Current Affairs Update (June 1-7)

National

The KAVACH

- It is an **indigenously** developed Automatic Train Protection (**ATP**) system by the Research Design and Standards Organisation (**RDSO**) in collaboration with the Indian industry.
- **It provides protection** by preventing trains from passing the signal at Red and **activates the train's braking system automatically** (if the driver jumps the Red signal) and avoids collision.
- **The Traffic collision avoidance system (TCAS)** helps in two-way communication between the station master and loco-pilot to convey any emergency message.
- Both the Shalimar-Chennai Coromandel Express and the Yeshwanthpur-Howrah Express were **not fitted with KAVACH-TCAS**.

The Rashtriya Rail Sanraksha Kosh (RRSK):

- It was **created in 2017-18 with a corpus of Rs 1 lakh crore** over a period of five years with an annual outlay of Rs 20,000 crore – Rs 15,000 crore of budgetary support and Rs 5,000 crore from Railways internal resources).
- **The safety fund will be used for** improved inspection and safety work at level crossing, track repair, bridge restoration, rolling stock replacement, human resource development, etc.
- **The number of funds allocated for track renewal projects decreased** from Rs 9,607.65 crore (2018-19) to Rs 7,417 crore (2019-20), and even this amount was **not "fully utilised".**

Lavender Festival

Union Minister Dr Jitendra Singh inaugurated the **Lavender Festival in Bhaderwah, Jammu, as part of the One Week One Lab Campaign** organized by CSIR-IIIM. This is the 2nd year of the lavender revolution. Bhaderwah is hailed as the **Lavender capital of India** and an Agri StartUp destination.

Lavender is a **fragrant flowering plant known** for its aromatic purple flowers and soothing scent. It is widely cultivated for its **essential oil**, which has various uses in aromatherapy, cosmetics, and culinary applications.

Lavender Revolution: launched in **2016 by the Union Ministry of Science & Technology** through the Council of Scientific & Industrial Research (CSIR) Aroma Mission

Sedition law in India

The Law Commission of India has recommended the retention of the 153-year-old colonial law on sedition in India.

Section 124A of the IPC: It deals with Sedition – a non-bailable offence and was drafted by TB Macaulay and included in the IPC in 1870. Whoever (by words/signs/visible representation) brings or attempts to bring into hatred or contempt or excites or attempts to excite disaffection towards the Government established by law in India shall be punished.

Punishment under Section 124A: Punishment under the law varies from imprisonment up to three years to a life term and fine.

Need of Section 124A: To effectively combat anti-national, secessionist and terrorist elements.

The Law Commission of India on sedition law:

- The sedition law is **a reasonable restriction on the right to free speech.**
- *Repealing the legal provision* can have **serious adverse ramifications for the security and integrity of the country**.
- Mere fact that a particular legal provision is colonial in its origin does not validate the case for its repeal.
- Jurisdictions like the US, UK, etc., **have actually merged their sedition law with counter-terror legislations.**

'Indian Opinion' newspaper

An exhibition was launched at the Phoenix Settlement to commemorate the 120th anniversary of Mahatma Gandhi's 'Indian Opinion' newspaper.

The 'Indian Opinion' newspaper was **started by Mahatma Gandhi (in 1903)** during his time in South Africa as a young lawyer. It served as a mass communication mechanism for the **Natal Indian Congress**, fighting against oppressive laws of the government at the time. The newspaper was published in **Gujarati, Hindi, Tamil and English**. The 'Indian Opinion' continued to be published by Gandhi's son and wife after his return to India until its final edition in 1962 (banned due to censorship laws and the banning of political organizations by the apartheid government in South Africa)

Shanan hydropower project

Himachal Pradesh and Punjab are facing a potential conflict over the **Shanan hydropower project.** The Shanan hydropower project (on the Uhl River, a tributary of the Beas River) is a **110 MW power project** located in **Mandi district**, Himachal Pradesh, India. It was **commissioned in 1932** and is currently under the **control of the Punjab Government**.

What is the controversy?

The **99-year lease** on the project is set to **expire in March 2024**, leading to a dispute between **Himachal Pradesh and Punjab** over its ownership and control. Himachal Pradesh has made it clear that **it will not**

renew or extend the lease and wants the project to be handed over to the state. **Punjab**, on the other hand, is **unwilling to part with the project** and is prepared to pursue legal action to retain it.

Magnetite-bearing rocks

Magnetite-bearing rocks are rocks that contain magnetite, a **black, opaque, and magnetic mineral.** These rocks often exhibit magnetic anomalies and are known to host valuable minerals such as **Chromite, Nickel, Platinum Group of Elements (PGE), and gold**. Magnetite is one of the most **abundant metal oxides** and has various industrial applications. More often, magnetite occurs in its massive form, commonly called '**lodestone'**

The Bihar government plans to collaborate with the **Geological Survey of India** (GSI) to gather valuable geological information about **magnetite-bearing rocks in the region.**

India's first rare earth permanent magnets plant

Recently, the PM has inaugurated India's first facility to produce rare earth permanent magnets in **Visakhapatnam**.

A permanent magnet is a type of magnet that can **create a magnetic field without needing any external power source**. It is called "permanent" because once it is magnetized, it can maintain its magnetism for a long time. Permanent magnets are usually made from certain types of metals or alloys, such as iron, nickel, and cobalt, or rare earth elements like neodymium and samarium.

Rare earth permanent magnets are a type of permanent magnet that is made **from rare earth elements**. Rare earth elements are a group of **seventeen chemical elements** in the periodic table, including elements such as **neodymium, samarium, and dysprosium**.

Mission on Advanced and High-Impact Research (MAHIR)

The Mission on Advanced and High-Impact Research (MAHIR) is a significant initiative launched by the Ministry of Power and the Ministry of New and Renewable Energy. It aims to leverage emerging technologies in the power sector through indigenous development and collaboration.

MAHIR focuses on specific areas of research in the power sector. These areas include alternatives to Lithium-Ion storage batteries, modifying electric cookers/pans for Indian cooking methods, and green hydrogen for mobility (High Efficiency Fuel Cell). Additionally, MAHIR addresses carbon capture, geothermal energy, solid-state refrigeration, nano-technology for EV battery, and indigenous CRGO technology.

International

Suriname

President Droupadi Murmu recently visited Suriname on a three-day trip, aiming to **strengthen India's bilateral relations** with the South American nation. The visit to Suriname is a significant component of her two-nation tour, **with Serbia being** the other destination.

Suriname (Capital: Paramaribo**) is a small country** on the northeastern coast of South America. It's defined by vast swaths of tropical rainforest, **Dutch colonial architecture** and a melting-pot culture.

Kosovo-Serbia conflict

The Kosovo-Serbia conflict stems from **Kosovo's declaration of independence from Serbia** in 2008, which Serbia does not recognize. Tensions arise from **historical, ethnic, and political factors, leading to sporadic clashes** and disputes. Efforts to resolve the conflict have been slow, with concerns about Serbia's ties to Russia.

Kosovo is located between the **Mediterranean Sea and mountainous regions** of Southeast Europe, on the **Balkan Peninsula**. Serbia is a **small land-locked country** in the Balkan region. It shares borders with Bosnia-Herzegovina, Bulgaria, Croatia, Hungary, North Macedonia, Montenegro, Romania and Albania.

Country Partnership Strategy for India (CPS): 2023-2027

The **Country Partnership Strategy (CPS) for India (2023-2027**) is a plan by the Asian Development Bank (ADB) to deepen its engagement with India and support its drive for robust, climate-resilient, and inclusive growth.

The aim of the CPS is to **accelerate structural transformation** and job creation, promote **climate-resilient growth, regional cooperation**, and integration in South Asia, and deepen social and economic inclusiveness.

Three pillars:

- Accelerate the structural transformation and job creation through the convergence of **logistics-industry-urban-skilling programs**, along with support for MSMEs.
- Promote **climate-resilient growth.**
- Deepen **social and economic inclusiveness**.

The Asian Development Bank (Est. 1966; HQ: Manila, Philippines) is a regional development bank to **promote social and economic development** in Asia and the Pacific. ADB is an official **United Nations Observer**. The Asian Development Bank has **68 member countries, with 49** from the Asia-Pacific region

and 19 from outside the region. The Asian Development Bank is **owned by its member countries**, with **Japan** and the United States being the **largest shareholders**. India is one **of ADB's founding members**.

Fraser Island Regains its Original Name

Fraser Island, the world's largest sand island, has recently regained its original name, K'gari. This momentous event was celebrated by the traditional owners, the Butchulla people, in the ancient forests of K'gari. The reinstatement of the island's name holds deep cultural significance and represents a step towards recognizing and honoring Indigenous heritage.

Spinoza Prize

Indian-origin scientist **Joyeeta Gupta** has been honored with the prestigious Spinoza Prize, also known as the 'Dutch Nobel Prize', for her remarkable contributions to science and her commitment to creating a just and sustainable world. The Spinoza Prize is widely regarded as the highest distinction in Dutch science. It recognizes outstanding researchers who have made significant advancements in their fields and have demonstrated exceptional scientific contributions.

Science-Tech & Environment

Solar E-Waste

Solar e-waste refers to the electronic waste generated by discarded solar panels. As solar panels have a limited **lifespan of 20-25 years**, their disposal raises concerns about managing the electronic waste they create.

What does Solar Panel consist of?

A PV module is essentially made up of **glass, metal, silicon and polymer fractions**. Glass and aluminium, together constituting **around 80% of total weight**, are **non-hazardous.**

But a few other materials used including **polymers, metals, metallic compounds and alloys** are classified as **potentially hazardous**.

Status:

- PV module recycling is **still not commercially viable**
- PV waste recycling is **still at a nascent stage globally**
- **India does not have a solar waste management policy**, but it does have ambitious solar power installation targets.
- India's PV (photovoltaic) waste volume is estimated to grow to **2,00,000 tonnes by 2030** and around 2 million tonnes by 2050.

