# Factly Weekly

## Compilation

2025

**For UPSC CSE Prelims Exam**

**3rd Week**

**June 2025**

# INDEX

## Shipki La

**News:** Recently, Himachal Pradesh has opened the Shipki La Pass for domestic tourists. **Shipki La**


**About Shipki La**

- Shipki La is a motorable mountain pass located in **Kinnaur district, Himachal Pradesh**, near the **India-Tibet (China) border**.
- It sits at an altitude of **3,930 metres above sea level**.
- The Sutlej River, known as **Langqên Zangbo** in Tibet, **enters India from the Tibetan plateau near the Shipki La Pass**.
- The Shipki La Pass lies on the **India-China border**, connecting **Kinnaur district in Himachal Pradesh** with **Ngari Prefecture in Tibet**.
- It is one of India's **designated border trading points with Tibet**, alongside **Nathu La in Sikkim** and **Lipulekh in Uttarakhand**. The pass is located near the **town of Khab**.
- In earlier times, Shipki La was known as **Pema La**, meaning "Shared Gate" or "Shared Pass", reflecting its role in facilitating cultural and commercial exchanges.
- Following the **1962 Sino-Indian War**, it was designated as part of the **Line of Actual Control (LAC)**.

## Bonn Climate Change Conference

**News:** The annual Bonn Climate Change Conference began as more than 5,000 government delegates and stakeholders gathered in Bonn, Germany. **Bonn Climate Change Conference**

**About Bonn Climate Change Conference**


Source – UNFCCC

- It is an **annual mid-year meeting** that takes place under the **United Nations Framework Convention on Climate Change (UNFCCC)** — an international agreement, signed in **1992**, that has provided a **basis for climate negotiations**.
    - Along with the **annual Conference of the Parties (COP),** it is the **only other regular climate summit** hosted by the UNFCCC.
- **Formal name:** The conference is formally known as the **Sessions of the UNFCCC Subsidiary Bodies (SBs).**
- **Objective:** The conference takes place to discuss **technical and scientific aspects of climate negotiations,** and set the **agenda for COP**, which usually takes place in November.
- **Attendants:** It is attended by the **members of SBs** — essentially **committees** that assist UNFCCC's governing bodies in implementing and reviewing climate change agreements.
    - The meeting is also attended by **Indigenous representatives, international organisations, scientists, and civil society representatives**.
- **Importance: Recommendations** made at the SBs frequently appear in **final decisions** acted upon by parties at the **COP**.
    - Here, **implementation of agreements** set at the previous COP is also discussed.
- **Key players**
    - There are **two permanent SBs** of the UNFCCC – the **Subsidiary Body for Implementation (SBI)** and the **Subsidiary Body for Scientific and Technological Advice (SBSTA).**
        - **SBI** assists UNFCCC governing bodies in the **assessment and review of the implementation of their decisions**, along with discussion**s on financial and technical support to developing countries** which are party to the UNFCCC.
        - **SBSTA** advises governing bodies on **scientific knowledge** related to climate change, serving as the "**link**" between scientific advisors at the IPCC and policymakers serving in party delegations at the COPs.
- **Agenda for 2025**
    - One of the key agenda is the **Global Goal on Adaptation (GGA),** established in the Paris Agreement in 2015, which is an attempt to **identify a common global goal on adaptation**.

## Portulaca bharat – New flowering plant species discovered in Aravali hills

**News:** A new flowering plant species with unusual morphological characteristics has been discovered in the rocky and semi-arid landscape of Aravali hills near Jaipur. **Portulaca bharat – New flowering plant species discovered in Aravali hills**

### About Portulaca bharat

Source – The Hindu

- The new species belongs to the subgenus **Portulaca** section **Neossia**.

- It is currently only known from **a single location in the Galtaji hills (Aravali near Jaipur)** with only **10 individuals** of this species were found in the wild.
- **Features:** It has **opposite** and slightly **conclave leaves** and pale-yellow flowers becoming **creamish-white towards apex**, with the presence of **glandular hairs** on stamen filaments and **thick roots**.
- **Naming:** The naming of the plant **after the country** serves as a symbolic reminder of India's rich and still-unfolding natural heritage.
- **IUCN status:** With no other populations currently known, it has been provisionally assessed as **"data deficient"** under the IUCN Red List guidelines.

**About Portulaca genus**

- The genus Portulaca currently comprises about 153 species worldwide, primarily found in **tropical and subtropical regions**.
- These **succulent plants** are known for their toughness, **water-storing tissues**, and adaptation to extreme environments.
- In **India**, **11 species** are currently known, including **four endemics**, mostly distributed in **dry and semi-arid habitats**.

## UNESCO Creative Cities Network (UCCN)

**News: Lucknow** has officially submitted its nominations for inclusion in the UNESCO Creative Cities Network (UCCN) to be titled "City of Gastronomy". **UNESCO Creative Cities Network (UCCN)**

### About UNESCO Creative Cities Network (UCCN)


Source – UNESCO

- The UNESCO Creative Cities Network (UCCN) is a project of the **United Nations Educational, Scientific and Cultural Organization (UNESCO).**
- **Launch and Objective:** It was **launched in 2004** to promote **cooperation among cities** which recognized creativity as a major factor in their urban development.
- **List:** Currently, **350 cities** are part of this network which aims towards a common objective of placing creativity and cultural industries at the heart of their development plans.
- Creative fields covered: The network covers **seven creative fields** namely –
    - crafts and folk arts
    - media arts
    - film
    - design
    - gastronomy
    - literature
    - music
- By joining the Network, **cities commit to sharing their best practices** and developing partnerships involving the public and private sectors as well as civil society.

**Indian cities in the UCCN**

- There are **eight Indian cities** as a part of the network. These are-
    - Kozhikode (Literature)
    - Gwalior (Music)
    - Jaipur (Crafts and Folk Arts)
    - Varanasi (Music)
    - Chennai (Music)
    - Mumbai (Film)
    - **Hyderabad (Gastronomy)**
    - Srinagar (Crafts and Folk Arts)

## Gödel Prize

**News:** A researcher of Indian origin, Eshan Chattopadhyay, has been awarded the 2025 Godel Prize, one of the most prestigious prizes in theoretical computer science. **Gödel Prize**

**About Gödel Prize**


Source – University of Texas

- The Gödel Prize is given **annually** for **outstanding papers in the area of theoretical computer science.**
- It has been awarded **since 1993**.
- **Sponsors:** It is sponsored **jointly** by the European Association for Theoretical Computer Science (**EATCS**) and the Special Interest Group on Algorithms and Computation Theory of the Association for Computing Machinery (**ACM SIGACT**).
- **Naming:** The Prize is named in honor of **Kurt Gödel** in recognition of his major **contributions to mathematical logic**, which has become the famous **"P versus NP" question**.
- **Award ceremony:** This award is presented with the presentation **taking place alternately** at the EATCS International Colloquium on Automata, Languages, and Programming (**ICALP**) and the ACM Symposium on Theory of Computing (**STOC**).
- **Prize money:** The Prize includes an **award of $5000 (US).**
- **Eligibility:** The research work nominated for the award should be in the **area of theoretical computer science**. Any research paper or series of papers by a single author or by a team of authors is deemed **eligible if:**
    - The main results were **not published** (in either preliminary or final form) in a journal or conference proceedings before January 1st, 2012.
    - The paper was **published** in a recognized refereed journal no later than December 31, 2024.

