) since January. **Fully Accessible Route (FAR)**





#### About Fully Accessible Route (FAR)

- **FAR Bonds** refer to Indian government securities designated under the Fully Accessible Route, which allows foreign investors unrestricted access to invest in these bonds without any investment caps.
- **Introduced in:** The RBI introduced this route in March 2020 to increase foreign participation in India's bond market.
- **Objective:** To enable non-residents to invest in specified Government of India dated securities.
- **Eligible investors:** Foreign Portfolio Investors (FPIs), Non-Resident Indians (NRIs), Overseas Citizens of India (OCIs), and other entities permitted by the RBI can invest in government securities under the FAR route.
- **Investment limits:** Eligible investors can invest in specified Government securities without being subject to any investment ceilings.
- **Significance:**
  - They play important role in India's integration with global financial markets.
  - In June 2024, JP Morgan added 29 Indian government securities under the FAR programme to its widely followed Emerging Market Bond Index (EMBI).

#### Karimpuzha Wildlife Sanctuary

**News-** A recent faunal survey has reported 63 new species of odonates, butterflies and birds in the Karimpuzha Wildlife Sanctuary of Kerala.



#### About Karimpuzha Wildlife Sanctuary

- **Location:** Located on the western slopes of Nilgiris, the Sanctuary lies in **Malappuram district of Kerala**.
- It shares boundary with **Mukurthi National Park (Tamil Nadu)** in eastern side and **Silent Valley National Park (Kerala)** on southern side.
- The name 'Karimpuzha' is derived from the Karimpuzha River, a tributary of the River Chaliyar.
- **Conservation:** It forms **part of the Nilgiri Biosphere Reserve (NBR)**, recognized under the Man and Biosphere Programme of UNESCO. Its forest forms **part of the Nilambur Elephant Reserve (Nilambur ER)**, **one of the four ERs** notified in the country.
- **Vegetation type:** The sanctuary is the **state's only forest stretch** where **seven forest types** found in the state are all present, including evergreen rainforest, semi-evergreen forest, moist deciduous forest, sub-tropical hill forest, sub-tropical savannah, montane wet temperate forest and montane wet grasslands.
- **Fauna:** Malabar Mahseer (*Tor malabaricus*), one of the endangered fishes in the world. Slender Loris, Nilgiri Tahr, Tiger, Lion tailed macaque, Gaur, etc.
- **Tribes:** **Cholanaikans** (a Particularly Vulnerable Tribal Group PVTG) – with a total population of 217 individuals in 56 families, depends on the forests for their livelihood by selling the Non-wood Forest Produce (NWFP).

#### Naini Lake

**News:** Naini Lake has recorded a water level of 4.7 feet, the lowest in five years.

#### About Naini Lake





- **Location:** It is a **natural, kidney-shaped lake** located in **Nainital, Uttarakhand**.
- The lake was discovered by **English businessman P. Barron in the mid-19th century**.
- The lake is situated in Kumaon region, surrounded by seven hills including : Tiffin Top (Dorothy's Seat) to the southwest, Snow View Hill to the north, and Naina Hill to the northwest.
- **Environmental Threats:** The lake faces several environmental challenges, including landslides, siltation, and contamination from toxic metals like lead, nickel, and chromium. These pose significant risks to its ecosystem.
- **Significance:** The lake supplies approximately **76% of Nainital's drinking water demand** and also supports boating, tourism, and recreational activities.

### Nagarahole National Park

News: The issue of land grants within the core area of Nagarahole National Park and Tiger Reserve has sparked concern among environmentalists and forest officials. **Nagarahole National Park.**

#### About Nagarahole National Park

Source: ResearchGate

- It is located in **Karnataka**. It derives its name from the **Nagarahole River, which means 'Serpent River'**.
- It **connects to the Western Ghats through Brahmagiri Wildlife Sanctuary**. It extends towards the Eastern Ghats through Bandipur Tiger Reserve.
- It shares its borders with **Wayanad Wildlife Sanctuary in Kerala** to the south and **Bandipur Tiger Reserve to the southeast**.
- The **Kabini Reservoir**, located in the western part of the park, and the **Taraka Reservoir**, situated in the southeastern region, are the two major water bodies within the park.
- The park is known for its **high-density tiger population**, ranking third in the country after Corbett and Kaziranga Tiger Reserves (As per All India Tiger Estimation -2022).
- **Flora:** It consists mainly of moist deciduous forests with predominating trees of teak and rosewood.

- **Fauna:** The park is home to a wide range of wildlife, including **tigers, leopards, Asiatic wild dogs, and sloth bears, Asiatic elephant, gaur, sambar, chital, muntjac, four-horned antelope, wild pig, and mouse deer and the South-western langur.**

### **NITI NCAER States Economic Forum Portal**

**News:** Finance Minister launched the “NITI NCAER States Economic Forum” portal today in New Delhi. **NITI NCAER States Economic Forum Portal.**



#### **About NITI NCAER States Economic Forum portal**

- **Developed by:** NITI Aayog, in collaboration with the **National Council of Applied Economic Research (NCAER).**
- It is a **comprehensive repository** of data on social, economic and fiscal parameters, research reports, papers, and expert commentary **on State Finances for a period of about 30 years** (i.e 1990-91 to 2022-23).
- **Components:** The forum consists of **four primary components:**
  - **State reports**, which offer in-depth analysis of various fiscal and economic indicators at the state level;
  - **Data repository**, a consolidated database of social, economic, and financial parameters providing historical trends and patterns;
  - **State fiscal and economic dashboard**, a visual and analytical representation of state finances to allow easy comparisons and insights;
  - **Research and commentaries**, featuring expert insights, academic research, and policy discussions focused on state-level economic and fiscal issues.
- **Significance:**
  - The portal will **help States to make more meaningful interventions**, raising revenues, managing debts and learning from peer experiences.



- The portal will not only provide **information for public knowledge** but will also create awareness and fiscal learning across States.
- It will **bridge the data gap in public finance**, allowing states to benchmark their fiscal performance against national figures and peer states.
- Being **user-friendly and accessible platform**, it will facilitate evidence-based discussions among policymakers, researchers, and other stakeholders.

### Arctic Council

**News**– The tensions have risen in the Arctic region, following the comments made by the US President about annexing Greenland and Canada (including their dispute on the status of the Northwest Passage) added with impacts of climate change and resource competition in the region. **Arctic Council**.



#### About Arctic Council

- It is an **intergovernmental forum** promoting **cooperation, coordination and interaction among the Arctic States, Arctic Indigenous Peoples and other Arctic inhabitants** on common Arctic issues, in particular on issues of sustainable development and environmental protection in the Arctic.
- **Established in:** It was formally established in **1996 (Ottawa Declaration)**.
- **Member countries:** **8** (Denmark [], Canada, Norway, the United States, Russia, Sweden, Finland, and Iceland). Their national jurisdictions and international law govern the lands surrounding the Arctic Ocean and its waters.
- **Six Permanent Participants:** It is a **unique feature** of the Arctic Council. Six organizations representing **Arctic Indigenous Peoples** have status as Permanent Participants. This category was created to provide a **means for active participation** of the Arctic Indigenous Peoples within the Council.