Importance of Biodiversity

- **Ecosystem services:** Species perform some or the other functions (soil formation, reducing pollution) in an ecosystem.
- **Provisioning services**: Food, fibre, fuelwood, etc. It is biodiversity that will form the basis of a **new sustainable green economy.**
- **Regulating services:** It is biodiversity that will restore degraded lands and polluted rivers and oceans and sustain agriculture in the face of climate change.
- **Supporting services:** Biodiversity helps in pollination, nutrient cycling as well as recycling, GHGs reduction by sequestration.
- **Social and cultural services:** Biodiversity provides aesthetic, and recreational pleasure.
- **Food web maintenance:** Higher the diversity of an ecosystem, more complex is going to be the food webs.
- **Scientific role:** Biodiversity help in scientific research, education and monitoring.

The new treaty for outer space

- Over the past decade, **fundamental changes** have been witnessed in outer space like weaponisation of space, exponential increase in satellite launches, etc. **For example,** there were 210 new launches in 2013, which increased to 600 (2019), 1,200 (2020) and 2,470 (2022). This increase is fuelled by the **active participation of the private sector.**
- Outer space (like asteroids) contains **abundant deposits of valuable metals** (platinum, nickel, cobalt, etc) and governments are in favour of the exploitation of space resources.
- **Space debris is another issue.** More than 130 million smaller than one cm have been recorded.
- Currently, **there is no agreed international framework** on space resource exploration, exploitation and utilisation.
- **Conflict could arise** if countries do not agree on international principles and could also lead to **environmental degradation and cultural loss.**
- Hence, the development of international norms, rules and principles will ensure **effective governance, propel innovation and mitigate risks in outer space.**

Li-ion battery recycling technology

The Ministry of Electronics and Information Technology (MeitY) in India has transferred **cost-effective lithium-ion battery recycling technology** to nine recycling industries and start-ups as part of the **Mission LiFE under the "Promote circularity campaign**."

This indigenous technology can process various types of **discarded lithium-ion batteries**, recovering over **95% of lithium**, **cobalt, manganese, and nickel** contents in the form of corresponding **oxides/carbonates** with a purity of about 98%.

Aim of recycling: To recover valuable materials from lithium-ion batteries, reducing the need for mining and minimizing environmental impact. It helps conserve resources and promotes sustainable practices in battery manufacturing.

Developed by: The technology was developed at the Centre of Excellence on E-waste Management, in collaboration with the Government of Telangana and industry partner.

India generates more than **50,000 tons of lithium-ion battery** waste annually, growing in the range of 40-80%. India currently imports **all of its Li from Australia and Argentina** and **70% of its Li-ion cell requirement** from China and Hong Kong

MH60R helicopter
- The Indian Navy achieved another unique feat after an **MH-60 'Romeo' multi-mission helicopter** landed on the indigenously-built aircraft **carrier INS Vikrant**.
- Manufactured by Lockheed Martin Corporation is an **all-weather helicopter designed to support multiple missions with state-of-the-art avionics and sensors.**
- MH60R helicopter is a versatile platform known for its **exceptional ASW, surveillance, anti-shipping, and search and rescue capabilities**

Higgs boson decay
Physicists working with the **Large Hadron Collider (LHC) particle-smasher** at CERN, reported that they had **detected a Higgs boson decaying into a Z boson particle and a photon** which is a very rare decay process.

The Higgs boson is a **subatomic particle that gives other particles mass**. The strength of a particle's interaction with the Higgs boson determines its mass. **For Example**, Electrons have a certain mass, protons have more, and neutrons have slightly more than protons because of their interactions with the Higgs boson. The **Higgs boson can also interact with other Higgs bosons, indicating its greater mass.**

Need for understanding Higgs Boson: The properties of the Higgs boson and how particles **interact with it can provide insights into the universe**.

Z boson and a photon: Virtual particles are particles that **briefly exist and cannot be directly detected but have lingering effects according to quantum field theory**. The creation of a Higgs boson at the Large Hadron Collider (LHC) involves interactions with virtual particles, resulting in the **production of a Z boson and a photon.** Photons, which are particles of light, **have no mass because they do not interact with the Higgs boson.**

Cyber attacks
- Cyber attacks expected to see substantial rise in the near future are **phishing, smishing, and vishing attacks**, followed by ransomware attacks and zero-day exploits.

- **Phishing scams** trick users into divulging sensitive data, downloading malware, and exposing themselves or their organisations to cybercrime.
- **Smishing** often involves sending bogus text messages – have a sense of urgency and request the recipient click on a link or reply with personal information.
- **Vishing** (voice or VoIP phishing) uses voice and telephony technologies to trick targeted individuals into revealing sensitive data to unauthorised entities.
- **Zero-day attacks** take place when hackers exploit the flaw before developers have a chance to address it.

"Quasi-moon"

A quasi-moon is a term used to **describe an asteroid or space rock that orbits** the sun in a similar time frame as Earth but is only **slightly influenced by Earth's gravitational pull**. It appears to accompany Earth during its yearly journey around the sun but is **not a natural satellite like the moon.**

About 2023 FW13:

It orbits the **sun in a similar time frame as Earth** but is only minimally affected by Earth's gravitational pull. Estimated to be 50 feet in diameter, it comes within 9 million miles of Earth during its orbit. The asteroid was first observed in March and has likely been travelling alongside Earth since around 100 B.C. It is considered to be the **longest-known quasi-satellite of Earth.** Although it is in **close proximity to Earth**, there is no imminent risk of a collision.

Phage therapy

Phage therapy is a treatment approach that uses **bacteriophages,** which are viruses that infect and kill specific bacteria. It involves using these viruses to **target and destroy bacterial infections**, serving as an alternative to antibiotics.

How do they function?

Phages are highly **specific in their action**, targeting only the specific bacteria they are programmed to attack, which can **potentially reduce the risk of antibiotic resistance**. Phage therapy has gained attention as a potential solution for **antibiotic-resistant infections** and is being explored as a promising avenue in medical research.

Bacteriophages are viruses that infect bacteria and use them as hosts for their replication. They are highly diverse and can target different types of bacteria. It was discovered by **Frederick Willian Twort in 1915 (**Great Britain) and Felix d'Herelle in 1917 (France)

Keeling Curve

The Keeling Curve is a record of atmospheric carbon dioxide (CO_2) concentrations measured at the Mauna Loa Observatory in Hawaii. It was initiated by scientist Charles David Keeling in 1958.

Flavanols

Flavanols are **a type of flavonoid, a class of compounds with antioxidant effects**. Flavonoids are a diverse group of phytonutrients (plant chemicals) found in almost all fruits and vegetables. They are known for their health benefits, **which are often attributed to their antioxidant, anti-inflammatory, and immune-boosting properties.**

A team of researchers recently discovered that a **diet low in flavanols** – a type of nutrient found in a variety of fruits, vegetables, and beverages such as tea, cocoa, or wine **– plays a fundamental role in driving age-related memory loss.**

Silent Barker

The US Space Force, in collaboration with the National Reconnaissance Office (NRO), is gearing up to launch a satellite constellation called Silent Barker. This constellation is specifically designed to address the growing concerns surrounding Chinese and Russian space vehicles that have the potential to disable or damage orbiting objects.

By deploying this constellation, the US Space Force aims to enhance its ability to detect, detect, and track potential threats against high-value US systems. The satellites of the Silent Barker constellation will be positioned approximately 22,000 miles (35,400 kilometers) above the Earth in geosynchronous orbit.

Varunastra Torpedo

In a significant achievement for the Indian Navy, the Varunastra, an indigenously developed ship-launched anti-submarine heavy-weight torpedo (HWT), has proven its capabilities through a successful test firing

The Varunastra torpedo, named after the Indian God of Oceans, is a state-of-the-art weapon designed to counter underwater threats. It was developed by the Naval Science and Technological Laboratory (NSTL) of the Defence Research and Development Organisation (DRDO).

During the latest trail, the Varunastra torpedo successfully hit its target after being fired from a submarine at a range of 40 kilometers. This remarkable achievement demonstrates the torpedo's accuracy and effectiveness in neutralizing submarine threats.

Economics

Strategic Oil Reserves

- A strategic oil reserve refers to a stockpile of crude oil or petroleum products that a country maintains as a strategic **measure to ensure energy security and stability in times of emergencies or disruptions in oil supply.**
- **The International Energy Agency (IEA)** recommends that all countries maintain emergency oil **stockpiles equivalent to 90 days of import protection.**

Statistics about Oil Reserves In India:

- India, the **world's third-largest consumer of crude, depends on imports for more than 85% of its requirement**.
- India currently has an **SPR capacity of 5.33 million tonnes or around 39 million barrels of crude**. India's strategic petroleum reserves (SPR) currently **provide around 9.5 days of oil requirement coverage.**
- Additionally, oil marketing companies in India have their storage facilities, providing an additional 64.5 days of storage, totalling **approximately 74 days of petroleum demand coverage.**
- India's strategic crude oil storages are currently located at **Visakhapatnam** (Andhra Pradesh), **Mangaluru** (Karnataka), **Padur** (Karnataka) and **Chandikhol in Odisha.**
- The construction of the **Strategic Crude Oil Storage facilities**in India is being managed by **Indian Strategic Petroleum Reserves Limited (ISPRL) (a** wholly owned subsidiary of Oil Industry Development Board (OIDB) under the Ministry of Petroleum & Natural Gas).

Payment System Operators (PSOs)

Payment System Operators (PSOs) are entities that facilitate the movement of funds between payers and payees in electronic payment systems. They provide the necessary infrastructure and technology to enable various payment transactions, such as online payments, card payments, mobile payments, and electronic fund transfers.