**Gödel Prize, 2025**

- **Winners: Eshan Chattopadhyay (of Indian origin)** and David Zuckerman
- **Paper title:** "Explicit two-source extractors and resilient functions"
    - The work created a **method – a two source randomness extractor** – that can convert two imperfect sources of random data into a strong random output, even if both sources are weak.
    - This solved a key problem that had remained open for nearly 30 years.

## Exercise SHAKTI

**News:** The Indian Army contingent departed to participate in 8th edition of the biennial India-French Joint Military Exercise SHAKTI.

**About Exercise SHAKTI**

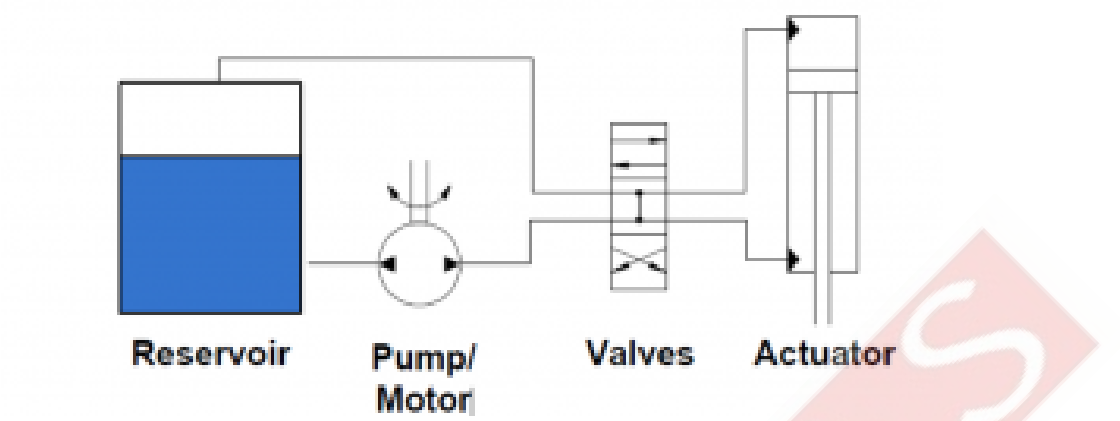

Source – DD News

- It is a **biennial** training event conducted alternatively between **Indian and French armies**.
- **Aim:** It is aimed at enhancing interoperability, operational coordination, and military to military connect.
- **2025 edition:** The exercise will be conducted at **Camp Larzac, La Cavalerie, France** from 18th June 2025 to 1st July 2025.
    - The **last edition** was conducted in **France in November 2021.**
- **Focus:** This edition will focus on **joint operations in a sub-conventional environment** under Chapter VII of the United Nations Charter, with training being conducted in **semi-urban terrain**.
- **Contingents involved:** The Indian contingent comprising of 90 personnel is being represented primarily by a **Battalion of the Jammu and Kashmir Rifles** besides personnel from other arms and services.
    - The **French contingent** comprising of 90 personnel will be represented by personnel from the **13th Foreign Legion Half- Brigade (13th DBLE).**
- **Significance:** It underscores the growing **defence cooperation** between India and France and will strengthen **strategic ties** between the two friendly nations.

## Hydraulic systems & its applications

**News:** India's hydraulic systems sector is experiencing significant growth, driven by expanding industrial automation, infrastructure development, and increasing demand. **Hydraulic systems & its applications.**

**About Hydraulic Systems**




Source – Research Gate

- **Principle:** A hydraulics system is based on the simple principle of **Pascal's law**, named for the 17th century French scientist Blaise Pascal.
    i. The **law states** that when **pressure is applied** to an incompressible **fluid**, it is **transmitted equally** in all directions throughout the fluid.
    ii. **Pressure** is the amount of **force per unit area**.
- In a hydraulic system, pressure is created by applying **force to a fluid** and it is subsequently **transmitted equally in all directions**, a small force applied over a small area can create a much larger force over a larger area.
- **Parts of a hydraulic system:** There are six general components in every hydraulic system.
    i. **Pumps:** Used to convert the input mechanical energy into pressure and generate a flow.
        - There are **different types of pumps**, including **gear type, axial piston type, variable delivery type,** and so on.
    ii. **Pipes:** Used to carry the oil to the end points of the application and return to the tank.
    iii. **Valves:** Used to control the flow and direction of the pressurised oil.
        - Valves are **classified** broadly based on their actions on the oil: **flow control, direction control, and pressure control.**
    iv. **Linear actuators or rotary actuators:** Used to deliver the work at the output end.
        - The most common one in use is the **linear actuator**, also known as a **hydraulic cylinder.**
        - In a **rotary actuator** (also known as a hydraulic motor) the output is rotating rather than linear.
    v. **Tank (with filters):** Used to hold the hydraulic oil.
    vi. **Sensors or switches:** Used whenever needed from an operational or safety perspective.

**Applications and Advantages**

- **Application:** Hydraulic systems have a **broad base of applications** today, from **agriculture to waste management, from automation to wind turbines**.
    - They can be used for both **mobile equipment** — cranes, excavators, etc. which move on wheels or tracks — and **static applications** such as a hydraulic press, moulding machines, windmills, etc. wherein the main equipment is static.
- **Advantages:** Hydraulics have many advantages **over mechanical methods** of transmitting energy.
    - The principal ones are **smooth movements, high power to weight ratio, better heat dissipation, smooth controls, and higher precision.**

## Rinderpest

**News**: India has joined an exclusive global network for containing the Rinderpest virus, with the *ICAR-National Institute of High Security Animal Diseases (NIHSAD), Bhopal*, designated as a Category A Rinderpest Holding Facility. **Rinderpest**


**About Rinderpest Holding Facility**

- This facility has been recognized by the *World Organisation for Animal Health (WOAH)* and the *Food and Agriculture Organization (FAO)* of the United Nations.
- **Significance for India**: This recognition places India *among only six facilities worldwide* entrusted with the critical responsibility of securely storing rinderpest virus material. The other five are located in the United Kingdom, United States, France, Japan, and Ethiopia.

**About Rinderpest (also known as Cattle Plague):**

- Rinderpest is a *highly contagious viral disease affecting cloven-hoofed animals*, primarily cattle and buffalo.
- **Cause**: It is caused by a virus belonging to the *Paramyxoviridae family*, genus Morbillivirus.
- **Transmission**: The disease spreads through close contact but does not infect humans. It can be fatal for affected animals. Those that recover develop lifelong immunity.
- Rinderpest is notable for being the *second infectious disease to be eradicated globally, after smallpox.*

## Performance Grading Index (PGI) 2.0 Report

**News:** The Education Ministry's Performance Grade Index 2.0 report for 2023-24 shows improvements by 24 States/UTs, and declines by 12.