- **Observers:** It is **open to non-Arctic states**, along with inter-governmental, inter-parliamentary, global, regional and non-governmental organizations. **India holds observer status** in the Arctic Council since 2013.
- **Secretariat:** in **Tromsø, Norway**
- **Decision making:** All Arctic Council decisions and statements require **consensus of the eight Arctic States**.

#### About Northwest Passage (NWP)

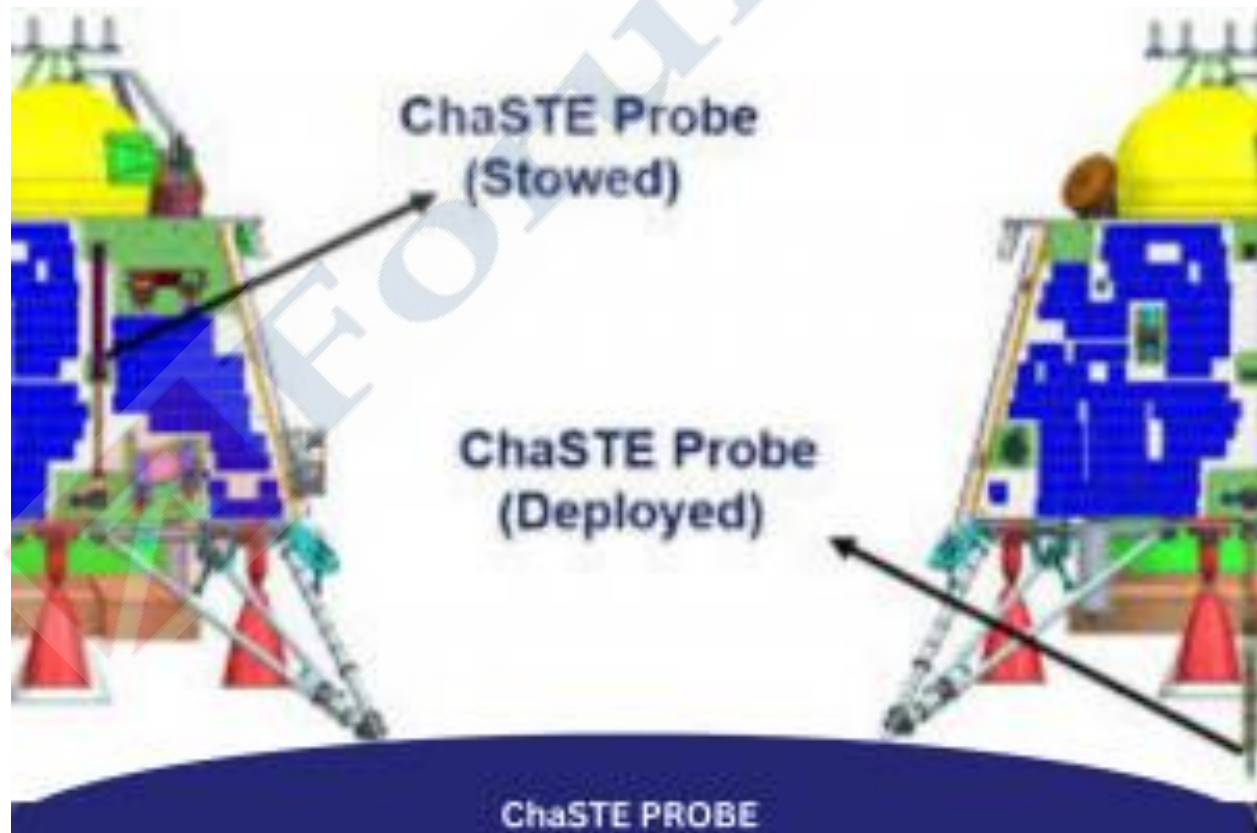
- It is a sea route connecting the **Atlantic and Pacific Oceans** through the **Arctic Archipelago of Canada**.
- **Significance:** When traveling from London to Tokyo, the Northwest Passage is 7,000 kilometres shorter than the current shipping route through the **Panama Canal** (about 23,000 kilometres). The route through the passage is just 16,000 kilometres.

#### About Northeast Passage (NEP)

- The eastern route **along the Arctic coasts of Norway and Siberia** is accordingly called the Northeast Passage (NEP).
- **Significance:** This route could **reduce** the maritime distance between **East Asia and Europe** by approximately **8,000 km** compared to the traditional route through the **Suez Canal**.

### ChaSTE PROBE

**News–** Chandrayan's **ChaSTE** becomes the **first mission to successfully penetrate the soil** of a celestial body (at **Shiv Shakti landing site of Moon**) to deploy a thermal probe.



#### About ChaSTE (Chandra's Surface Thermophysical Experiment)

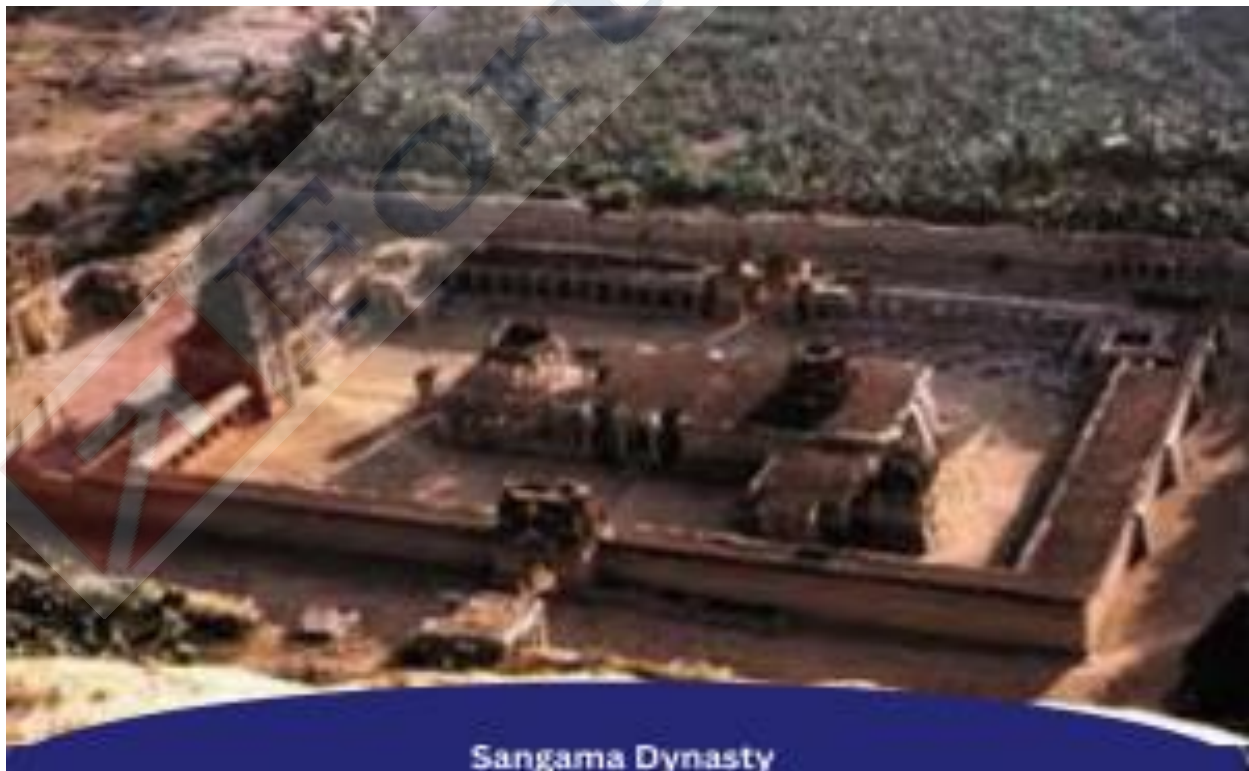
- It is **one of the payloads** aboard the **Lander** (named **Vikram**) of the **Chandrayaan-3 mission**.
- **Developed by:** The instrument was designed by the **Physical Research Lab, Ahmedabad** and the **Space Physics Lab (SPL), VSSC**.
- **Objective:** It has the objectives of **measuring lunar surface temperatures, thermal conductivity, and the temperature gradient** to a **depth of 100 mm**.
- The probe is fitted with **10 individual temperature sensors made of Platinum (Pt-1000)**.
- **Significance:** The findings of the study will provide a comprehensive understanding of the moon's thermo-physics and its near-surface and sub-surface water-ice distribution, laying the groundwork for **future exploration and habitation strategies**.