Examples: Popular PSOs like **PayPal, RuPay, Visa, Mastercard, and Paytm** act as intermediaries in processing and settling payments between buyers and sellers in online transactions.

About the guidelines:

- The proposed guidelines require PSOs to **implement inventory management**, approved cybersecurity measures, and crisis management plans, and comply with Basel standards.

- PSOs will have to **report any unusual incident** including those involving cyber-attacks, internal fraud etc. to RBI **within six hours of detection**.
- Provisions of these directions shall apply to **all authorised non-bank PSOs**.
- **The Board of PSOs** has been made responsible for ensuring adequate oversight over information

'Assured irrigation'

Assured irrigation refers to the **provision of reliable and guaranteed water supply** for agricultural purposes. Assured irrigation systems can include **canals, drip irrigation, sprinklers**, and other methods that efficiently deliver water to crops.

Importance of 'assured irrigation': It ensures that cultivated land has access to a sufficient and regular water source, reducing dependence on rainfall and minimizing the risk of crop failure due to water scarcity.

Data about water use:

- Agriculture accounts for about **80% of India's available water use of 700 billion cubic metres**
- The monsoon rainfall in **June-September**, which waters the Kharif or summer-sown crops, plays a crucial role in farm production.
- Agriculture accounts for about **18% of the national economy** and is the **largest employer.**
- **Out of the total irrigated area, 40%** is currently **watered through canal networks**, and **60% through groundwater.**

Ethics & Society

The practice of manual scavenging in India

Manual scavenging includes the disposal of human excreta manually from dry latrines, and public streets and the maintenance and sweeping of septic tanks, sewers and gutters.

Prevalence in India: As many as **58,000** people worked as manual scavengers as of 2018. **941 people have died since 1993** due to accidents while undertaking hazardous cleaning of sewer and septic tanks. The practice, which is considered the worst remaining evidence of untouchability, is **most prevalent among people from lower castes/Dalits.**

Salient features of the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act 2013:

- **It bans manual scavenging**.

- **It widened the definition of manual scavengers** by including it in all forms of manual removal of human excreta.
- **It lays** a **key focus on rehabilitating the manual scavengers** by organising training programs (at a stipend of Rs. 3000) and offering scholarships to their children.
- It makes the offence of manual scavenging **cognizable and non-bailable.**
- It makes it **obligatory for employers to provide protective tools** to the workers.

Best practice: The Bandicoot Robot is the world's first robotic scavenger, developed as a Make in India and Swachh Bharat Abhiyan initiative by the startup Genrobotics. **Kerala became the first state** in the country to use robotic technology (Bandicoot) to clean all its commissioned manholes.

Yakshagana

- Yakshagana is a **traditional theatre form of Karnataka.**
- It is performed with **massive headgear, elaborate facial makeup, and vibrant costumes and ornaments.**
- Usually recited **in Kannada, it is also performed in Malayalam as well as Tulu** (the dialect of south Karnataka).
- It is performed with percussion instruments like **chenda, maddalam, jagatta or chengila (cymbals) and chakratala or elathalam (small cymbals).**

Features

- It was performed by a special community known as **Jakkula Varu in the royal courts of the Vijayanagar dynasty.**
- The word Yakshagana is derived from the names **Aata Bayalaata, Kelike, and Dashavatara**.

Current Affairs Update (June 8-14)

National

Cyclone Biparjoy

- A cyclonic storm, **named Biparjoy**, has developed in the **Arabian Sea.** 'Biparjoy' was **suggested by Bangladesh** and the word **means 'disaster' or 'calamity' in Bengali**.
- A **cyclone is a low-pressure system that forms over warm waters**. Usually, a high temperature anywhere means the **existence of low-pressure air, and a low temperature means high-pressure wind**.
- The naming of **cyclones is done by countries on a rotational basis**, following certain existing guidelines.
- Worldwide, there are **six regional specialised meteorological centres (RSMCs) and five regional Tropical Cyclone Warning Centres (TCWCs)** mandated for issuing advisories and naming of tropical cyclones.
- IMD is one of the six RSMCs to provide tropical cyclone and storm surge advisories to 13 member countries under the WMO/Economic and Social Commission for Asia-Pacific (ESCAP) Panel including **Bangladesh, India, Iran, Maldives, Myanmar, Oman, Pakistan, Qatar, Saudi Arabia, Sri Lanka, Thailand, United Arab Emirates and Yemen.**

Menhir and megalithic burial sites

- The TN Department of Archaeology has declared **five 'menhir' (single stone) and megalithic burial sites** at Kodumanal in Erode district as protected monuments.
- A megalith is **a large stone** that has been used to construct (burial sites/ commemorative memorials) **a prehistoric structure or monument**, either alone or together with other stones.
- The majority of the megaliths in **India** are dated by archaeologists to the **Iron Age (1500 BC to 500 BC)**, while some sites date back as far as 2000 BC.
- Megaliths are spread across the Indian subcontinent. However, **the majority of megalithic sites are found in Peninsular India.**

JATAN

A MoU has been signed between the MeitY and Union Culture Ministry to complete 3D digitisation of all museums (under central control) by the year-end for better conservation of artefacts. The 3D digitisation would be done using the **JATAN** virtual museum builder software through **3D scanning**.

3D scanning: It means **analysing a real-world object or environment** to collect 3-dimensional data on its shape and possibly its appearance. The collected data is then **used to construct digital 3D models.**

About JATAN: JATAN is a **digital collection management system for Indian museums** designed and developed by **Human Centres Design and Computing Group**, Centre for Development of Smart Computing, **Pune**. It can create **3D virtual galleries and provide public access** through web, mobile or touchscreen kiosks.

Museums included:

- Salar Jung Museum, Hyderabad,
- The Allahabad Museum in Prayagraj,
- The Indian Museum and the Victoria Memorial Hall, Kolkata,
- The National Museum and the National Gallery of Modern Art, New Delhi.

Why Meghalaya is called the 'abode of clouds'?

Meghalaya is called the 'abode of clouds' because it receives heavy rainfall throughout the year, leading to a cloudy and misty atmosphere.

Geographical reason:

Meghalaya receives rainfall throughout the year due to its **geographical location and topography**. The region is surrounded by **hills and mountains**. It is influenced by the southwest monsoon winds that bring moisture from the Bay of Bengal. The hilly terrain and dense forests of Meghalaya act as barriers, causing the moisture-laden clouds from the Southwest monsoon to rise and condense, resulting in continuous rainfall. This geographical setup creates a **unique microclimate in Meghalaya**, making it one of the wettest places on Earth.

Mawsynram, in Meghalaya, receives the highest rainfall in India. It is reportedly the **wettest place on Earth**, with an average annual rainfall of 11,872 millimetres. **Mawsynram** lies in the **funnel-shaped depression** caused by the **Khasi range in Meghalaya**.

Renovation of Cochin Port

The Indian government has announced a **₹7,500 crore project** for the renovation and **modernization of Cochin Port**, one of the **critical ports for the country's economy**.

The project aims to make **Cochin a global hub for fish trade** and is funded through the **PM Matsya Sampada Yojana-Blue Revolution program** and the **Sagarmala scheme**. The project is part of **India's efforts to achieve ₹1 lakh crore worth of exports** from the **fisheries sector by 2024-25.**

Cochin Port is a major port on the **Arabian Sea – Laccadive Sea – Indian Ocean Sea route** in the city of Kochi and is one of the largest ports in India. It is also the **first and largest transhipment port** in India. The port lies on two islands in the Lake of Kochi: **Willingdon** Island and **Vallarpadam**, towards the Fort Kochi River mouth opening onto the Laccadive Sea. **Cochin Shipyard** is the largest shipbuilding as well as maintenance facility in India.

DPI

- DPI (Digital Public Infrastructure) refers to the **technological framework and systems** that enable digital transformation and provide essential digital services to the public. DPI encompasses various components such as digital identity (e.g., Aadhar), digital payments (e.g., UPI), data exchange, and other digital solutions that contribute to improving governance, inclusivity, and efficiency in public services.
- Global DPI Summit and Global DPI Exhibition were inaugurated by the Ministry of State in Electronics and IT and MSDE. Also, a meeting of the G20 Digital Economy Working Group (DEWG) is being held in Pune.
- The Digital Economy Working Group (DEWG), formerly known as DETF, was established in 2017 during the German G20 presidency. Its primary objective is to facilitate the development of a secure, interconnected, and inclusive digital economy.

Har Ghar Jal' programme

- Also called Nal Se Jal Yojana. It was launched in 2019
- The 'Har Ghar Jal' programme aims to provide safe and affordable tap water connections **to every rural household in India.**
- Under Jal Jeevan Mission (JJM) (Ministry of Jal Shakti). The scheme is based on a **unique model where paani samitis (water committee)** comprising villagers will decide what they will pay for the water they consume.
- **Aim:** Provide fully functional, **safe and affordable tap water connections** to every rural household in India by 2024
- B**urhanpur district** (MP) was the **first 'Har Ghar Jal' certified district** in the country; **Goa was the 1st State** to achieve **100% coverage**

Squash World Cup

The Squash World Cup, set to **take place in Chennai**, from June 13 to 17, is introducing some exciting changes to attract attention and engage more people in the sport. The tournament will feature a **mixed team competition and will be played in the format of a best-of-five game**, with each game played to **seven points instead of the usual 11**.

Squash is a **fast-paced racquet sport played** by two players (singles) or four players (doubles) on a four-walled court. The objective is to **hit a small rubber ball against the front** wall, making it difficult for the opponent to return.

World Test Championship final

- Australia convincingly **defeated India by 209 runs** in the World Test Championship final held at The Oval

- With this victory, Australia became the **second team, after New Zealand**, to win the prestigious Mace. This marks India's second consecutive loss in the WTC final.
- The World Test Championship is a **two-year cricket tournament where nine teams compete** to become the undisputed World Test champion. Each team **plays six series**, three at home and three away.