**About Performance Grading Index (PGI) 2.0 Report**

- It is an **assessment of school education** across States and Union Territories (UTs) on a scale of **1,000 points.**
- It measures the performance based on **73 indicators from 2 Categories containing 6 Domains as shown in the table below-**

- The PGI was introduced in **2017**, and the ministry revamped it as **PGI 2.0 in 2021**.
- **Aim:** It aims to enable **data-driven policymaking**, promote evidence-based interventions, and encourage States/UTs to improve learning environments and outcomes in schools.
- **Domains:** It is constructed based on **73 indicators from 2 Categories containing 6 Domains:**

| Categories | Domain | Indicators | Total Weight |
|---|---|---|---|
| 1. Outcomes | Learning Outcomes and Quality (LO) | 12 | 240 |
| | Access (A) | 7 | 80 |
| | Infrastructure & Facilities (IF) | 15 | 190 |
| | Equity (E) | 16 | 260 |
| 2.Governance Management (GM) | Governance Processes (GP) | 15 | 130 |
| | Teacher Education & Training (TE&T) | 8 | 100 |
| **Total** | | 73 | **1000** |

Source – Ministry of Education

- **Aligned with:** It is completely aligned with Unified District Information System for Education Plus (**UDISE +),** National Achievement Survey (**NAS**), **PM POSHAN portal**, **PRABAND portal** and **Vidyanjali Portal.**

**Groupings based on rankings**

- The states and UTs were grouped into **different performance bands**. E.g. States ranging from **951–1,000 points** are termed **level 1 or 'daksh'** or **401–460 points** is termed level **10 or 'akanshi-3'**, which is the **lowest.**

| Scores (% of total points) | Score range | Grade |
|---|---|---|
| 91% to 100% | 941-1000 | Daksh |
| 81% to 90% | 881-940 | Utkarsh |
| 71% to 80% | 821-880 | Atti-Uttam |
| 61% to 70% | 761-820 | Uttam |
| 51% to 60% | 701-760 | Prachesta -1 |
| 41% to 50% | 641-700 | Prachesta -2 |
| 31% to 40% | 581-640 | Prachesta -3 |
| 21% to 30% | 521-580 | Akanshi-1 |
| 11% to 20% | 461-520 | Akanshi-2 |
| Up to 10% | 401-460 | Akanshi-3 |

Source – Ministry of Education

**Standings**

**Grades attained by States/UTs – 2023-24**

| Scores (% of total points) | Score range | Grade | Names of States/ UTs attaining the respective Grades | Total number of States/UTs |
|---|---|---|---|---|
| 91% to 100% | 941-1000 | Daksh | None | NIL |
| 81% to 90% | 881-940 | Utkarsh | None | NIL |
| 71% to 80% | 821-880 | Ati-Uttam | None | NIL |
| 61% to 70% | 761-820 | Uttam | None | NIL |
| 51% to 60% | 701-760 | Prachesta -1 | Chandigarh | 1 |
| 41% to 50% | 641-700 | Prachesta -2 | None | NIL |
| 31% to 40% | 581-640 | Prachesta -3 | Punjab, Delhi, Gujarat, Odisha, Kerala, DN1&DD, Haryana, Goa, Maharashtra & Rajasthan | 10 |
| 21% to 30% | 521-580 | Akanshi-1 | Puducherry, Himachal Pradesh, A&N Islands, Andhra Pradesh, Tamil Nadu, Karnataka, Lakshadweep, West Bengal, Madhya Pradesh, Sikkim, Uttar Pradesh, Jammu & Kashmir, Uttarakhand & Ladakh | 14 |
| 11% to 20% | 461-520 | Akanshi-2 | Telangana, Assam, Jharkhand, Tripura, Manipur, Chhattisgarh, Bihar, Nagaland, Mizoram & Arunachal Pradesh | 09 |
| Up to 10% | 401-460 | Akanshi-3 | Meghalaya | 1 |

Source – Ministry of Education

- **No state/UT** has scored in the **higher ranges of 761 and above**.
- **Top performers**
    - **Chandigarh** achieved a score of **703**, and is the **sole State to reach Grade Prachesta-1,** for scores between **701 to 760.**
    - **Ten States and Union Territories** — Punjab, Delhi, Gujarat, Odisha, Kerala, Dadra Nagar Haveli and Daman Diu, Haryana, Goa, Maharashtra, and Rajasthan — have scored between **581 and 640**, called Grade **Prachesta-3.**
- **Bottom rankings**
    - **Meghalaya (417.9)** scored the **lowest**, falling into the category of scorers between **401 and 460**, labelled as **Akanshi-3.**
    - Telangana, Assam, Jharkhand, Tripura, Manipur, Chhattisgarh, Bihar, Nagaland, Mizoram, and Arunachal Pradesh, who have been put in the **Akanshi-2 category**, as they have scored between **461 and 520**.
- **Middle rankings:**
    - Puducherry, Himachal Pradesh, Andaman and Nicobar Islands, Tamil Nadu, Karnataka, Lakshadweep, West Bengal, Madhya Pradesh, Sikkim, Uttar Pradesh, Jammu & Kashmir, Uttarakhand, and Ladakh — which scored between **521 and 580, labelled Akanshi-1.**
- **Best improvers across domains**
    - **Bihar and Telangana** have made the highest improvement in the domain of – "**providing access to school education".**
    - **Delhi, J&K, Telangana** have made highest progress in the "**infrastructure**" domain.

**Scoring methodology**

- The score of each indicator is calculated by **multiplying the proportionate score of the indicator with its weightage.**

- **For example**, for the indicator of proficiency in Mathematics in Grade 5, the weightage is 20. Thus, if a State has 50% students of Grade 5 who achieved minimum proficiency in Mathematics, its score for this indicator would be 20 times 0.5, which equals 10.

## India marks 50 years of its Crocodile Conservation Project in 2025

**News:** India began its Crocodile Conservation programme in 1975, and this year marks 50 years of this successful initiative.