Same experiments by other space agencies:

- **European Space Agency's Philae lander** of the **Rosetta spacecraft**, landed on comet **67P/Churyumov-Gerasimenko**. It's **Multi-Purpose Sensors for Surface and Subsurface Science (MUPUS) instrument** onboard was designed to measure **temperature by digging into the terrain**. However, scientists **couldn't deploy it due to the awkward landing position**.
- **NASA's InSight robotic spacecraft** landed on **Mars** in **2018**. It carried a temperature-sensing instrument called the **Heat Flow and Physical Properties Package (HP3)**. It consisted of a self-hammering nail, nicknamed "**The Mole**", designed to **penetrate 5 m below Mars's surface**. But could penetrate a depth of just 35 cm, unable to get any temperature data.
- While both the instruments (MUPUS and HP3) used a **hammering device**, the **ChaSTE probe** was **pushed into the soil by a rotating device**.

### Sangama Dynasty

**News:** A set of copper plates dating back to early 15th Century from the reign of Devaraya I of the Sangama Dynasty were unveiled by Falcon Coins Gallery with the Archaeological Survey of India (ASI). **Sangama Dynasty.**





### About Sangama Dynasty

- **Founded by:** By two brothers, **Harihara I and Bukka Raya I in 1336**, who were born into a noble family of the **Kakatiya dynasty** and named after **Sangama, their ancestral village**.
- The **Sangama dynasty** was the **founding dynasty of the Vijayanagara Empire**.

### Important Rulers of the Sangama Dynasty:

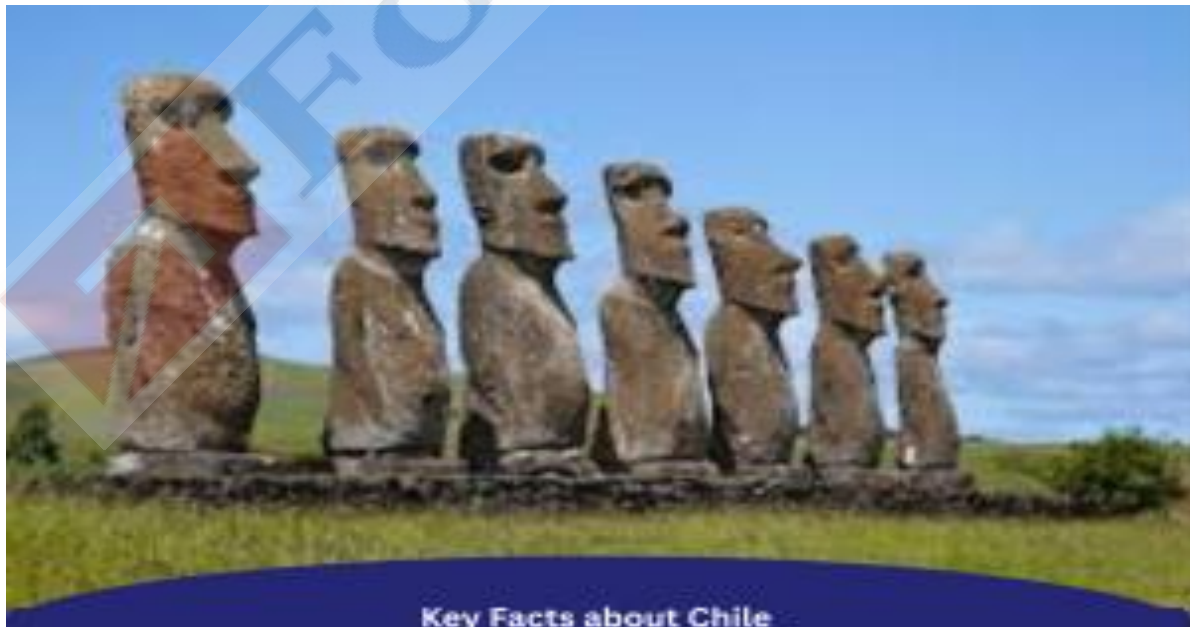
- **Harihara I (Deva Raya) 1336-1356:** His military successes, diplomatic engagements, religious patronage, and administrative reforms established the empire's early foundations and its position as a major power in South India.
- **Bukka I 1343-1377:** His **military exploits** contributed to the consolidation and growth of the empire.
- **Harihara II 1377-1404:** Extended territory into Tamil Nadu and coastal Andhra.
- **Deva Raya I 1404-1422:** Considered **one of the empire's greatest kings**. He expanded the empire's boundaries and brought about significant administrative and economic reforms. Italian traveller **Niccolo Conti** visited.
- **Deva Raya II 1422-1446:** His reign was a period of expansion, cultural renaissance, and administrative reforms for the Vijayanagara Empire. **Abdur Razaak** visited him.

### Important Characteristics of the Sangama Dynasty:

- **Administration and governance:** Dividing the empire into **administrative units** called **Nadu**, which were further divided into smaller units known as **Sime** or **Shasana**.
- **Patronage of art and culture:** The rulers **supported the growth of regional languages** like **Kannada and Telugu** and encouraged **scholars, poets, and artists** in their courts.
- **Religious tolerance:** While being predominantly Hindu, they **allowed the practice of other religions** within their territories.
- **Economic prosperity:** It oversaw a period of economic growth and prosperity.
- **Literary and cultural contributions:** Renowned scholars, poets, and philosophers thrived under their patronage.

### Key Facts about Chile

**News:** India and Chile have agreed to initiate negotiations for a Comprehensive Economic Partnership Agreement (CEPA).