International

Ecocide

The **destruction of the Kakhovka Dam in Ukraine** is a fast-moving disaster, developing into a long-term environmental catastrophe (termed as **ecocide**) and worsening the ongoing Russia-Ukraine conflict.

The Kakhovka Dam:

- It was built in **1956 (under the Soviet Union) on the Dnipro River in Ukraine** (Kherson region) as part of the Kakhovka hydroelectric power plant.
- The reservoir of the dam supplies water to the **Crimean peninsula** (annexed by Russia in 2014) and **Zaporizhzhia nuclear plant** (Europe's largest and also under Russian control).
- There are different **theories behind the collapse of the dam** – **Ukraine blames Russia/** Russia blames Ukraine/for collapse due to earlier damage.

Impact of the collapse:

- **Floods and destruction:** The left bank of the Dnipro River remains under Ukrainian control, while the right side is controlled by the Russians.
- **Agriculture and global food security:** Often called the "**bread basket**" of the world, **64% of Ukraine's wheat** is exported to developing countries. The flooding is likely to make **arable lands unfit for agriculture** for years to come due to increased salinity in the soil, as well as **contamination of irrigation canals**.
- **Energy security:** Ukraine relies on its **four nuclear power plants**, considered to be a clean energy source, for over **half of its energy needs**. **The damage to the hydroelectric dam** is also a hit to the renewable energy resources in Ukraine.
- **Fresh water supplies: For example,** water levels in the North Crimea Canal, which brings fresh water from the Dnipro River to the Crimea peninsula, may decrease.

Hiroshima AI Process (HAP)

- The 2023 annual G7 Summit, hosted by Japan (Hiroshima), initiated the Hiroshima AI Process (HAP) – an effort to determine a way forward to regulate artificial intelligence (AI).
- It recognised the need to immediately take stock of the **opportunities and challenges of generative AI,** which is increasingly prominent across countries and sectors.
- **It encourages discussions** on generative AI in cooperation with the OECD and GPAI to conduct practical projects.
- **These discussions** could include topics such as **governance, safeguard of IPR** (including copyrights), response to foreign information manipulation (including disinformation) and responsible utilisation of these technologies.

Significance of the HAP:

- **It will highlight the shared values and standards** that can be used to derive guiding principles (fairness, accountability, transparency, and safety) for the regulation of AI.
- **AI development and implementation** will help in aligning with values such as freedom, democracy and human rights.
- **An emphasis on multi-stakeholder international cooperation** indicates that the HAP isn't expected to address AI regulation from a State-centric perspective.

Sudan

The fighting between the **Sudanese Armed Forces and the paramilitary Rapid Support Forces** has severely impacted Sudan's economy and led to shortages of essential resources. The clashes have resulted in numerous casualties, and the conflict has now spread to the troubled **region of Darfur**.

About the Darfur region: It is a **region in western Sudan** that has been plagued **by violent conflict and humanitarian** crises. The area has **experienced ethnic tensions** between Arab and African communities, leading to **widespread violence and human rights abuses**.

Serbia

The President of India, Smt Droupadi Murmu visited Belgrade, Serbia recently (1st by an Indian President)

Serbia, officially the Republic of Serbia, is a **landlocked country** in South-eastern and Central Europe, situated at the crossroads of the **Pannonian Basin and the Balkans**. **Countries bordering it are** Hungary, Romania, Bulgaria, North Macedonia, Kosovo, Croatia, Bosnia and Herzegovina, and Montenegro. The Rivers flowing through it are the **Danube, Sava and Tisa etc.**

TAPI gas pipeline

Pakistan and Turkmenistan have signed a **Joint Implementation Plan (JIP)** to accelerate the progress of the Turkmenistan-Afghanistan-Pakistan-India (TAPI) gas pipeline project. TAPI project aims to export natural gas annually through the pipeline from Turkmenistan (**Galkynysh gas field) to Afghanistan, Pakistan and India (Fazilka**). It is funded by the **Asian Development Bank (ADB)**.

Northern Sea Route (NSR)

Russia has unveiled plans to invest 2 trillion rubles ($24 billion) in the development of its Northern Sea Route (NSR) over the next 13 years

It connects the **eastern and western parts** of the Arctic Ocean. The NSR runs from the **Barents Sea**, near Russia's border with Norway, to the **Bering Strait between Siberia** and Alaska. NSR is different from the **Northwest Passage** which is a series of possible shipping routes connecting the **Atlantic and Pacific Oceans** through the **Canadian Arctic**. The entire route lies in Arctic waters and within **Russia's exclusive economic zone**. It is **one-third of the distance of the traditional route t**hrough the Suez Canal.

U.S. decides to rejoin UNESCO

The United States has announced its decision to rejoin the United Nations Educational Scientific and Cultural Organisation (UNESCO) and **pay over $600 million in back dues.**

Significance of the US rejoining UNESCO:

- **Financial boost:** US contributed **22% of the agency's overall** funding before leaving.
- **Global Leadership:** The U.S. brings substantial resources, expertise, and influence, which can help drive international cooperation and shape global agendas in these areas.
- **Counterbalancing China:** The U.S. rejoining UNESCO allows it to counterbalance China's growing influence within the organization.
- **Multilateral Engagement**: This move reinforces the importance of international cooperation and strengthens **diplomatic ties with other member states**.
- **Preservation of Cultural Heritage**: UNESCO plays a crucial role in preserving cultural heritage sites worldwide.

Miss World Pageant

The Miss World Organization recently announced that India has been selected as the host country for its upcoming competition, scheduled to take place later this year. In **1996**, the Miss World pageant made its way to India, marking a significant milestone for the country. This was the first time that India served as the host nation for this illustrious event. The pageant took place in Bengaluru, the capital of the southern state of **Karnataka**. The Miss World pageant was originally launched in Britain in 1951 during the Festival of **Britain**.

Atlantic Declaration

On June 8, the **United States and the United Kingdom** forged a new strategic pact to address pressing global challenges. This pact, known as the Atlantic Declaration, was adopted by US President **Joe Biden** and UK Prime Minister **Rishi Sunak**. The focus of this agreement is to tackle the rising influence of China, the aggressive actions of Russia, and economic instability that threatens both nations.

The Atlantic Declaration explicitly recognizes the challenges that threaten international stability. The agreement acknowledges the rise of authoritarian states, the disruptive influence of advanced technologies, the impact of non-state actors, and the transnational challenges posed by climate change. By addressing these concerns head-on, both nations aim to foster a more stable and secure global environment.

Developing Nation Status Act

The US Senate Foreign Relations Committee has recently approved bipartisan legislation known as the Developing Nation Status Act, which seeks to **remove China's "developing country" status**. This move follows a similar action taken by the US House of Representatives in March. The legislation has significant implications for China's position in international organizations and treaties

The act directs the Secretary of State to actively pursue changing China's status to that of a "developed country" in relevant agreements. Supporters of the legislation argue that China can no longer be considered a developing country due to its robust economy, military power, and extensive global investments. They contend that China has exploited its designation for an unfair advantage in multilateral negotiations, particularly evident in its Belt and Road Initiative.

However, China's foreign ministry asserts that it is not up to the US to decide its status, emphasizing that China's position as the world's largest developing country is grounded in facts and international law.

Science-Tech & Environment

Factors Causing Rapid Melting of Arctic Ice
- **Arctic Amplification:** It refers to the phenomenon where the Arctic region experiences more rapid warming compared to the rest of the planet
- **Albedo Feedback Loop:** Ice has high reflectivity (albedo) compared to land or water surfaces. Decreased ice cover reduces Earth's surface reflectivity, leading to more absorption of solar radiation and surface warming
- **Darker Ocean Surface:** Bright ice is being replaced by a darker open ocean surface in the Arctic. Less reflection of the sun's radiation, resulting in additional heating and ice loss
- **Melting permafrost:** As permafrost thaws, it releases stored greenhouse gases, such as methane, which contribute to additional warming.

- **Atmospheric circulation patterns:** Changes in atmospheric circulation patterns can transport warm air into the Arctic, further raising temperatures and melting ice.

Jagdish Bakan

- **Jagdish Bakan, the Wildlife Warden and District Forest Officer (DFO) of Ramanathapuram** district, has been awarded the **2023 Michel Batisse Award for Biosphere Reserve Management by UNESCO**.
- He is recognized for his work in managing the **Gulf of Mannar Biosphere Reserve**, known for its **diverse marine biodiversity**.
- Michel Batisse Award for Biosphere Reserve Management is a US$12,000 award, given **every two years** (by UNESCO), in memory of **Dr Michel Batisse**, for outstanding achievements in the management of the biosphere reserves in line with the recommendations of the **Seville Strategy**.
- **The basic principle of 'The Seville Strategy':** Biosphere reserves should preserve and generate natural and cultural values through management that is scientifically correct, culturally creative and operationally sustainable.

"Virgin Birth" by a crocodile

Scientists have documented the **first-known instance of a "virgin birth" by a crocodile,** which had been **living in isolation for 16 years at Costa Rican Zoo**. Scientists found DNA sequences showing it was a **result of facultative parthenogenesis or reproduction without the genetic contribution of males.**

 About Facultative Parthenogenesis:

Facultative parthenogenesis is the term for **when a female can produce offspring either sexually or via asexual reproduction**. The phenomenon of FP has also been **documented in other species of fish, birds, lizards and snakes**. The scientists said this **is the first-known example of a crocodile.**

Taurine

- Taurine is **an amino acid** that has a few important roles in your body, **including supporting immune health and nervous system function.**
- The scientific report suggests **taurine plays a role in reducing cellular senescence – where cells in the body stop dividing – a hallmark of ageing.**
- The nutrient also appeared to **keep mitochondria – the power stations in the body's cells – functioning.**
- Taurine is virtually non-existent in plants. So the nutrient **either comes from the animal protein in the diet or is manufactured by the body.**
- A recent study has shown that **Taurine – a nutrient found in meat, and fish and sold as a supplement** – extends life and boosts health in a range of animal species.