**About Crocodile Conservation Project (CCP)**

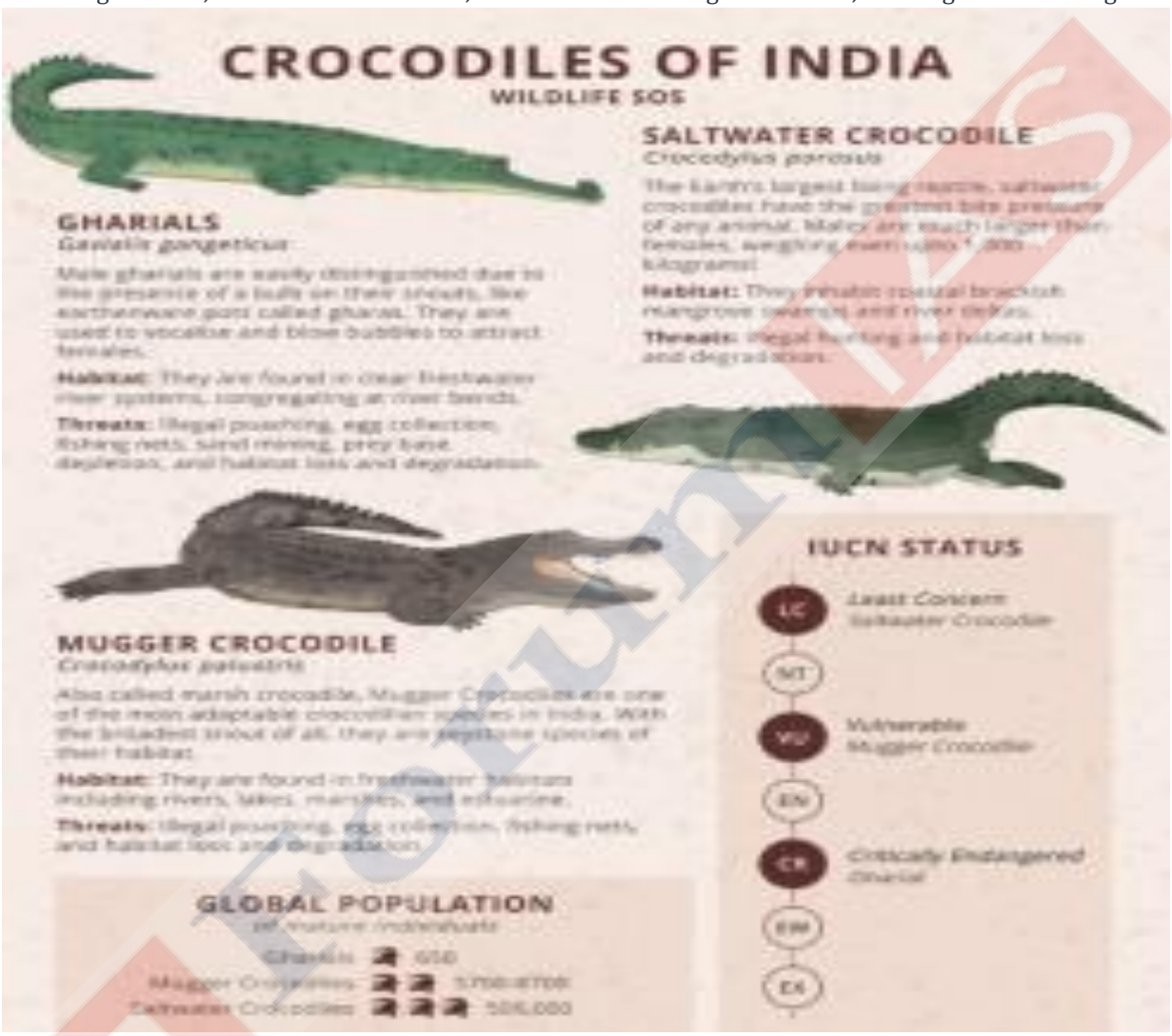
Source – TNIE

- The project was launched in **1975** with the support of the **United Nations Development Programme (UNDP) and the Food and Agriculture Organization (FAO),** initially focusing on **Bhitarkanika National Park** in Odisha.
- The project was **later expanded** to cover Uttaranchal, Rajasthan, West Bengal, Tamil Nadu, Andhra Pradesh, Gujarat, Kerala, Madhya Pradesh, Maharashtra, Andamans, Assam, Bihar and Nagaland where special **rearing stations** were constructed.
- **Aim:** The project aims to **conserve all three crocodile species** found in India:
    - saltwater crocodiles (Crocodylus porosus)
    - mugger crocodiles (Crocodylus palustris)
    - gharials (Gavialis gangeticus).
- **Objectives of CCP**
    - To ensure that the **breeding of species remain captive**.
    - Assortment of **eggs** from regular haunt, ensuing **crosshatching** and nurturing of crocodiles in captivity to lessen mortality because of the natural predators and lastly released into the wild.
- **Outcomes:** Over five decades, these initiatives have become **one of India's most successful wildlife conservation programmes.**
    - **Population recovery:** The project successfully brought crocodilian species back from the brink of extinction.
    - For example, **Bhitarkanika** now hosts 1,826 **saltwater crocodiles**, **Satkosia** gorge is home to 16 **gharials**, and around 300 **muggers** live in Odisha's rivers.

- **India** now harbors **80% of the world's wild gharial population.**

**Crocodiles in India**

- India is home to three main kinds of crocodile species – the **gharial (critically endangered), the salt water crocodile or salties (least concern), and the muggers (vulnerable).**
- **Threats:** These species face increasing threats from **habitat loss**, **poachers**, pollution, riparian agriculture, artificial embankments, construction of barrages and dams, and illegal sand-mining.




Source – Wildlife SOS

**Note –** World Crocodile Day is celebrated on June 17th every year.

## Key Facts about Croatia

**News:** PM Modi hopes India and Croatia to make long term plans for defence cooperation, after a trip to Croatia.

**Key Facts about Croatia**


Source – Britannica

- **Location:** It is a small, crescent-shaped country located in the **northwestern part** of the **Balkan Peninsula** in the southeastern Europe, on the coast of the **Adriatic Sea**.
- **Borders:** It borders Slovenia, Hungary, Serbia, Bosnia and Herzegovina, Montenegro and shares a maritime border with Italy to the west.
- **Capital:** Zagreb
- **Topography: Karst topography** makes up about half of Croatia and is especially prominent in the **Dinaric Alps**.
- **Climate:** It experiences the **Mediterranean and continental climate**, but **continental climate remains dominant** with hot summers and cold winters in the hinterlands while mild winters, dry summers persist along coast.
- **Rivers:** The major rivers of Croatia are the **Danube**, **Sava, Drava**, Mura, and Kupa, which primarily drain into the Black Sea basin, while important rivers flowing to the Adriatic Sea include the Neretva, Cetina, Krka, and Zrmanja.
- **Governance:** Croatia is a parliamentary republic with a prime minister who is the head of government and a president who is the head of state.
- **International co-operation:** It is a member of the **European Union (since 2013**), the **Schengen** Area, and the **Eurozone** (since 2023).
- **Economy:** The economy is **service-based**, with **tourism** playing a major role, especially along the Adriatic coast.
    - Tourism, shipbuilding, food processing, and chemical engineering are key industries, while agriculture plays a smaller role.
- **Ports:** The country's **major ports**—Rijeka, Split, and Ploce—are integral components of the European Union's core **TEN-T network**, supporting trans-European transport infrastructure.
- **Historically**, Croatia was part of **Yugoslavia** until its **independence in 1991**, after which it underwent significant reconstruction and democratic reforms.

## Strait of Hormuz

**News:** The Strait of Hormuz has been in the news recently due to escalating tensions and intense military clashes between Iran and Israel in West Asia.

**About Strait of Hormuz**

- **Location:** The **Strait of Hormuz** is a narrow waterway located **between Iran and Oman**.
- It connects the **Persian Gulf** (north) with the **Gulf of Oman** and the **Arabian Sea** (south).
- The strait is the only sea passage that allows the Persian Gulf waters to reach open waters (Indian Ocean).
- **Importance:** It is widely regarded as **one of the world's most strategically vital maritime choke points.**
    - It is located near the Arabian Peninsula, which holds the **largest reserves of oil and gas globally.**
    - Roughly **30% of the world's liquefied natural gas and 25% of its crude oil are transported through the Strait**
    - Around **21 million barrels of oil per day** passed through it in 2022 — that's about **one-fifth of the world's oil trade**.
    - Major oil-exporting countries like **Saudi Arabia, Iran, UAE, Kuwait, and Iraq** rely on this route.
    - It is often called the **"oil artery of the world"** because of its vital role in global energy supply.
- **Regulation:** According to **UN maritime laws**, each country controls up to **12 nautical miles (approx. 22 km)** from its coast. At its narrowest, the Strait falls entirely within the **territorial waters of Iran and Oman**.
    - However, **international law** requires that all ships must be allowed **free passage**, even in such waters.