Key Facts about Chile

### Key Facts about Chile

- Chile is a country located along the western coast of South America.
- Due to its geographical proximity to Antarctica, Chile is often referred to as the **“Gateway to Antarctica.”**
- The **Loa River**, originating from the Andes, is the longest river in Chile.
- It shares borders with **Peru to the north, Bolivia to the northeast, Argentina to the east, and the Pacific Ocean to the west.**
- In addition to its mainland, Chile also has sovereignty over **Easter Island, the Juan Fernández Archipelago, and several other Pacific islands.**
- The country’s landscape is dominated by the **Andes Mountains**, which form the longest mountain range in the world.
- **Northern Chile is home to the Atacama Desert, the driest non-polar desert on Earth.**
- The highest peak in Chile is **Ojos del Salado (6,893 m)**, an active stratovolcano located in the **Atacama region.**
- Due to its position along the **Pacific Ring of Fire**, Chile frequently experiences **earthquakes, tsunamis, and volcanic eruptions.**

### Economic Importance

- **Copper Mining:** Chile is the world’s largest producer of copper which is a crucial metal used in **electronics, renewable energy systems, and electric vehicles.**
- **Lithium Reserves:** The country is part of the **“Lithium Triangle”** (along with Argentina and Bolivia), a region essential for **global battery production** due to its vast lithium deposits.

### Vibe Coding

**News:** The concept of **“vibe coding”** has gained attention after OpenAI co-founder and former Tesla employee **Andrej Karpathy** highlighted it in a recent post on X.



### About Vibe Coding

Created with love ❤️ by ForumIAS- the knowledge network for civil services.  
Visit [academy.forumias.com](https://academy.forumias.com) for our mentor based courses.

- Vibe Coding is an innovative approach to software development where **artificial intelligence assists in programming**.
- Instead of writing code manually, developers describe their desired functionality in simple terms, and **AI generates the code for them**.
- This approach shifts the programmer's role from directly coding to guiding, testing, and refining AI-generated solutions.

#### Key Elements of Vibe Coding

- **Interactive Learning:** Vibe Coding emphasizes hands-on practice rather than just theoretical concepts. Learners actively engage with code through creative challenges, making the learning process more engaging and practical.
- **Emotional Engagement:** This approach connects programming with personal interests, moods, and creativity. By making coding a fun and expressive activity, developers can feel more connected to their work, enhancing motivation and productivity.
- **Integration of Music & Aesthetic:** Many Vibe Coding platforms incorporate background music, animations, and ambient sounds to create an immersive coding experience. These elements help programmers maintain focus, stay in a creative flow state, and enhance overall engagement.
- **Gamification:** Vibe Coding often incorporates game-like features. Challenges, achievements, and leveling-up systems provide motivation and a sense of accomplishment, making learning more interactive and rewarding.

#### Cape Town Convention, 2001

**News:** The Rajya Sabha passed the **Protection of Interests in Aircraft Objects Bill, 2025**. The Bill seeks to give legal effect to the **Convention on International Interests in Mobile Equipment (also known as Cape Town Convention of 2001)** and **Protocol to this Convention** in their application to India.



#### About Cape Town Convention, 2001



- It is an **international treaty** that aims to facilitate asset-based **financing and leasing** of high-value mobile equipment like aircraft, helicopters, and aircraft engines by providing a **uniform legal framework** and international registration system.
- It was **adopted** at a conference in **Cape Town** in **November 2001** under the **International Civil Aviation Organisation (ICAO)** and the **International Institute for the Unification of Private Law (UNIDROIT)**.
- **Objectives:**
  - Facilitate asset-based Financing
  - Protect lenders and investors
  - Create an international registry
  - Standardize legal framework across countries
- **India's status:** India is a **signatory to the convention (in 2008)**, but the Indian **Parliament** has **not ratified the same**. Once the legislation is enacted, the Convention will get legal backing in India and ensure **compliance with the international norms** related to leasing of aircraft.

#### About Protection of Interests in Aircraft Objects Bill, 2025

- **Key Provisions of the Bill:**
  - **Legal compliance:** It empowers the central government to **make rules to implement** the provisions of the Convention and the Protocol.
  - **Creditor remedies:** In case of default, allows creditors or lessors to reclaim possession of aircraft **within two months** or a mutually agreed period.
  - **Domestic registry:** It designates the **Directorate General of Civil Aviation** as the registry authority for the convention.
  - **Mandatory registration:** It requires **all financial interests in aircraft** to be registered in the International Registry under Cape Town Convention.

### North Sentinel Island

**News:** A U.S. national was recently arrested in the Andaman and Nicobar Islands for allegedly trespassing into the restricted tribal reserve area of North Sentinel Island.



Figure 1 ar.inspiredpencil.com

About North Sentinel Island North Sentinel Island is part of the **Andaman and Nicobar Islands in the Bay of Bengal**. It is in the **northern part of the Indian Ocean**.

- It is encircled by **sharp coral reefs** and is situated away from the main cluster of islands in the archipelago. It has **no natural harbors**.
- The island has a **tropical climate** and is entirely forested, primarily **covered in tropical and subtropical moist broadleaf forests**.
- It is inhabited by the **indigenous Sentinelese people**. They are among the most isolated tribes in the world and strongly resist any form of outside contact.
- The Sentinelese practice primitive hunting and gathering. They use bows, arrows, and spears for hunting and defense.
- They have **not developed agriculture or metalworking**.
- In 1956, India declared North Sentinel Island a tribal reserve. The Sentinelese are

classified as a **Particularly Vulnerable Tribal Group (PVTG)**.

## Heard Island and McDonald Islands (HIMI)

**News:** The Heard and McDonald Islands have been in the news due to their unexpected inclusion in the list of trade partners subject to the 10% baseline tariff imposed by former U.S. President Donald Trump's administration. **Heard Island and McDonald Islands (HIMI)**

### About Heard Island and McDonald Islands (HIMI)

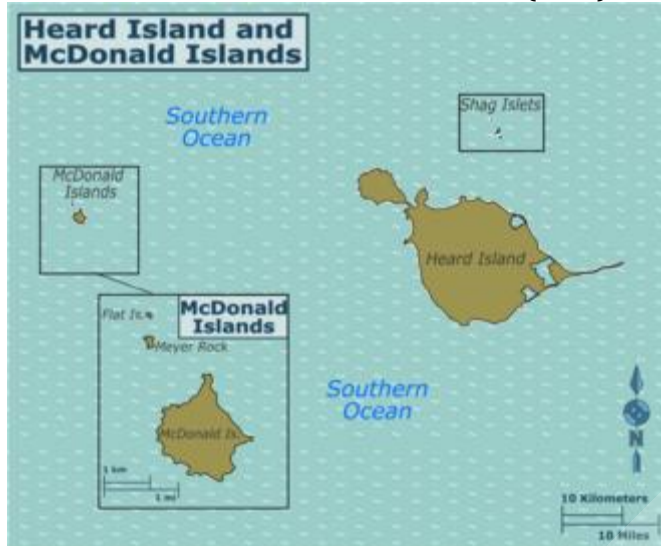


Figure 2. Wikipedia

- They are situated in the southwest Indian Ocean, southwest of Perth (Australia).
- These islands are an Australian territory, transferred from the United Kingdom in 1947.
- The islands lie within the 'Furious 50s,' a region of the Southern Ocean known for its persistently strong and harsh winds.
- **Geographical Features:**
  - The McDonald Islands are small and rocky.
  - Heard Island is much larger, with 80% of its surface covered in ice.
  - Heard Island features *Big Ben*, a massive mountain range, with Mawson Peak as its highest point and an active volcano.
- **Wildlife:** The islands support large breeding populations of elephant seals, fur seals, petrels, albatrosses, and penguins.
- Heard Island is home to endemic species, including the *Heard Island Cormorant* and a subspecies of sheathbill known as the *Heard Island Sheathbill*.