Life Cycle of a Star

A star is born from a dense cloud of gas and dust **called a nebula**. Through the process of nuclear fusion, it converts hydrogen into helium, releasing energy and emitting light. As the star **exhausts its hydrogen fuel**, it **expands and becomes a red giant**. In this phase, it **fuses helium into heavier elements** like **carbon and oxygen.**

 While smaller stars, like our Sun, eventually shed their outer layers and form a white dwarf. **Larger stars** undergo a **supernova explosion**, where their **cores collapse** and release an **immense amount of energy**. This explosion **disperses heavy elements into space** and may result in the formation of a **neutron star or a black hole**.

Recent research on the massive **red giant star Betelgeuse** suggests that it is in its late carbon-burning stage (near the end of its life) and may explode as a supernova within a few decades. **Betelgeuse** is a **red giant star located** in the constellation **Orion**. It is one of the **largest and brightest stars visible** to the naked eye.

Dimethyl Ether

- **Dimethyl Ether (DME) is a renewable and clean-burning alternative fuel** that can be used in various applications, including **transportation**. Under normal atmospheric conditions, **DME is a colourless gas**. It is produced from **natural gas, coal, biomass, or renewable sources** through a synthesis process.
- **Uses**: It is used extensively in the chemical industry and as a **solvent, fuel, and refrigerant (**ozone-friendly aerosol propellant to replace CFCs). DME has **properties similar to liquefied petroleum gas (LPG)** and can be easily stored and transported.
- Several countries, including **Japan, the USA, China, Sweden, Denmark, and Korea**, already use DME to power vehicles. However, the use of DME in internal combustion engines is relatively unexplored in India.
- Researchers at IIT Kanpur have developed **India's first 100% Dimethyl Ether (DME)-fuelled tractor/vehicle**, marking a significant step towards a sustainable alternative fuel-based transport system.
- The research is overheated by the **Science and Engineering Research Board (SERB)** (under the Department of Science and Technology (DST) and is aligned with the **'Methanol Economy'** program of NITI Ayog.

Vaccine-derived polio cases

These are instances where the poliovirus in the **oral polio vaccine (OPV) mutates and causes paralysis** in vaccinated individuals or spreads to others in the community. These cases occur when the weakened virus in the vaccine reverts to a form that can cause disease.

To address this, researchers have **genetically modified the weakened virus**, making it more resistant to causing paralysis. The modified vaccines **have shown promising results in human trials, providing more stability and addressing the instability concern (leading to Vaccine-derived polio cases.**

However, challenges **remain in achieving full coverage and delivering vaccines to impoverished and conflict-affected areas**.

Poliomyelitis, also known as polio, is an infection **caused by a virus (poliovirus**). It is a serious, highly contagious disease **that can affect a person's nervous system.** There are three types of **wild poliovirus**:

- **WPV 1: still exists but efforts are going on to eradicate it.**
- **WPV 2: eradicated.**
- **WPV 3: eradicated.**

Polio typically **affects children aged 5 years or younger**. It can result in **muscle weakness, permanent disability, and even death.**

Economics

Report on Price Policy for Kharif Crop 2023-24

India's Union government announced the minimum support prices (MSPs) for 17 crops in this year's Kharif season and CACP (Commission for Agriculture Cost and Prices) released **Report on Price Policy for Kharif Crop 2023-24**

Key Policy Recommendations:

- Promote Production and Consumption of Nutri-Cereals/ Millets (Shree Anna)
- Push Towards Pulses and Oilseeds (by launching National Mission on Edible Oils (NMEO))
- Promote rice cultivation in suitable areas and reduce the area under rice in Haryana, Punjab and western Uttar Pradesh
- Address Low Yield and Yield Gap Issues (by promoting integrated crop management, new technologies etc.)
- Improve Access to Institutional Agricultural Credit
- Bring urea under the nutrient-based subsidy (NBS) regime to address the issue of imbalanced use of nutrients in agriculture
- Expand Coverage of Crop Insurance [under PM Fasal Bima Yojana (PMFBY)]
- Accelerate Farm Mechanization [under the Sub-Mission on Agricultural Mechanization (SMAM)]
- Strengthen Market Intelligence and Outlook Systems [with the help of tech solutions like AI, Big Data analytics, Machine Learning, block chain]

SCORES

SEBI's Complaints Redress System (SCORES) portal encourages investors to lodge their complaints on SCORES instead of sending physical letters. SCORES doesn't deal with complaints against companies including Unlisted/delisted companies, sick companies or a company where a moratorium order is passed, or where the company is struck off by the Registrar of Companies (RoC).

About SEBI: The Securities and Exchange Board of India (est. 1988; HQ: Mumbai) is a statutory regulatory body for securities and commodity markets in India under the ownership of the Ministry of Finance.

Kari Ishad mango

- The Kari Ishad mango prominently grown in Ankola taluk of Uttara Kannada has bagged the Geographical Indication (GI) tag from the Geographical Indications Registry under the Union Government.
- According to the Geographical Indications Journal of the government, the Kari Ishad is accepted as one of the finest quality mangoes due to its unique aroma, luscious taste, high amount of pulp, shape, and size.
- A GI is primarily an agricultural, natural or manufactured product (handicrafts and industrial goods) originating from a definite geographical territory.

Ethics & Society

EU Commission proposes a common ethics body

The **European Union's (EU) executive arm proposed** to create an **ethics body that** would set up **common rules of conduct for institutions** after the cash-**for-influence scandal.**

With the establishment of the Ethics Body there will, for the first time**, be common standards for the ethical conduct of members and a formal mechanism for coordination and exchange of views on ethical requirements among institutions**.

The new Body will have three main tasks:

- **Develop common minimum standards**– applicable to the **members of participating EU Institutions and bodies**, as well as update them when needed.
- **Exchange of views on each institution's internal rules in light of the standards** to allow them to learn and benefit from each other's experience.

- **Promote a common ethics culture of all members of EU institutions**, facilitating the public understanding of the framework both to those inside and outside the institutions. Transparency will apply also to the application of these rules in the institutions.

The role of the state in regulating personal relationships and defining moral norms

- Minimal Intervention
- Protecting Individual Rights
- Promoting Public Morality
- Cultural and Democratic Influence

Statistics of Tourism in India

- Attracted only **11 million tourists in 2019**.
- India's Tourism is ranked **10th position in terms of its contribution to World GDP** (Gross Domestic Product) in the **World Travel and Tourism Council's report in 2019.**
- During 2019, the **contribution of travel & tourism to GDP was 6.8% of the total economy**.
- In FY20, the tourism sector in India accounted for **39 million jobs, which was 8.0% of the total employment in the country.**By 2029, it is expected to account for about 53 million jobs.

Current Affairs Update (June 15-30)

National

Why Sedition law is still relevant for India?

- **Threats to the unity and integrity** of the nation due to the presence of anti-national elements and divisive Forces such as naxals, terrorists and separatists who are receiving support from inside and outside the country.
- **Mere misuse cannot be a ground for repeal**, rather provisions should be made where such misuse is eliminated.
- **No other law covers sedition: S**pecial laws such as the **Unlawful Activities (Prevention) Act and the National Security Act** operate in different fields and do not cover the offence of sedition and therefore, the specific law on sedition is therefore needed.
- **Not really a draconian law:** Now after the Supreme Court's directions, its jurisdiction has been narrowed down. It can be applied only on grounds laid down by the court.
- **Application is a part of reasonable restrictions:** It is provided under Article 19 (2).
- **Does not really curb free speech:** One can use any kind of strong language in criticism of the government without inviting sedition. However, such dissent should not be turned into some kind of persuasion to break the country.
- Jurisdictions like the **US, Canada, Australia, UK, etc.,** have actually merged their sedition law with **counter-terror legislation.**

According to the **Section 124A of IPC**, Sedition is an act that brings or attempts to bring into hatred or contempt, or excites or attempts to excite disaffection **towards the Government** established by law in India by words, either spoken or written, or by signs, or by visible representation, or otherwise.

Arbitration and conciliation

- Under arbitration, the parties concerned, **instead of approaching courts, opt for private dispute resolution through arbitrators.**The decision of arbitrators is **binding**.
- **Conciliation is a (non-binding) process** in which a third party helps the parties in dispute to resolve it by way of agreement. The person authorised to do so is called a Conciliator.

Need to evolve alternative mechanisms:

- To reduce the burden of the Courts.
- To provide speedy access to justice along with the revival and strengthening of traditional systems of dispute resolution.

The government has set up an expert panel led by former law secretary **T K Vishwanathan** to recommend reforms in **the Arbitration and Conciliation Act, 1996**.

3 methods of dispute resolution:

- **Traditional Dispute Resolution:** Involves proceedings before an appropriate court of law according to the procedure established.
- **Alternate Dispute Resolution (ADR):** These are more flexible and party-centric and include **negotiation, mediation, conciliation and arbitration**,
- Hybrid Methods of Dispute Resolution

Punchhi Commission

- The government constituted the **Second Commission on Interstate Relations under the chairmanship of Justice (retired) Madan Mohan Punchhi**, former Chief Justice of India along with other eminent persons in 2007.

- The **Commission set up eight task forces to examine the Centre-state relations in depth**. Their Fifth Task Force studied **criminal justice, national security and Centre-state cooperation**.

- The Commission submitted its report in 2010, **but the government could not introduce constitutional changes recommended by the Punchhi Commission**.