## Revised Green India Mission (GIM)

**News:** The Central Government has released a revised roadmap for the National Mission for Green India, also known as the Green India Mission (GIM) on June 17.

**About Green India Mission (GIM)**


*Figure 1.Source – MoEFCC*

- It was rolled out in **2014** as one of the **eight missions** under **India's National Action Plan on Climate Change (NAPCC).**
- **Nodal Ministry:** Ministry of Environment, Forest and Climate Change (MoEF&CC)
- **Aim:** Its core aim is to **combat climate change** by increasing **forest and tree cover**, and the **ecological restoration** of degraded ecosystems and forests.
    - It also aims to **improve the livelihoods of communities** dependent on forest produce.

- **Objective:** Its objective was to **increase forest and tree cover on 5 million hectares** and improve the **quality of forest cover on another 5 million**

**Revised Green India Mission (GIM)**

- It will take '**micro-ecosystem' approach** in area and **landscape-specific restoration activities** in three important mountain ranges – the **Aravallis, the Western Ghats, and the Indian Himalayas**, along with the **mangrove ecosystems**.
    - The original GIM was criticised for taking a **plantation-centred approach**.
- **Syncing of different projects:** GIM interventions will be synced with the Centre's other environmental projects such as, recently launched **Aravalli Green Wall project,** aimed at combating the degradation and desertification in the mountain ranges.
- **Restoration** will be carried out through the **recovery of open forests, agroforestry, and plantation** on degraded lands.

**Commitments and Projections of revised plan**

- **Commitments**
    - According to the **ISRO's Desertification and Land Degradation Atlas**, around a **third of India's** geographical area – 97.85 million hectares – underwent **land degradation** during 2018-19.
    - India aims to create an **additional carbon sink of 2.5 to 3 billion tonnes** of carbon dioxide through **additional forest and tree cover** by 2030, according to its national commitments to **UNFCCC**.
    - India has also made an ambitious commitment to **restore 26 million hectares of degraded land** by 2030.
- **Projections**
    - According to the FSI, this approach alone has the **potential to sequester 1.89 billion tonnes of CO2** over approximately 15 million hectares.
    - It estimates that **by aligning ongoing schemes and intensifying afforestation** efforts, GIM can help India **expand its forest and tree cover up to 24.7 million hectares.**
    - This would be enough to **achieve a carbon sink of 3.39 billion tonnes** of CO2 equivalent by 2030.

## Operation Sindhu

**News:** India has launched Operation Sindhu to evacuate its nationals from Iran in view of the deteriorating situation due to the ongoing conflict between Iran and Israel.

**About Operation Sindhu**

Source – DD News

- It is a **large-scale evacuation mission** launched by the India in **June 2025** to **rescue Indian nationals** stranded in **Iran and Israel** amid escalating hostilities between the two countries.
- **Objective:** To ensure the **safety and evacuation of Indian citizens**, especially students and professionals, from conflict-affected zones in Iran and Israel.
- **First Phase:**
    - The initial phase is **focused on evacuating Indian students from northern Iran.**
    - **Coordination:** The Indian Embassies in **Tehran and Yerevan**, along with the Ministry of External Affairs (MEA) in New Delhi, coordinated the operation, providing helplines and real-time assistance to those in need.
- **Second phase**
    - This phase intends to evacuate Indian **citizens from Israel**.
- **Co-ordination:** The MEA set up **24/7 control rooms in New Delhi** and provided emergency helplines for Indian nationals in Iran and Israel.

**Evacuation Operations conducted by India in the past**

| Operations | Year | Location | Reason |
|---|---|---|---|
| **Operation Airlift** | 1990 | Kuwait | Iraqi invasion of Kuwait |
| **Operation Sukoon** | 2006 | Lebanon | Israel-Lebanon conflict |
| **Operation Safe Homecoming** | 2011 | Libya | Civil conflicts inside Libya |
| **Operation Raahat** | 2015 | Yemen | Conflict between the Yemeni government and Houthi rebels |

| | | | |
|---|---|---|---|
| **Operation Maitri** | 2015 | Nepal | After the Nepal earthquake |
| **Operation Sankat Mochan** | 2016 | South Sudan | Civil conflicts inside South Sudan |
| **Operation Samudra Setu** | 2020 | From around the world | During Covid-19 pandemic |
| **Vande Bharat Mission** | 2020 | From around the world | During Covid-19 pandemic |
| **Operation Devi Shakti** | 2021 | Afghanistan | After the Taliban takeover |
| **Operation Ganga** | 2022 | Ukraine | Conflict between Russia and Ukraine |
| **Operation Kaveri** | 2023 | Sudan | During armed conflict in Sudan |
| **Operation Ajay** | 2023 | Israel | During the Israel-Palestine conflict |
| **Operation Sindhu** | 2025 | Israel and Iran | Conflict between Israel and Iran |

## INS Arnala

**News:** Indian Navy has officially commissioned INS Arnala, its first Anti-Submarine Warfare Shallow Water Craft, at the Naval Dockyard in Visakhapatnam.

**About INS Arnala**


Source – PIB

- It is the **first of the sixteen** Anti-Submarine Warfare Shallow Water Crafts (**ASW SWCs**) delivered to the Indian Navy.
- **Manufactured by:** It has been **designed and constructed** by **Garden Reach Shipbuilders & Engineers (GRSE), Kolkata**, under a Public-Private Partnership (PPP) with **L&T Shipbuilders**.
- **Naming:** The warship has been named after the historic **Arnala Fort off Vasai in Maharashtra**.
- It is a **77-meter-long** warship, with a gross tonnage of over **1490 tonnes**.
- It is the **largest** Indian Naval warship to be propelled by a **Diesel Engine-Waterjet combination**.
- **Capabilities:** It is designed for a broad range of **Anti-Submarine operations** such as –
    - Sub-Surface Surveillance and Interdiction
    - Search and Rescue Missions
    - Low-Intensity Maritime Operations (LIMO)
- **Equipments:** The ship is **equipped** with **advanced underwater sensors** such as –
    - Hull-Mounted Sonar **Abhay**
    - Underwater Acoustic Communication System (**UWACS**)
    - Low-Frequency Variable Depth Sonar (**LFVDS**) – making them capable of comprehensive **underwater surveillance**.
- **The need for ASW SWCs**
    - The Indian Navy plans to **deploy all 16 ASW-SWC vessels** to safeguard India's **sixteen major ports**, establishing a robust **anti-submarine shield** along the coastline.
    - These ASW vessels will **replace the ageing Abhay-class corvettes** that entered service with the Indian Navy in **1989**.
- **Importance**
    - The commissioning of INS Arnala not only reinforces India's **defence capability** but also highlights the triumph of indigenous design, engineering, and manufacturing, realising the vision of **Aatmanirbhar Bharat**.

## Mount Lewotobi Laki-laki

**News:** A recent volcanic eruption at Mount Lewotobi Laki-laki in Indonesia released an ash cloud soaring up to an astounding 11 kilometers into the sky.