## Biological Weapons Convention (BWC)

**News:** The Biological Weapons Convention (BWC) has completed 50 years recently.

### About Biological Weapons Convention



- It was the **first multilateral treaty** categorically banning a class of weapon of mass destruction (WMD).
- **Aim:** It effectively **prohibits the development, production, acquisition, transfer, stockpiling and use of biological and toxin weapons.**
- **Signed:** 10 April 1972
- **Entered into force:** 26 March 1975 (50 years completed in 2025)
- The BWC supplements the 1925 Geneva Protocol, which had **prohibited only the use of biological weapons.**
- It is a **legally binding treaty.**
- **Duration to join the treaty:** The BWC is a multilateral **treaty of indefinite duration** that is open to any country.
- **Verification:** The BWC does **not have an inspection regime** to verify compliance.
- **Members:** **188 countries**, with **Comoros** the **most recent** to become a member.
- **India is a member.**
- **Four states** have **signed but not ratified** the treaty: **Egypt, Haiti, Somalia and Syria.**
- **Five** countries have **neither signed nor acceded** to the treaty: **Chad, Djibouti, Eritrea, Israel and Kiribati.**

### **Binturong**

**News:** Rare Binturong spotted by the **Wildlife Trust of India's Garo Green Spine project** team in the **Narang Wari Village Reserve Forest (VRF)** in Meghalaya's Garo Hills.





Figure 3. Source: Hubnews

#### About Binturong

- They are the **largest** member of the **civet family (Viverridae)**. They are also known as the **bearcat**.
- They are **primarily nocturnal** animals.
- **Physical feature:** They are one of two carnivorous species with a **prehensile tail** which helps in climbing. (The other is the kinkajou).
- **Distribution and habitat:** They prefer **tropical rainforests** and **dense forest cover**. They are found in wide range from **northeast India to Southeast Asia**. In India, they have been recorded in **Assam's Manas National Park** and also in **Kaziranga National Park** in 2024.
- **Ecological significance:** They play a vital role in **forest regeneration**, aiding in **seed**

**dispersal** and supporting the **survival** of many other species.

- **Conservation:**
  - **IUCN status – Vulnerable**
  - **CITES – Appendix III**
  - **Schedule I** of the Wild Life (Protection) Act, 1972
- **World Binturong Day** is held **every second Saturday of May**.

#### Ottawa Convention, 1997

**News:** The NATO members Finland, Poland and the Baltic countries plan to quit the 1997 Ottawa convention due to threats posed by neighbouring **Russia. Ottawa Convention, 1997.**

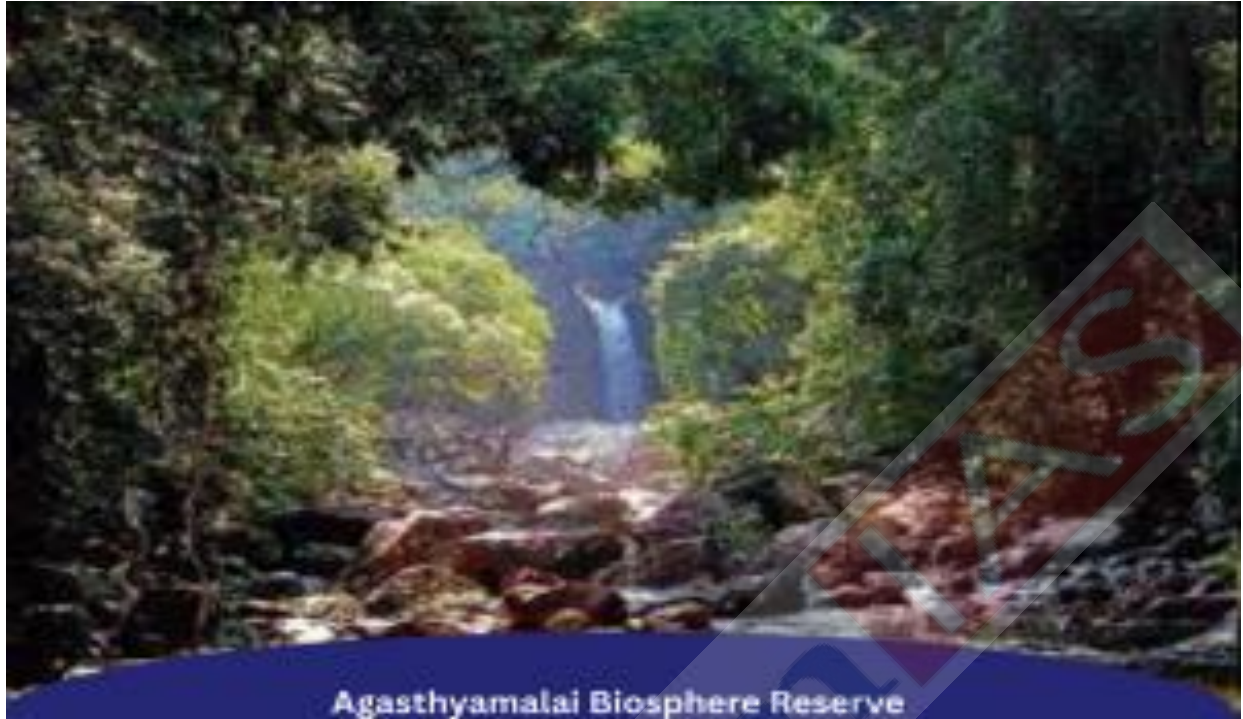


#### About Ottawa Convention, 1997

- It is also known as the Anti-Personnel Mine Ban Treaty.
- It is a **binding** international agreement that prohibits the **use, stockpiling, production and transfer** of anti-personnel landmines.
- It was **adopted** in December **1997** and became **effective** from March **1999**.
- **Member States:** It has been signed or ratified by 164 countries (as of 2024), with notable **exceptions** such as the United States, Russia, China, **India** and Pakistan.
- The convention includes **provisions to assist victims**, many of whom have lost limbs and suffer from other permanent disabilities.
- **Anti-vehicle mines** are **not banned** by the treaty.

#### Agasthyamalai Biosphere Reserve

**News:** Supreme Court has directed the Central Empowered Committee (CEC) to survey Agasthyamalai landscape to spot encroachments into forests. **Agasthyamalai Biosphere Reserve.**



#### About Agasthyamalai Biosphere Reserve

- **Location:** It is located in the **southernmost end** of the Western Ghats spanning the **states of Tamil Nadu and Kerala**.
- It was **established in 2001** as a Biosphere Reserve and became part of the **UNESCO World Network of Biosphere Reserves in 2016**.
- It derives its name from the **great Hindu Sage Agasthya muni**, with its **highest peak** known as **Agasthya Malai (1,868 metres)**.
- **Protected areas:** It encompasses the protected areas of-
  - **Shendurney Wildlife Sanctuary**
  - **Peppara Wildlife Sanctuary**
  - **Neyyar Wildlife Sanctuary**
  - **Kalakkad Mundanthurai Tiger Reserve**.
- **Climate and vegetation:** It has **tropical monsoon climate** with **high rainfall** (especially on the western slopes).
- Its ecosystem diversity includes **tropical wet evergreen forests, moist deciduous forests, montane rain forests and Shola**.
- **Flora:** It is the habitat for over **2,250 plant species**, including 405 endemic species and rare medicinal herbs (ex – **Arogyapacha**).
- **Fauna:** Animals include the Bengal tiger, Asian elephant, **Nilgiri tahr**, **grizzled giant squirrel** and birds like **Great Indian hornbill**.
- **Tribes:** Agasthyamalai is also home to the **Kanikaran tribes**, one of the **oldest surviving ancient tribes** in the world.