The recent crisis in Manipur has **sparked renewed interest in the Punchhi Commission Recommendations**, which offer **potential solutions for effectively managing such situations.**

Main recommendations:

- Recommended the adoption of **"Localised Emergency provisions"** under **Article 355,** allowing the imposition of Central rule in a limited affected area of a state, such as a municipality or a district**, while the rest of the elected state government continues undisturbed.**
- Examined the possibility of enacting supporting legislation **under Article 355** to **enable the suo motu deployment of Central forces in states** when the situation demands.
- Suggested amendments to the **Communal Violence Bill** to include provisions **that state consent should not hinder the deployment of Central forces in serious communal riots.** However, the deployment should be limited to one week, with post-facto consent obtained from the state.
- Cited the example of countering the **Telangana insurgency in 1950,** where the entire administration, including law and order, of a portion of the state was given to the **Central Intelligence Bureau with a mandate to eliminate insurgents within six months.**

Gandhi Peace Prize for 2021

- The annual award was instituted by the Government of India in 1995 during the commemoration of the 125th birth anniversary of Mahatma Gandhi for those involved in social, economic and political transformation through non-violence.
- **Gita Press, Gorakhpur,** a prominent publisher of religious texts, has been awarded the Gandhi Peace Prize for 2021.
- **Reason:** The award recognises the publishing house's significant contribution to social, economic, and political transformation through non-violent and Gandhian methods.
- Gita Press is the world's largest publisher of Hindu religious texts. It is located in Gorakhpur city of India's Uttar Pradesh state. It was founded in 1923 by Jaya Dayal Goyanka and Ghanshyam Das Jalan for promoting the principles of Sanatana Dharma.

The Digital India Bill

The MeitY has been building consensus on the proposed Digital India Bill that will replace India's 23-year-old IT Act 2000.

Salient provisions of the Digital India Bill:

- Classification of intermediaries: Such as social media platforms, e-commerce platforms, AI platforms, and fact-checking platforms, to prescribe specific rules to different types of intermediaries. It requires intermediaries to undertake risk assessments and uses that information to bucket them into relevant categories.
- New Regulator for the Internet: On the lines of the TRAI or the SEBI.
- The MeitY could classify deliberate misinformation, identity theft, cyberbullying of children, etc., as offences.
- Penal provisions for violations and user harms related to emerging technologies, including generative AI platforms like ChatGPT.

Flash floods

- **Excessive or continuous rainfall** over a period of days or during particular seasons, can lead to **stagnation of water** and cause flooding.
- **Flash floods occur in a much shorter span of time** (say, when rainfall creates flooding in less than 6 hours) and are **highly localised**.
- Flash floods can also be caused by **factors apart from rainfall**, like when a dam overflows.

Causes of flash floods in India:

- **Nearly 75% of the total rainfall is concentrated over just four months** (June to September) → rivers witness a heavy discharge during these months.

- **Cloudbursts or thunderstorms and overflowing glacial lakes** (in Himalayan states formed due to the melting of glaciers).
- **Depression and cyclonic storms** in the coastal areas of Orissa, West Bengal, and Andhra Pradesh.
- **Flash floods may begin to take place after wildfires**. Wildfires destroy forests and other vegetation, which in turn weakens the soil and makes it less permeable for water to seep through.
- **Climate change/global warming** has increased the frequency/numbers of the above events**.**

International

India-US Partnership

Indian Prime Minister Narendra Modi's visit to the **United States marked a major step forward in India-US ties,** with several significant agreements and partnerships being established.

Key highlights:

- **High-Tech Partnership:** Semiconductor supply chain agreements; Introduced Indo-U.S. Quantum Coordination Mechanism to facilitate better collaboration among academia and industries;
- **Strategic Defence partnership; India – US Defence Acceleration Ecosystem (INDUS-X);**
- MoU between GE and HAL for manufacturing GE-F414 jet engines in India (with 80% technology transfer) to be used in Tejas Mk2
- Purchase of 16 armed MQ-9B SeaGuardian UAVs;
- India **signing the Artemis Accords for lunar and space exploration**; NASA provides **advanced training to Indian astronauts**;
- Strategic Framework for **human spaceflight cooperation by 2023 end**
- NASA and ISRO have agreed to launch a **joint mission to International Space Station in 2024**
- US-India **New and Emerging Renewable Energy Technologies Action Platform to** accelerate cooperation in green hydrogen and other emerging technologies.
- U.S. Agency for International Development is to **support Indian Railways' to become a "net-zero" carbon emitter by 2030**.
- India joins **Mineral Security Partnership (MSP)** to advance critical energy minerals supply chains globally, adhering **to environmental and social standards**.

Challenges in India-China ties
- India's concerns and suspicions regarding Chinese initiatives like the Belt and Road Initiative (BRI) and Chinese presence in the Indian Ocean.

- China's policy of building ports and naval bases in countries surrounding India's maritime reaches, which India sees as encirclement.
- Disputed border areas between India and China, including the Western, Middle, and Eastern sectors.
- China's construction of dams in the upper reaches of the Brahmaputra River leads to concerns over water sharing.
- India's support for the Tibetan government in exile led by the Dalai Lama, is not acceptable to China.
- China's increasing investments and trade with countries in South Asia challenged India's traditional influence in the region.
- India's trade deficit with China indicates difficulties in competing with Chinese manufactured goods.
- Obstacles faced by Indian companies in entering the Chinese market due to protectionist measures.
- China's opposition to India's entry into the Nuclear Suppliers Group, hindering India's nuclear ambitions.
- Concerns over Chinese investments in India's knowledge economy, raising privacy and data security issues.

Switzerland's Plan for carbon neutrality

Switzerland has supported a **new climate bill aimed** at achieving **carbon neutrality by 2050, with nearly 59% of voters in favour**. The law seeks to reduce dependence on imported oil and gas and promote **greener alternatives**.

UN adopts first ever High Seas Treaty

The United Nations has adopted the **High Seas Treaty**, the first-ever international treaty aimed at **protecting and governing activities** such as fishing, mining, and oil extraction in international waters.

The treaty, officially known as the **Biodiversity Beyond National Jurisdiction Treaty** (BBNJ), has been signed by **nearly 200 nations after 15 years of discussions**. However, the treaty still needs to be **ratified by at least 60 member nations to take effect**. The next ocean conference in **June 2025 in Nice, France,** is expected to witness the completion of ratifications.

Aim: Its purpose is to **prevent species extinctions** caused by overfishing, oil extraction, deep-sea mining, and other environmentally impactful activities on the high seas.

Important features:

- It establishes **Marine protected areas (MPAs)** and **puts more money into marine conservation** and new rules for mining at sea.

- Arrangements for **sharing marine genetic resources**, such as biological material from plants and animals in the ocean.
- Requirements for **environmental assessments**for deep sea activities like mining.
- **Richer nations have pledged money** for the delivery of the treaty. For example, the EU announced nearly 820m euros (£722.3m).
- It also includes **guidelines to measure the environmental impacts** of high sea activities like fishing and mining and requires **countries to present an assessment of those impacts to the UN** about any activities that the country is doing in international waters.
- A new group called the **Conference of Parties** will oversee and enforce compliance with the treaty's terms.

India's Interest in Egypt

India is looking **at increasing investments in the country**, especially in major infrastructure projects in and around the **Suez Canal**, and **special economic zones in Alexandria and Cairo**. India is planning to **supply LCA Tejas, missiles like Akash, DRDO's Smart Anti-Airfield Weapon** and radars.

India's West Asia Policy: India's West Asia Policy refers to the **strategic approach adopted by India** towards countries in the West Asian region. It aims to strengthen political, economic, and cultural ties with these nations through various initiatives and collaborations.

India's Interest in West Asia:

- India wants to **draw huge amounts of capital from Gulf nations**
- India wants to **curtail religious extremism** by supporting moderate countries in the region
- India supports **social reforms and encourages fair,** just and rule-based security politics in the area.

'Order of the Nile' award

The 'Order of the Nile' award is the 13th state honour that Prime Minister Narendra Modi has received during his nine-year tenure. The Order of the Nile was **established in 1915** and was one of the Kingdom of Egypt's principal orders until the monarchy was abolished in 1953. It was then reconstituted as the Republic of Egypt's highest state honour.

John Goodenough

John Goodenough, the **Nobel Prize-winning co-creator of the lithium-ion battery**, passed away at the **age of 100**. **Goodenough, Whittingham and Yoshino** received Nobel Prize in 2019 for Chemistry. Each had unique breakthroughs that laid the foundation for developing a commercial rechargeable battery.

Li-ion batteries **revolutionized technology by providing rechargeable power for various devices such as cellphones, computers, and electric cars**.

Mutual Legal Assistance Treaty

India and Belgium have signed a **Mutual Legal Assistance Treaty** allowing Belgian authorities to execute **search warrants issued by Indian courts and summon suspects**. The move is expected to **aid investigations into fugitives including Neeshal Modi**, brother of the Punjab National Bank (PNB) fraud mastermind, Nirav Modi.

Belgium is a federal state located in Western Europe, bordering the North Sea. Belgium shares borders with **France, Germany, Luxembourg and the Netherlands**. **Belgium** is divided into three regions: Flanders, Wallonia and Brussels.

EHAGL region

According to a UN report, **over 11 million people** have been displaced in **East Africa and the Great Lakes region (EHAGL)** in 2023.

Causes: The displacement is primarily caused **by climate shocks such as floods and droughts, as well as conflicts and violence.** Countries like Burundi, Ethiopia, Somalia, South Sudan, and Sudan have the highest numbers of internally displaced persons (IDPs).

Science-Tech & Environment

Global Financial Pact on Climate Change

Recently, a summit called the **'Global Financial Pact on Climate Change'** was held in Paris.

Aim of the summit: To boost **crisis financing for low-income states and ease their debt burdens, reform post-war financial systems** and free up funds to tackle climate change.