**About Mount Lewotobi Laki-laki**


Source.volcanodiscovery

- Mount Lewotobi Laki-laki is located on **Flores Island** in **East Nusa Tenggara province**, **Indonesia**.
- It lies along the tectonically active **Pacific Ring of Fire**, a zone known for frequent volcanic and seismic activity.
- Mount Lewotobi is a **twin stratovolcano** system with two distinct peaks: **Lewotobi Laki-laki** and **Lewotobi Perempuan.**
- **Lewotobi Laki-laki** is **more frequently active**, with **numerous eruptions recorded in the 19th and 20th centuries**.
- In contrast, **Lewotobi Perempuan** has had **only two known eruptions in recorded history**.
- **Small lava domes** have formed within the summit craters of both peaks during the **20th century**.
- A notable flank cone named **Iliwokar** is located on the **eastern side of Lewotobi Perampuan.**

## India's Coastline Grows by 3,500 km

**News:** India's coastline is now far longer than it used to be, almost 50% more than the previous length.

**India's Coastline Grows by 3,500 km**

**Length of India's coastline along states**

| State/UT | Coastline length (in km) |
|---|---|
| Gujarat | 2,340.62 |
| Maharashtra | 877.97 |
| Goa | 193.95 |
| Karnataka | 343.3 |
| Kerala | 600.15 |
| Tamil Nadu | 1,068.69 |
| Andhra Pradesh | 1,053.07 |
| Odisha | 574.71 |
| West Bengal | 721.02 |
| Daman and Diu | 54.38 |
| Pondicherry | 42.65 |
| Lakshadweep | 144.8 |
| Andaman and Nicobar | 3,083.50 |

Source: Ministry of Ports, Shipping and Waterways

Source – Indian Express

- **Some post reassessment data:** Earlier, the length of India's coastline used to be **7,516 km**. Now this coastline has been measured to be **11,098 km.**
- The **number of islands** in India has **increased slightly**.

**Reasons for the increase in India's coastline length**

- **New Measurement Techniques:** The **earlier measurement** was based on data that were of the scale of **1:4,500,000 (one to forty-five lakh),** or smaller.
    - The **recent exercise** calculated the length of the coastline using data that had a scale of **1:250,000 (one to 2.5 lakh).**
- **Higher resolution data** can capture the coastline, its bends and curves, in more intricate details.
    - In **low-resolution data**, these details get smoothened out, and appear as straight lines. The loss of bends and curves would shorten the length.
- The previous estimation was a result of more **conventional and manual calculations**.
- **Inclusion of coastlines** of many **off-shore islands** that had been left out of previous calculations.

**The coastline paradox**

- It is a **mathematical phenomenon** where the measured length of a **coastline increases indefinitely** as the measurement **scale becomes finer**, preventing a single, well-defined length.
- This occurs due to the **fractal nature** of coastlines, where smaller-scale features (e.g., bays, inlets, rocks) reveal increasing complexity.

- The coastline paradox **extends to many other similar natural features** such as **river networks and mountain ranges.**
- Reassessment of coastlines **becomes necessary** also on account of natural processes such as coastal erosion and human interventions like land reclamation.

**Increase in numbers of islands**

- **Related ambiguities:** There are specific kinds of ambiguities in accounting the numbers of islands.
  - For example, a location might be an island during high tide but connected to the land during low tide.
  - In 2016, the Office of the **Surveyor General of India listed 1,382 offshore** islands in India while a count by state governments, and agencies like the Coast Guard and Indian Navy had yielded a **lesser number of 1,334.**
- **Post reassessment data on Islands:** A subsequent data reconciliation exercise has arrived at a new number of **offshore islands** in the **country – 1,298.**
  - This exercise also listed **91 inshore islands**. The **total number of islands is 1,389.**
  - These **do not include** the large number of **river islands** in states such as **Assam and West Bengal**.

Offshore and inshore islands in states

| State/UT | Offshore islands | Inshore islands | Total |
|---|---|---|---|
| Gujarat | 108 | 36 | 144 |
| Maharashtra | 105 | 15 | 120 |
| Goa | 39 | 2 | 41 |
| Karnataka | 88 | 12 | 100 |
| Kerala | 7 | – | 7 |
| Tamil Nadu | 26 | 2 | 28 |
| Andhra Pradesh | 20 | 12 | 32 |
| Odisha | 13 | 3 | 16 |
| West Bengal | 14 | 9 | 23 |
| Daman and Diu | 9 | – | 9 |
| Lakshadweep | 33 | – | 33 |
| Andaman and Nicobar Islands | 836 | – | 836 |
| Total | 1,298 | 91 | 1,389 |

Source: Office of Surveyor General of India

Source – Indian Express

**Implications**

- All the changes in length of coastline or number of islands are largely **academic in nature**, but these are **not irrelevant**
- The new numbers result in a **better understanding of India's territory and terrain.**
- There are **administrative, developmental and security implications** with some certain **operational significance** as well.

## Gender Budgeting Knowledge Hub

**News:** The Central government on Thursday launched the Gender Budgeting Knowledge Hub, a dedicated digital platform aimed at strengthening gender-responsive planning across India.

**About Gender Budgeting Knowledge Hub**


*Figure 2.Source – PIB*

- It is a dedicated **digital platform** aimed at strengthening **gender-responsive planning** across India.
- **Aim:** Its aim is to empower policymakers, researchers, and other stakeholders with a centralised repository of tools to support the **integration of a gender lens into all stages of planning and budgeting,** both at the **Central and state**
- **Objective:** It targets to **deliberate on the measures** to strengthen the gender budgeting processes across all sectors; and share initiatives and good practices on gender budgeting by the Central Ministries/Departments and States under their specific schemes.

**Gender budgeting in India**

- Gender Budgeting has been a core element of India's development strategy **since 2005–06.**
- It was initially introduced **as a fiscal reporting mechanism**, it has evolved into a key governance instrument for achieving gender equality and women empowerment.
- For the financial **year 2025–26**, the Gender Budget allocation of Rs. 4.49 lakh crore – a **37% increase** over the previous year allocation.
- Over the **past 11 years**, Gender Budget allocations have **increased by four and half times** – from Rs. 0.98 lakh crore in 2014-15 to Rs. 4.49 lakh crore in 2025-26.

## QS World University Ranking 2026

**News:** India has achieved its highest-ever representation in the QS World University Rankings 2026, with 54 institutions making it to the list.

**About QS World University Rankings**


Source – PIB

- The QS World University Rankings is an **annual global ranking of universities** published by **Quacquarelli Symonds (QS**), a leading higher education analytics organization.
- **Aim:** The aim of these rankings is to **help students, academics, and employers compare** the performance of universities worldwide.
- **Methodology**
    - The QS World University Rankings use a **structured approach to assess institutions** across the globe.
    - Each ranking is built on a **set of measurements** that help evaluate different aspects of university performance. These measurements are grouped as follows:
        - **Lens:** A collection of indicators linked by a common theme, such as research or employability.
        - **Indicator:** A specific area of performance, such as Citations per Faculty or Employer Reputation. Institutions are scored and ranked on each indicator, which contributes to their overall rank.
        - **Metric:** A detailed calculation within an indicator, used to generate precise scores.

**Key Insights from QS World University Ranking 2026**

- India has **54 universities** in the QS World University Rankings 2026, making it the **fourth most represented country**.
    - Only the **United States (192), the United Kingdom (90), and Mainland China (72)** have more universities ranked than India.
- **Eight Indian institutions** have entered the rankings for the **first time**.
    - This is the **highest number of new entrants** from any country this year.