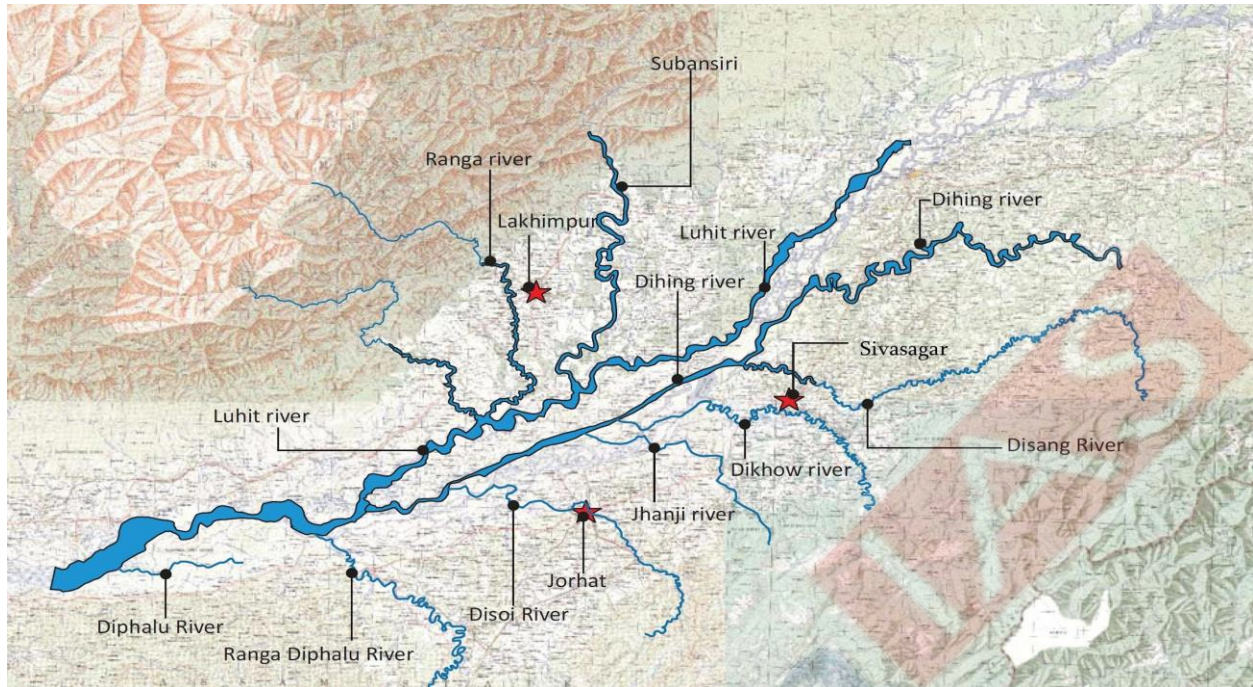
#### Dhansiri river

**News:** An Assam-based environmentalist has flagged the alleged discharge of hazardous effluents by Numaligarh Refinery Limited (NRL) into the Dhansiri River.

#### About Dhansiri river

Created with love ❤ by ForumIAS- the knowledge network for civil services.  
Visit [academy.forumias.com](https://academy.forumias.com) for our mentor based courses.





Source: Brainly.in

- The Dhansiri is a river in India that flows through the Golaghat District of Assam and the Chümoukedima and Dimapur Districts of Nagaland.
- It serves as a significant **tributary of the Brahmaputra River**.
- It originates from the **Laisang Peak in Nagaland** and travels approximately 352 kilometers (219 miles) from south to north before merging with the Brahmaputra River on its southern bank.
- As it forms the boundary between Karbi Anglong and Nagaland, the Dhansiri River passes through **Dhansiri Reserved Forest and Intanki National Park**.
- The riverbanks are home to a variety of valuable timber-yielding trees, particularly within the Intanki Forest region.
- The river is associated with numerous perennially waterlogged swampy areas, locally known as **bils**.

### Kannadippaya

**News:** Kannadippaya recently received Geographical Indication (GI) tag. It is the first tribal handicraft product from Kerala to receive such an honour.

#### About Kannadippaya



Source: The hindu

- **Kannadippaya** is a traditional tribal handicraft from Kerala.
- The name **Kannadippaya** literally means “**mirror mat**”, which refers to the mat’s unique reflective surface that resembles a mirror.
- It is handcrafted from the **soft inner layers of reed bamboo**, giving it a smooth texture and appealing shine.
- The mat provides **warmth in winter** and a **cooling effect in summer**, making it ideal for use throughout the year. This dual functionality adds to its uniqueness and utility.
- The craft is mainly practiced and preserved by various tribal communities in Kerala, including the **Oorali, Mannan, Muthuva, Malayan, and Kadar** tribes.
- Also, artisans from the **Ulladan, Malayarayan, and Hill Pulaya** communities continue to keep this tradition alive.
- The finest quality Kannadippaya mats are woven using **Teinostachyum wightii**, a species of reed bamboo. Other bamboo species like **Ochlandra sp.** are also used in its making.
- Historically, Kannadippaya held ceremonial value. These mats were often **presented to kings by tribal communities** as a mark of **honour and respect**, highlighting their cultural and social significance.

## CAPTCHA

**News:** CAPTCHA has made the internet a safer place today. But as bots keep getting smarter, **CAPTCHA** needs to figure out how to be more accessible and easier to use for humans in the world of digital security.





#### About CAPTCHA

- CAPTCHA stands for “**Completely Automated Public Turing test to tell Computers and Humans Apart**”.
- It is a **programme that protects websites against bots** by generating and grading tests that humans can pass but current computer programmes cannot.
- **Developed by:** Computer scientists **Luis von Ahn, Manuel Blum, Nicholas J. Hopper, and John Langford** filed the first patent for CAPTCHA in 2003.
- **Working:**
  - It works based on an idea called the Turing test, proposed by British mathematician Alan Turing back in the 1950s.
  - These tests involve **recognising letters, numbers, or symbols** that were deliberately **messed up** so that machines couldn't parse them but humans could.
- **Evolution of CAPTCHA;**
  - **reCAPTCHA:**
    - As the **bots became more advanced**, a new advanced CAPTCHA resulted into **reCAPTCHA in 2009**.
    - It used **words from scanned books** to verify users.
    - It not only stopped bots from taking over, but it also **helped digitise** printed texts.
  - **Invisible reCAPTCHA:**
    - Introduced in **2014 by Google**.
    - It used **users' mouse movements** to tell if they were human.