Outcomes of the summit:

- An additional lending capacity of **$200 billion for Multi-Development Banks (MDBs)** to support **emerging economies** in addressing climate challenges.
- **$100 billion is to be provided to poorer countries** through Special Drawing Rights (SDRs), an international reserve provided by the IMF.
- Announcement of a new **2.5 billion Euro Just Energy Transition Partnerships (JETP)** deal for **Senegal**, aimed at increasing the renewable share in the energy mix.
- Momentum on polluter taxes accelerated, promoting the implementation of **pollution taxes as a means to discourage environmentally harmful practices.**
- EU unveiled a **call to action on 'Paris Aligned Carbon Markets'** with the goal of **covering at least 60 per cent of global emissions** with carbon pricing mechanisms for climate alignment.

- Commitment to delivering the **long-overdue $100 billion climate finance goal** in the current year (2023) to support developing countries efforts.

Orchids

- Orchids can be found in various habitats around the world, including **tropical rainforests, mountains, and even deserts**. India has over 1200 species of Orchids (388 **are endemic to India**, out of which 128 are endemic to the Western Ghats). They are of 3 types:
- **Epiphytic**: They are **plants growing on another plant** including those growing on rock boulders and are often termed lithophytes. **About 60% of all orchids** found in India are **epiphytic**.
- **Terrestrial**: They are plants growing on land and climbers. These grow **directly on the soil and are found in large numbers** in temperate and alpine regions.
- **Mycoheterotrophic**: They are plants **which derive nutrients** from **mycorrhizal fungi** that are attached to the roots of a vascular plant.

Y chromosome

- Researchers have discovered that the Y chromosome **possesses genes linked to ageing and lifespan regulation.** The Y chromosome, known as the **"master of maleness,"** determines **the biological male sex and carries genes that play a role in sex determination.**
- Recent research has revealed that the Y **chromosome possesses genes vital to biological functions, including those related to ageing and lifespan regulation.**
- The **study of species that have naturally lost their Y chromosome**, such as rodents, provides insights **into sex-chromosome turnover and the repurposing of other chromosomes as sex chromosomes**.
- The genome sequences of Neanderthals indicate the replacement of the Y chromosome in modern humans, suggesting that the Y chromosome may eventually yield its role as the "master of maleness" to another chromosome.

ISRO to set up satellite terminals on fishing boats

NewSpace India Ltd, the commercial arm of the **Indian Space Research Organisation (ISRO),** plans to **enhance communication and monitoring in Indian waters** by setting up **mobile satellite service (MSS) terminals** on motorized and fishing boats across 13 coastal states.

The project aims to establish a d**edicated MSS satcom network for emergency communication, asset tracking, and surveillance.** The system will **utilize India's own navigation satellite system, NavIC**, and will include dedicated ground stations, satellite terminals, and Xponders for field deployment.

Significance:

- This initiative intends to **improve the security of fishermen, enhance national security, enable two-way communication with fishermen, provide periodic location access, issue weather alerts, identify international water border violations, and deliver accurate navigation alerts.**
- The Xponders will feature built-**in Wi-Fi and Bluetooth transceivers, and a multilingual app** is being developed for communication between the app and transponders.

Tapas UAV

- The **indigenously developed TAPAS 201 UAV** has achieved a major milestone as the **Defence Research Development Organisation (DRDO) and the Indian Navy** have successfully demonstrated transferring of command-and-control capabilities of the UAV.
- The indigenously developed **TAPAS 201 Medium Altitude Long Endurance (MALE) UAV** has been designed and developed by the **Bengaluru-based Aeronautical Development Establishment (ADE)**
- TAPAS 201, a **multi-mission UAV is being developed to carry out the Intelligence, Surveillance and Reconnaissance** roles for the **three Armed Forces with an endurance of 24 to 30 hours**.
- Dubbed the Indian version of the U.S. Predator drones, **TAPAS 201 is capable to carry different combinations of payloads like Medium Range Electro Optic, Long Range Electro Optic, Synthetic Aperture Radar, Electronic Intelligence, Communication Intelligence and Situational Awareness Payloads** to perform missions during day and night.
- The MALE UAV was **earlier referred to as RUSTOM**.

The Bonn climate change conference

Diplomats from around the world met once again in the German city of Bonn for climate negotiations before the UNFCCC's COP28 in Dubai, UAE.

The objective of the conference: To chart out a **massive and immediate climate action** plan to keep alive any realistic chance of meeting the 1.5-degree or 2-degree Celsius targets.

The key issue at Bonn – Global Stocktake (GST):

- Mandated by the **2015 Paris Agreement**, GST is an exercise aimed at **assessing the progress in the fight against climate change**, and deciding ways and means to enhance global action to bridge the adequacy gap.
- The Paris Agreement says GST **must be conducted every five years, starting in 2023.**

The argument of Annex I countries:

- Historical emissions happened at a time **when there were –No alternative to fossil fuel-based energy sources**. Little understanding or consensus on the harm caused by GHGs.
- Since 1992, **~57%** of the CO2 emissions had come from non-Annex I countries. **~70%** of the incremental warming due to emissions from CO2, methane and sulphur dioxide had come from

non-Annex I countries. Hence, bridging the adequacy gap was **not the sole responsibility of the developed nations.**

India outperforms the US and China in LEED net zero certifications

India has emerged as a top country with **LEED Zero green building projects**, outperforming **the United States of America and China**.

Key Findings:

- Out of 150 LEED Zero-certified projects, **India has 73 projects, accounting for 45% of the total. Haryana and Tamil Nadu** are the top states in terms of certifications.
- The United States and China follow with 47 (30%) and 15 (10%) certifications respectively.

About LEED Zero Green Building Projects:

- LEED Zero recognizes projects that have **achieved net zero or net positive status in carbon, energy, water, or waste categories**. India's strong position in LEED Zero projects **reflects its commitment to sustainability and aligns with its ambitious target of achieving net zero greenhouse gas emissions** by 2070.
- The building and construction sector in India accounts for **nearly one-third of the country's carbon emissions.** The LEED Zero projects in India include various types **of buildings such as offices, hospitality facilities, retail malls, manufacturing facilities, and data centres.**
- LEED Zero has four categories that recognize net-zero status in **carbon, energy, water, and waste over a 12-month period.**

Omicron-specific mRNA vaccine

- India's first **indigenous mRNA vaccine** for the **Omicron variant**, **GEMCOVAC-OM**, has been granted emergency use approval by the **Drug Controller General of India**.
- GEMCOVAC-OM has the **advantage of being stable at ordinary refrigeration temperatures**, and it **can be administered using a needle-free Pharma Jet system**.
- Clinical trial data submitted to the regulatory authorities indicated that the **vaccine has a strong safety profile and generates more neutralizing antibodies compared to Covishield**.

Cell cultivated meat

- Cell-cultivated meat involves i**solating cells that makeup chicken meat and providing them with the necessary resources to grow and multiply** in a controlled environment.
- The process takes place in a **bioreactor or cultivator**. The cells are then **processed with additives to enhance texture and appearance before being used in various recipes**.
- **Cell-cultivated chicken,** also known as **lab-grown meat**, has received approval from the **U.S. government** for production and sale by **two California-based companies**.

Significance:

- Lab-grown meat is being developed to **address concerns related to emissions, land use, animal welfare, food security, and customization**.
- It has the potential to **reduce greenhouse gas emissions** and **land use associated with traditional livestock farming.**
- It offers **customization options for healthier and more sustainable alternatives**.

Challenges: Achieving **consumer acceptance**, **reducing costs, and ensuring the availability of high-quality cells** and resources for production.

Wild Foods

Wild foods are food items that are gathered or harvested from natural environments such as forests, fields, or water bodies. These foods are **not cultivated or cultivated with human intervention**. Examples of wild foods include **berries like blackberries and raspberries, mushrooms like morels and chanterelles**

Drugs harmful to vultures

The ban on veterinary drugs **aceclofenac and ketoprofen**, which are **harmful to vultures**, has been widely supported by vulture conservationists and experts.

Vultures are **medium- to large-sized birds of prey.** They are known for **eating carrion** (the bodies of dead animals).

Rescue Centres: Four rescue centres have been established, in Pinjore (Haryana), Bhopal (Madhya Pradesh), Guwahati (Assam) and Hyderabad (Telangana).

Gangotri National Park (GNP)

Gangotri National Park (GNP) in Uttarakhand, has decided to transfer **approximately 50 hectares of land to the Army and Indo-Tibetan Border Police (ITBP)** for the development of new bunkers and border outposts near the Line of Actual Control (LAC).

The park was established in 1989 in Uttarkashi, Uttarakhand. It is located in the upper catchment of the Bhagirathi River and includes Gaumukh at Gangotri Glacier, the source of the river Ganga. The park serves as a connecting link between Govind National Park and Kedarnath Wildlife Sanctuary.

Lab Grown Diamond

- Prime Minister Narendra Modi gifted a **7.5-carat lab-grown diamond** to U.S. First Lady Jill Biden during his state visit. The diamond was manufactured in a **Surat factory in Gujarat**, using a process that replicates the formation of natural diamonds beneath the earth's surface.

- **India is a leading player in growing lab-grown diamonds**, with exports reaching over **$1.67 billion**.
- Lab-grown diamonds offer a more affordable alternative to natural diamonds and are considered eco-friendly.
- They are around **20% cheaper than their naturally-formed equivalent**
- India is the largest producer of lab-grown diamonds through **CVD technology** and contributes to nearly **25% of global LGD production through CVD technology**.
- But overall, India accounts for **15% of the global production of LGD**

Economics

UNDP's Gender Social Norms Index (GSNI) 2023

First introduced in the **2019** Human Development Report, GSNI provides an in-depth account of the **root causes of gender inequality** that hinder progress for women and girls.
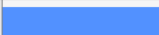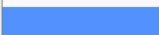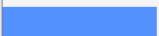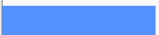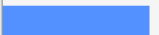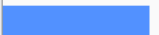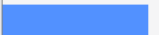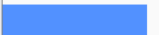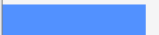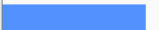
It covers 4 key dimensions – political, educational, economic and physical integrity – to highlight areas where women and girls face systematic disadvantages and discrimination.