- **Numbers:** The number of Indian universities in the rankings has grown from **11 in 2015 to 54 in 2026**.
    - This marks a **five-fold increase** in just over a decade.
- **48 percent** of India's ranked universities **improved** their positions compared to the previous year.
- **Six** Indian institutions feature in the global **top 250.**
- **Rankings**
    - **IIT Delhi** leads the Indian contingent. It is ranked **123rd globally**, rising from 150th in 2025.
    - **IIT Madras** recorded one of the **biggest jumps**, rising 47 places from 227 in 2025 to **180** in 2026.
- A total of **12 Indian Institutes of Technology (IITs)** feature in the list, highlighting their strong presence in global academia.
- **Five** Indian institutions feature in the global **top 100 for Employer Reputation**.
- **Eight** Indian universities rank among the world's top 100 for **Citations per Faculty**.
    - Their average **score of 43.7** is higher than that of Germany, the United Kingdom and the United States.
- India now has a **diverse mix of public and private institutions** represented, including central universities, deemed-to-be universities, and technical institutes.

**Global Highlights**

- The **Massachusetts Institute of Technology (MIT),** United States, holds the **top position** for the **14th straight year.**
- It is **followed** by **Imperial College London and Stanford University**, which climbed from sixth to third.
- The **US** remains the **most represented** country overall, with **192 institutions** featured in the list, and most showing improved positions.
- **China** continues its strong presence, with **Peking University at 14th** (92.6), and Tsinghua University rising to 17th with a score of 91.2.

## Sharavathi Lion-Tailed Macaque Wildlife Sanctuary

**News:** The arrest and subsequent bail of farmers accused of entering the Sharavati Lion-Tailed Macaque Wildlife Sanctuary in Sagar taluk with country-made weapons has triggered widespread unrest.

**About Sharavathi Lion-Tailed Macaque Wildlife Sanctuary**

- **Location:** It is located in the **Sharavathi River Valley** in Sagar Taluk of Shivamogga District, **Karnataka.**
- It was established by **merging the previously existing Sharavathi Valley Wildlife Sanctuary, Aghanashini Lion-Tailed Macaque Conservation Reserve**, and the adjoining reserve forest blocks.
- It shares its **southwestern boundary with the Mookambika Wildlife Sanctuary.**
- It lies within the Western Ghats, which is recognized as a UNESCO World Heritage Site.
- The total area of the sanctuary is **approximately 431.23 square kilometers,** which includes the Linganamakki Reservoir covering about 124 square kilometers.
- **Vegetation:** The sanctuary is predominantly covered with **tropical evergreen and semi-evergreen forests, especially in the valleys.**
- It also features **moist deciduous forests along with patches of grasslands and savanna vegetation.**
- **Flora:** The sanctuary is immensely rich in plant diversity, hosting species such as **Dhoopa (Vateria indica), Gulmavu (Mangifera indica), Surahonne, Mavu, and Nandi.**

- **Fauna:** It is considered a **key habitat for the endangered Lion-Tailed Macaque (Macaca silenus),** which is endemic to the Western Ghats.
- Other prominent mammals found in the sanctuary include **tigers, leopards, wild dogs (dholes), jackals, sloth bears, wild pigs, sambar deer, spotted deer, barking deer, mouse deer, bonnet macaques, common langurs, and the Malabar giant squirrel.**
- Notable bird species such as **minivets, herons, woodpeckers, and hornbills** are found here.
- A wide range of reptiles inhabit the sanctuary, including the **king cobra, Indian python, rat snake, monitor lizard, and crocodiles.**
- Some of the major attractions located within the sanctuary include Jog Falls, one of the highest waterfalls in India; Linganamakki Reservoir, a scenic and vital water body; Honnemaradu Backwaters, popular for eco-tourism and water sports; and Sigandur Backwaters along with the Chowdeshwari Temple, which holds cultural and religious significance.

## Quantum Communication Using Satellite

**News:** As per the Indian Institute of Technology (IIT)-Delhi, India could be technologically capable of quantum communication using satellites in the next half a decade.

### About Quantum Communication

Source – The Hindu

- Quantum communication is a field of technology that **uses the principles of quantum mechanics**—especially the behavior of quantum **particles like photons**—to **transmit information** in a way that is fundamentally secure and resistant to eavesdropping.
- **Key Features**
    - **Quantum Key Distribution (QKD):** The encryption keys are shared using quantum states (such as the polarization of photons).

    - Any attempt to intercept or measure these quantum states disturbs them, **revealing the presence** of an eavesdropper.
  - **Quantum entanglement:** Information can be transmitted using entangled particles, where the **state of one instantly influences the state of another**, no matter the distance.
  - **Unbreakable security:** Because of the laws of quantum physics, quantum communication can provide **theoretically unbreakable encryption.**
- Under **National Quantum Mission (NQM)** of India, a strong **focus is to develop satellite-based long distance quantum communication.**

**Quantum Communication Using Satellite**

- A **quantum satellite** is a communications satellite leveraging the **principles of quantum physics to secure data transmissions.**
- **Significance**
  - The emergence of quantum computers poses a threat to existing cryptographic systems.
  - Quantum satellites aim to **ensure secure communications** by employing quantum cryptography particularly Quantum Key Distribution (QKD).

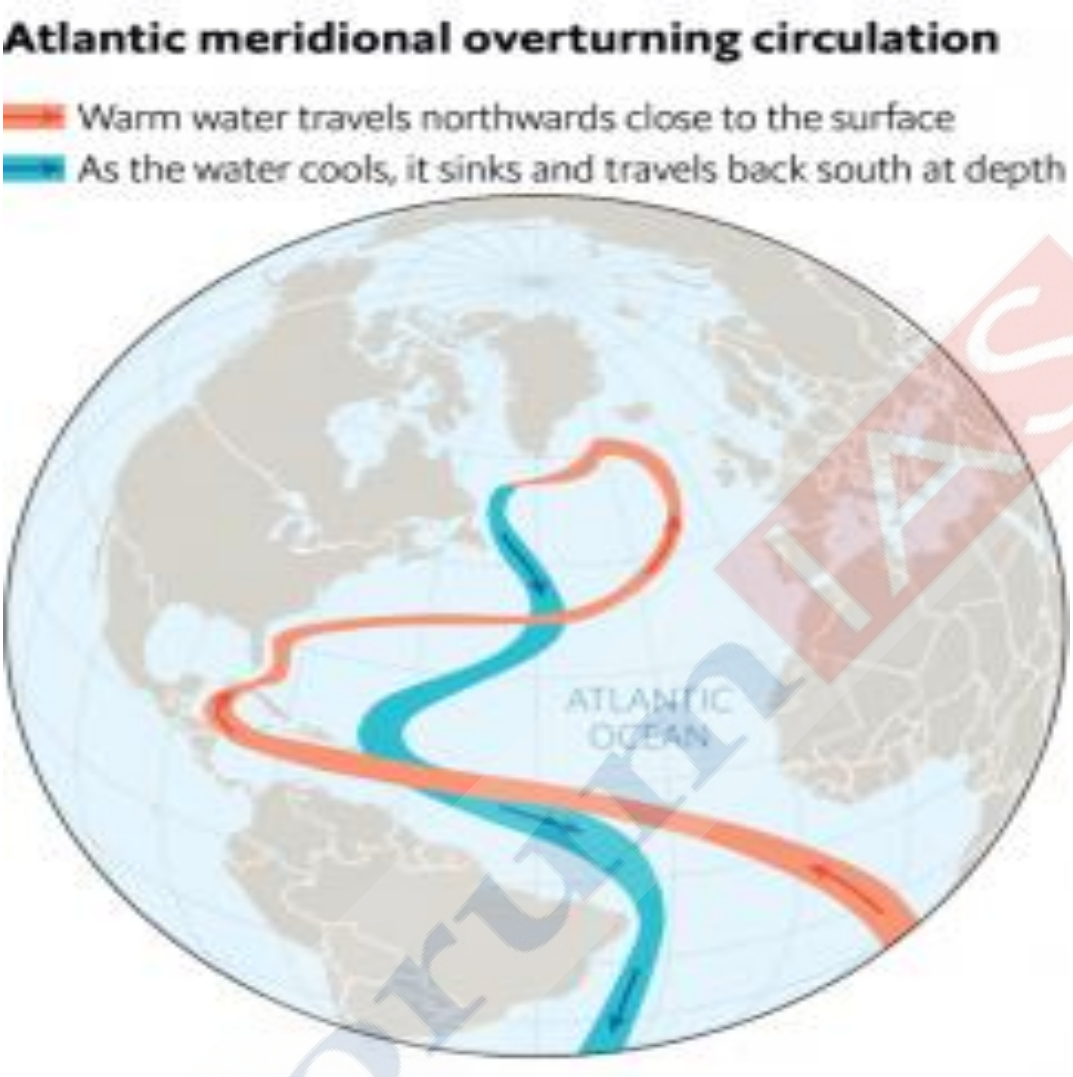
**Demonstrations from across the globe**