### New Pamban Bridge

**News:** Prime Minister Shri Narendra Modi inaugurated the **New Pamban Bridge** on the auspicious occasion of Ram Navami. **New Pamban Bridge.**



#### About New Pamban Bridge

- It is the country's **first vertical-lift sea bridge**.
- **Location:** It is over 2 km long and spans across the **Palk Strait** in Tamil Nadu.
- **Connecting:** It connects **Rameswaram Island with Mandapam** on the mainland Tamil Nadu.
- **Constructed by:** It is constructed by **Rail Vikas Nigam Limited (RVNL)**, a Navratna PSU under the Ministry of Railways.
- **Features:**
  - The **5-meter navigational span** can be **lifted up to 17 meters**, allowing larger ships to pass underneath.
  - The new bridge is **3 meters higher** than the existing one, improving sea connectivity.
  - The substructure can **support two railway tracks**, though it **currently** operates a **single**

#### About Old Pamban Bridge

- A historic railway bridge linking Rameswaram Island to Mandapam (mainland Tamil Nadu).
- It was built in **1914**.
- It was **India's first sea bridge**, built for trade.
- It **remained India's longest sea link** until the **Bandra-Worli sea link opened in 2010**.
- It was **decommissioned in December 2022** due to corrosion.

### Technology and Innovation Report, 2025

**News:** India ranks tenth with \$1.4 billion private investment in Artificial Intelligence: United Nations' **Technology and Innovation Report.**



#### About Technology and Innovation Report

- **Released by:** It is released by the **UN Conference on Trade and Development (UNCTAD)**.
- **Objective:** It seeks to **address issues in science, technology and innovation** that are topical and important for developing countries with an emphasis on **policy-relevant analysis** and conclusions.

#### About Technology and Innovation Report, 2025

- **Theme:** "Inclusive artificial intelligence for development"

#### Key Highlights of the Report:

- Highlights about India:
  - India ranked **36th** in 2024 on the '**Readiness for Frontier Technologies**' index, improving its position from **48th in 2022**.
  - The only developing countries with significant **investments** were **China** in **second** position, with \$7.8 billion and **India** in **10th position**, with \$1.4 billion.
  - Report has appreciated the **India AI Mission**, launched in 2024.
- The report noted that AI is expected to reach **\$4.8 trillion in market value by 2033**.
- The access to AI infrastructure and expertise remains **concentrated** in a few economies. Only **100 firms**, mainly in the **U.S. and China**, account for **40% of global corporate R&D spending**.
- AI could **impact 40% of jobs** worldwide, offering productivity gains but also raising concerns about **automation and job displacement**.
- The **U.S.** has the **most GitHub developers**, followed by **India and China**.

#### Jaya Sri Maha Bodhi Tree

**News:** The Prime Minister Modi recently visited the Jaya Sri Maha Bodhi temple at the historic city of Anuradhapura. **Jaya Sri Maha Bodhi Tree.**



#### About Jaya Sri Maha Bodhi Tree

- **Location:** It is situated in the historic city of Anuradhapura, Sri Lanka.
- It is considered the **oldest living cultivated plant** in the world.
- It is believed to **have grown from a branch of the tree in Bodhgaya** (in present-day Bihar) under which Gautam Buddha attained enlightenment.
- The branch was carried to Sri Lanka by **Sanghamitra** in **3rd century B.C.**, the Mauryan king **Ashoka's daughter** and Buddhist nun.
- **Uduvapa Poya:** Sanghamitra's **arrival in Sri Lanka** with the tree is still celebrated as Uduvapa Poya, an annual festival observed on a **full moon night in December**.

#### About Anuradhapura

- It is now a **UNESCO World Heritage**.
- It was **political and religious capital** of Sri Lanka that flourished for 1,300 years.
- It was abandoned after an **invasion in 993 CE by the Chola Empire** of south India.

#### Sanghamitra in Sri Lanka

- She came on the **invitation of the king** and the suggestion of her brother, **Mahendra or Mahinda**.
- Buddhist missionaries were sent to Sri Lanka after successfully hosting of 3rd **Buddhist Council** during the **reign of Ashoka**.
- The mission to Sri Lanka was **led by prince Mahendra**, or Mahinda, Ashoka's son.
- Mahinda met **King Devanampiya Tissa**, whose capital was Anuradhapura, and **converted him to Buddhism**.

#### About Mahabodhi Tree in Gaya

- While the **original tree** under which Lord Buddha meditated was **destroyed** (in some legends, by one of **Ashoka's wives, Tishyarakshita**), the **existing Pipal tree** at the site is believed to have descended from the **germplasm** (genetic material) of that original tree.



## UGC Equivalence Certificate Regulations 2025

**News-** The University Grants Commission (UGC) has notified the “Recognition and Grant of Equivalence to Qualifications Obtained from Foreign Educational Institutions Regulations, 2025” to streamline the process of recognizing foreign degrees in India. **UGC Equivalence Certificate Regulations 2025.**



### About UGC Equivalence Certificate Regulations 2025

**Aim:** To establish a structured and transparent framework for issuing equivalence certificates, which certify that a foreign qualification (degree/diploma/certificate) is comparable to an Indian qualification.

**Applicability:** The certificates will be *valid across all academic institutions under the University Grants Commission (UGC)* for purposes of higher education, research, and employment where UGC-recognised qualifications are mandatory.

**Exceptions (Not Covered):** *Medicine, Pharmacy, Nursing, Law, Architecture and other qualifications governed by their respective Statutory Councils in India.*

### Other Key Features:

- *Distance and online learning qualifications are now included (a shift from the earlier draft).*
- *Equivalence is not required for degrees from foreign institutions that collaborate with Indian institutions under twinning, joint, or dual degree programmes, or for foreign institutions set up in India under UGC norms.*

**Conditions for Granting Equivalence:** A foreign qualification is eligible if:

- *It is awarded by an institution recognised in its home country.*
- *The entry requirements (e.g., credits, thesis/internship) are similar to Indian programmes.*
- *The programme is completed as per the norms of the foreign institution.*
- *Qualifications from offshore campuses are eligible if they comply with the academic requirements of both the host country and the parent country.*

- School-level qualifications from abroad are also covered, provided the student has completed 12 years of schooling and seeks undergraduate admission in India.

**Process for Granting Equivalence:**

- UGC will maintain an online portal for applications.
- A standing committee will examine applications and make recommendations within 10 working days.
- Final decisions will be communicated within 15 days of receiving the application.
- In case of rejection, a review mechanism is available via a committee constituted by the UGC.

**BIMSTEC Summit, 2025**

**News:** The 6th Summit of the member States of BIMSTEC was held 04 April 2025, in Bangkok, Thailand.  
**BIMSTEC Summit, 2025.**



**Key Takeaways from the BIMSTEC Summit, 2025**

- **Theme:** "BIMSTEC: Prosperous, Resilient and Open"
- **Vision Document:** The Summit adopted the **BIMSTEC Bangkok Vision 2030 document** which lays out the road map for the collective prosperity of the region.

**India-led initiatives**

- India announced setting up of **BIMSTEC Centres of Excellence** in India on **Disaster Management, Sustainable Maritime Transport, Traditional Medicine, and Research and Training in Agriculture.**
- **BODHI Program:** India introduced BODHI Program (**BIMSTEC for Organized Development of Human Resource Infrastructure**) for **skill development**, providing training, scholarships, and capacity-building for various professionals across BIMSTEC nations.