Highlights of the GSNI 2023:

- Half of people worldwide still believe **men make better political leaders than women.**
- Over 40% believe **men make better business executives** than women.
- A staggering 25% of people believe it is justified for a man to beat his wife.
- The share of women as heads of state or heads of government **has remained around 10%** since 1995.
- In the labour market, **women occupy less than a third of managerial positions**.

Global Gender Gap Report 2023

- According to the annual Gender Gap Report 2023 (17th edition) of the **World Economic Forum (WEF)**, India was ranked **127 out of 146 countries** in terms of gender parity – an improvement of 8 places from last year.
- It is an annual index first published in **2006** by the WEF **to measure gender equality.**
- **It assesses countries** on how well they are dividing their resources and opportunities among their male and female populations, regardless of the overall levels of these resources and opportunities.
- For the 14th consecutive year, **Iceland (91.2%)** takes the top position. It also continues to be the **only country** to have closed more than 90% of its gender gap.

Rank	Country	Score		Score change	Rank change
		0–1		2022	2022
1	Iceland	0.912		+0.004	-
2	Norway	0.879		+0.034	+1
3	Finland	0.863		+0.003	-1
4	New Zealand	0.856		+0.014	-
5	Sweden	0.815		-0.007	-
6	Germany	0.815		+0.014	+4
7	Nicaragua	0.811		+0.001	-
8	Namibia	0.802		-0.005	-
9	Lithuania	0.800		+0.001	+2
10	Belgium	0.796		+0.003	+4

Global Startup Ecosystem Report 2023 (GSER 2023)

The Global Startup Ecosystem Report 2023 (GSER 2023) is an **in-depth analysis** of startup ecosystems worldwide. It provides insights **into leading ecosystems**, emerging trends, and challenges faced by entrepreneurs. GSER 2023 offers actionable recommendations for entrepreneurs, investors, policymakers, and stakeholders.

Key insights from the report include:

- **Silicon Valley, New York City, and London** maintain their top positions in the global startup ecosystem rankings.
- **Chinese ecosystems** have experienced a **decline in rankings**, with Shenzhen, Beijing, and Shanghai dropping in the overall standings.
- **Indian ecosystems, particularly Mumbai, Bengaluru-Karnataka**, and Delhi, have shown positive growth in the rankings.
- **Mumbai move 5 places up while Bengaluru was ranked 20th in terms of Startups.**

Global Liveability Index 2023

The Economist Intelligence Unit (EIU) has released its ranking of the "**Most Liveable Cities in the World 2023**"

The major findings of the report are:

- **Vienna, Austria**, has been named the **most livable city** for the second consecutive year due to its exceptional quality of life, including stability, infrastructure, education, healthcare, and cultural offerings.

- **Copenhagen, Denmark**, secured the **second position**, followed by **Melbourne and Sydney** in Australia.
- **From India**, **New Delhi and Mumbai** are at **141st position and Chennai at 144th**. Ahmedabad and Bengaluru are ranked 147 and 148.
- **Damascus** was ranked the **least livable** due to **civil unrest and conflicts**

India-US Trade Dispute at WTO

India and the United States have resolved to end their six trade disputes at the World Trade Organisation (WTO).

 The six disputes include:

Those initiated by India

- Countervailing measures on certain hot-rolled carbon steel flat products from India
- Measures relating to the renewable energy sector
- Certain measures on steel and aluminium products

Those initiated by USA:

- Certain measures relating to solar cells and modules
- Export-related measures
- Additional duties on some products from the US

Pending dispute: The one pending case is the poultry case where both India and the US remain involved in discussions to find a solution by the end of this year.

The WTO dispute settlement process involves three stages:

- Consultations between the parties
- Establishment of a dispute settlement panel if consultations fail
- Adjudication by panels.

The rulings or reports of the panels can be **challenged by the WTO's appellate body.** However, the functioning of the **appellate body is currently affected due to the USA blocking appointments to it**. The final stage is the **implementation of the ruling**. As an alternative to the Appellate body, members have formed **Multi-Party Interim Appeal Arbitration Arrangement (MPIA)**

Greedflation

It refers to a situation where **corporate greed fuels inflation**. Instead of the **traditional wage-price spiral,** it is the **profit-price spiral that drives inflation**. In developed countries like Europe and the US, there is a growing consensus that **greedflation is a significant factor contributing to inflation.**

Impact of Greedflation: It leads to higher inflationary pressures, financial strain on individuals, and reduced purchasing power. It undermines trust in businesses, distorts market dynamics, and hampers economic stability and growth.

Reforming Multilateral Development Banks

At the end of WWII, delegates from 44 countries met in Bretton Woods (US) to agree upon a series of new rules for international cooperation and reconstruction. This led to the creation of the **IMF and World Bank Group (WBG)** in **1944**. The latter was responsible for providing **financial assistance for the post-war reconstruction and economic development** of the less developed countries. **While the WBG is the oldest and the largest MDB**, there are ~15-16 prominent MDBs and Regional development banks (RDBs) today.

Relevance of MDBs:

- **Credible institutions** to support the development of both MICs and LICs amid far-reaching geopolitical changes, economic crises and uncertainties.
- The two traditional goals shared by all multilateral institutions have been the **elimination of poverty and fostering of shared prosperity.**

Challenges faced by MDBs:

- **No longer suited** in terms of the resources, cultural ethos and methods to address the emerging challenges – global public goods, climate change and pandemics.
- MDBs are in a state of **stagnation, trapped in their procedures, approach and methods** of work and resistant to structural changes.

Ethics & Society

Technology Facilitated Gender Based Violence (TFGBV)

- Technology Facilitated Gender Based Violence (TFGBV) refers to the **use of technology, such as the internet, social media platforms, or mobile devices**, to perpetrate acts of violence, harassment, stalking, coercion, or abuse against individuals based on gender or sexual identity.
- **Existing social norms and the widening gender digital divide** increase the vulnerability of groups already vulnerable to online violence.

Issues with the present legal framework:

- **India's present legal frameworks** are not equipped to tackle internet-based harms.
- **The Indian Penal Code, 1860**, and the **Criminal Procedure Code, 1973**, were enacted to address physical harm, but they are **also being applied in the online space**.

- **The Information Technology Act, 2000**, was promulgated in the early days of the internet and as such **unable to deal with the recent nature**, forms and volume of online violence.
- None of these laws specifically addresses **the issue of gender violence** in tech space.

Types of dark patterns in advertisements

Dark Pattern	Description	Example
Drip Pricing	Increasing the price of a product after customers commit to buying	Showing a **low initial price but adding extra charges** at checkout
Disguised Ads	Designing ads to resemble other content	**Placing an ad that** looks like a news article or social media post
Bait and Switch	Replacing a selected product with a similar, less desirable one	**Adding a popular item to the cart and replacing it** with an inferior product before checkout
False Urgency	Creating a sense of limited availability or time-sensitive offer	Displaying a countdown timer or **"limited stock"** message to pressure immediate purchase
Hidden Costs	Concealing **additional charges or fees**	Not **disclosing shipping or handling fees** until the final checkout
Sneaking	Adding extra items or services to a customer's purchase without clear consent	Automatically including a **subscription or add-on during** the checkout process

Kamala Sohonie

Kamala Sohonie was the **first Indian woman to earn a PhD in a scientific discipline.** She faced **gender bias** within the scientific community, including opposition from **CV Raman, a Nobel laureate**. Despite Raman's initial rejection, Sohonie confronted him and eventually **gained admission to the Indian Institute of Science**. She completed her course with distinction and went on to **study at Cambridge University**, where she made significant contributions to **biochemistry**.

Sohonie's research focused on **neera**, a palm extract with the potential for **combating malnutrition in tribal communities.** She also worked on improving the quality of milk produced by the **Aarey Milk project.**

What is plant literacy?

Plant literacy refers to the understanding and knowledge about plants, including their structure, functions, adaptations, and ecological importance. It involves being aware of the role plants play in various ecosystems, their interactions with the environment, and their significance for human survival.

"Professor of Practice"

- A **"Professor of Practice"** is an individual with significant experience in a specific **profession or industry** who is appointed to a faculty position at a university.
- Unlike traditional academic professors, they are often **hired from outside academia** and may not be required to have **advanced research degrees**. The role of a Professor of Practice is to bring **real-world insights, practical knowledge, and industry perspectives** into the classroom.
- The concept has been institutionalized by the **University Grants Commission (UGC)** and aims to **bridge the gap between academia and the professional world**, fostering an entrepreneurial university environment.

New CSR guidelines 'Sagar Samajik Sahayog'

The Union Minister of Ports, Shipping & Waterways and Ayush has launched the new guidelines for **Corporate Social Responsibility (CSR) called 'Sagar Samajik Sahayyog'.**

About the guidelines:

- The guidelines **empower ports to directly undertake CSR**
- **Ports with a turnover less than ₹100 crores** should **spend 3-5%, those** with a turnover less than ₹500 crores should spend **2-3%,** and ports with a turnover more than ₹500 crores should spend 0**.5-2% on CSR initiatives**.
- **Priority Areas**: Allocating a portion of CSR funds for Sainik Kalyan Board, National Maritime Heritage Complex, National Youth Development Fund, and various social and environmental welfare programs.

The implementation and monitoring of CSR projects will be overseen by a **Corporate Social Responsibility Committee constituted in each major port. India has 13 major ports and 205 notified minor** and intermediate ports.