- **China:** In 2017 and 2020, researchers of China generated quantum keys involving a satellite (500 km above the ground) and ground stations 1,000 and 1,700-km apart.
- **West:** Since 2005, there have been ground demonstrations in **Europe, Canada, and the United States** of free-space (without cables) QKD greater than 100 km.
- **India:** In 2022, scientists from the Department of Space (DOS) demonstrated quantum entanglement based real time Quantum Key Distribution (QKD) over a **300-metre atmospheric channel**.

## Atlantic Meridional Overturning Circulation (AMOC)

**News:** A new study finds that the Europe faces deep winter freeze if the Atlantic Meridional Overturning Circulation (AMOC) collapses.

**About Atlantic Meridional Overturning Circulation (AMOC)**




Source – NOAA

- The AMOC is a **system of ocean currents** that circulates water **within the Atlantic Ocean**, bringing **warm water north and cold water south.**
- **Mechanism:** The circulation process begins as **warm water** near the surface moves **toward the poles** (such as the Gulf Stream in the North Atlantic), where it cools and forms sea ice.
    - As this ice forms, **salt is left behind** in the ocean water. Due to the large amount of salt in the water, it becomes **denser**, sinks down, and is **carried southwards** in the depths below.
    - Eventually, the water gets **pulled back up towards the surface and warms up** in a process called upwelling, **completing the cycle**.

**Importance of Atlantic Meridional Overturning Circulation (AMOC)**

- AMOC aids in **distributing heat and energy** around the earth **(heat budget).**
- **Western Europe's climate** is less harsh even in winters because of AMOC (Gulf Stream, North Atlantic Drift).

- It acts as a **carbon sink** by absorbing and storing atmospheric carbon.

**Weakening of AMOC**

- It takes an estimated 1,000 years for a parcel (any given cubic meter) of water to complete its journey along the belt.
- However, climate models suggest that the **AMOC will weaken** over the 21st Century as **greenhouse gases increase**.
    - This is because as the atmosphere warms, the surface ocean beneath it retains more of its heat.
    - Meanwhile increases in rainfall and ice melt mean it gets fresher too.
- All these changes make the ocean **water lighter** and so **reduce the sinking** in the '**conveyor belt**', leading to a weaker AMOC.

**Any substantial weakening of the AMOC would cause**

- further **decrease in marine productivity** in the North Atlantic (less sinking will lead to less mixing of water),
- **more storms** in Northern Europe
- **less** Sahelian summer rainfall and **South Asian summer rainfall**
- a **reduced** number of **tropical cyclones** in the Atlantic
- an **increase in regional sea level** along the northeast coast of North America.

## New HIV Prevention Drug Lenacapavir (LEN)

**News:** The United States Food and Drug Administration (FDA) has approved Lenacapavir (LEN), the most promising HIV prevention medicine to be made so far.

**About New HIV Prevention Drug Lenacapavir (LEN)**


Source – NBC News

- LEN is an **antiretroviral medicine** that is used for **HIV prevention** as a **pre-exposure prophylaxis or PrEP.**

- PrEP is a **medication** that can **reduce the risk of HIV infection for** individuals who are HIV-negative but are at risk of contracting the virus.

- **Effectiveness:** The studies have shown that it helps **prevent 99.9 %** of all HIV transmission.
- **Doses:** LEN is an **injectable PrEP** that is to be taken **twice yearly**.
  - It will be commercially called as **Yeztugo**.
- **Better alternative:** It offers a more convenient alternative to the **current** standard of care for HIV prevention, a **daily pill called Truvada**.
- **Status in India:** PrEP was **first** approved by the US FDA in **2012**, but the Indian government's **National AIDS Control Organisation is yet to roll it out.**

**About HIV (Human Immunodeficiency Virus)**

- It is a **virus** that attacks and weakens the body's **immune system**, specifically targeting **CD4 (T) cells** that help fight infections.
- **AIDS:** Without treatment, HIV can gradually destroy the immune system and **progress to AIDS (Acquired Immunodeficiency Syndrome),** the **most advanced stage** of HIV infection.
- **Transmission:** HIV spreads through **certain body fluids**—blood, semen, vaginal fluids, rectal fluids, and breast milk—most commonly via unprotected sex or sharing needles.
- **Symptoms:** Early symptoms may resemble the flu or be absent; the only way to know if you have HIV is through **testing**.
- **Cure:** There is **no cure**, but **antiretroviral therapy (ART)** can control the virus, enabling people with HIV to live long, healthy lives and significantly reducing the risk of transmission to others.
- **Prevention** includes safe sex practices, not sharing needles, and using preventive medicines like PrEP and PEP.

## India Post Payments Bank (IPPB)

**News**– India Post Payments Bank (IPPB) was recently honored with the Digital Payments Award 2024–25 by the Department of Financial Services (DFS) under the Ministry of Finance.

**About India Post Payments Bank (IPPB)**

- IPPB is a *100% government-owned bank* set up under the *Department of Posts, Ministry of Communications.*
- It was *launched on September 1, 2018*.
- **Significance**– Its core mission is to bring banking services to the unbanked and under banked, especially in remote areas, by using the vast network of around 1.65 lakh Post Offices across the country.

**Functions of IPPB:**

- IPPB operates on a smaller scale than traditional banks and *does not provide loans or issue credit cards to reduce risk.*
- It offers services such as deposit acceptance, money transfers, mobile payments and purchases, and access to ATM/debit cards, net banking, and third-party fund transfers.
- It can *accept deposits up to Rs. 2 lakh*.