- India offered to establish **BIMSTEC Chamber of Commerce** and to organize **BIMSTEC Business Summit every year in India**.
- India would be hosting a **BIMSTEC Athletics Meet** this year and the **first BIMSTEC Games in 2027**.

#### About BIMSTEC

- It stands for **Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)**.
- It is a **regional organization** that connects **South Asia and Southeast Asia**, aiming to promote **economic cooperation, connectivity, and development** in the Bay of Bengal region.
  - The Summit is envisaged to be **held once in every two year**.
- **Origin:** It was founded on **06 June 1997** with the signing of the **Bangkok Declaration**.
  - Initially comprising **4 members**, it was known as **BIST-EC** (Bangladesh, India, Sri Lanka, and Thailand Economic Cooperation).
  - In **1997, Myanmar** joined and the grouping was renamed **BIMST-EC**.
  - With the inclusion of **Nepal and Bhutan in 2004**, the name was further changed to **BIMSTEC**.
- **Member countries:** It has 7 member states which are **Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka, and Thailand**.
- **Secretariat:** The permanent secretariat is in **Dhaka, Bangladesh**.

#### Hadean protocrust

**News:** A new study by an international team of researchers led by Macquarie University in Australia has called the assumptions around plate tectonics theory into question in light of existence of Hadean protocrust. **Hadean protocrust.**



#### About Hadean protocrust

- It is the name for the **outermost layer of earth's crust**, when it **first formed** in **first geologic aeon** (around 4 – 4.6 billion years ago).
- The '**Hadean**' prefix refers to the **planet's first geologic aeon**.



- The eon's name "Hadean" comes from **Hades, the Greek god of the 'underworld'**.

#### Geological procedures during Hadean aeon

- Within 200 million years of its genesis, the earth's **surface was partially molten** and constantly **bombarded by rocks** from space. The surface was very **hot and hellish** due to erupting volcanoes.
- With time, parts of the **magma ocean** started to **cool down** and the **first pieces of the crust** began to take shape.
- **Formation of plates:** The **thicker parts** of the crust slowly formed the **first continents**, which **moved like plates** on the **asthenospheric mantle**, a layer going 400 km down.
- **Plate actions and their signatures:** The plates soon began **drifting into each other** – sliding over or diving under each other, leaving unique **chemical signatures in the crust** over millennia.
- These chemical signatures have been most important in **understanding the history of plate tectonics** by studying them.

#### The new study

- Now a new study has reported that the chemical signatures that scientists have associated with plate tectonics, actually existed in the Hadean protocrust, before the plates even began to subduct. So, it suggests that the **continental crust began forming earlier than previously thought**.

### Bear Market

**News:** Global stock markets continue to plunge as United States President Donald Trump showing no signs of backing away from the sweeping tariffs that he has announced. **Bear Market.**



#### About Bear Market

- **Definition:** It is a situation when the **stock market experiences price declines** over a period of time.

- Generally, it is declared when a **stock index sinks at least 20% from its last peak state**.
- **Opposite to Bull Market:** A bear market is the opposite of a bull market, which refers to **when a stock index has increased at least 20% from its recent low**.
- **Bear market Vs Market correction:** A bear market is different from a **market correction** which occurs when there is a **decline of at least 10% or more**.
- **Reasons:** When **investors** are more **motivated to sell than to buy** stocks due to **reasons** like-
  - A **weak or slowing economy**, the anticipation of an **economic slowdown**, or investor **sentiment** that the market is **too hot and prices too high**.
  - Events that are not purely economic — such as **wars, oil supply shocks**, etc.

### Biomass mission

**News:** The European Space Agency (ESA) is going to launch its Biomass mission in end of April, 2025. **Biomass mission.**



#### About Biomass mission

- **Launching agency:** It will be launched by the **European Space Agency (ESA)**, aboard the **Vega C rocket** from Europe's spaceport in **French Guiana**.
- It is a dedicated **earth observation satellite mission** under ESA's **Earth Explorer Programme**, designed to **map and monitor global forest biomass** with unprecedented accuracy.
- **Orbit:** It will be placed in a **sun-synchronous orbit (SSO)**, at an altitude of around **666 km**.
- **Instruments:** It will be the **first satellite** to carry a **P-band synthetic aperture radar (SAR)** instrument, allowing **interferometric and tomographic imaging** to determine the amount of **biomass** and **carbon stored** in forests.
- **Distinct feature:** Its **P-band SAR sensor** can **peer through clouds**, allowing the biomass of trees to be estimated.

#### About Earth Explore Programme



- It is ESA's **research-driven satellite series** designed to explore **earth's dynamic systems**.
- The **first** spacecraft — the **gravity field and steady-state Ocean Circulation Explorer (GOCE)** mission (2009-2013).
- The most recent one was the **Earth Cloud Aerosol and Radiation Explorer (EarthCARE) mission** (May 2024).

### Woolly flying squirrel

**News:** The Wildlife Wing of the Himachal Pradesh Forest Department (HPFD) has successfully captured the first-ever photograph of the elusive Woolly Flying Squirrel in the Miyar Valley of Lahaul and Spiti district. **Woolly flying squirrel.**

#### About Woolly Flying Squirrel



Source: animalia life club

- It is one of the rarest and least known mammals in Asia.
- It belongs to the genus *Eupetaurus* in the family Sciuridae.
- It is the largest and heaviest of all gliding mammals and is known for its unique appearance and elusive nature.
- **Native:** They are native to parts of Asia, particularly in the mountainous regions of northern Pakistan, including the Diamer and Gilgit districts.
- It is **endemic** to the **northwestern Himalayas**. They are also possibly found in northern India, especially in Sikkim, and other nearby countries.
- **Physical features:**
  - It possesses elastic membranes on each side of its body that connect the forelimbs to the hind limbs.
  - Its body is covered with a dense layer of straight, silky fur.
  - The upper side (dorsal pelage) displays a blue-gray hue, while the underside is a pale gray.
- This species is **nocturnal**, meaning it is active during the night and rests during the day.
- **IUCN Red List:** Endangered



## INS Varsha

**News:** India is set to commission its new strategic naval base INS Varsha in coastal Andhra Pradesh. **INS Varsha.**



### About INS Varsha

- INS Varsha is a strategically developed **submarine base** designed to accommodate India's nuclear-powered submarines, including both **ballistic missile submarines (SSBNs)** and **nuclear-powered attack submarines (SSNs)**.
- It is located near the small coastal village of **Rambilli** in **Andhra Pradesh**, approximately 50 kilometers from Eastern Naval Command headquarters in Visakhapatnam, Andhra Pradesh.
- **Purpose:** The base will enable Indian nuclear submarines to **quietly slip into the Bay of Bengal** without being detected by **spy satellites**, allowing them to rapidly move towards the **Malacca Strait and beyond** for **deterrent patrols**.

### Features:

- It features **underground pens** and a **complex network of tunnels** specifically designed to house nuclear-powered submarines.
- It will offer **concealed access** to the sea and protect critical assets from surveillance and potential attacks.
- The design of the base enhances **India's second-strike capability**, thus strengthening the **underwater leg of its nuclear triad**.