

**ENVIRONMENT**

EXPANSION OF GLACIAL LAKES IN HIMALAYAS  
CENSUS TO ESTIMATE BLUE SHEEP AND HIMAYAN IBEX  
CLIMATE TECHNOLOGY CENTRE AND NETWORK  
MIYAWAKI METHOD  
INTERGOVERNMENTAL NEGOTIATING COMMITTEE MEETING  
WORLD HYDROGEN SUMMIT 2024

**POLITY**

COMPETITION COMMISSION OF INDIA  
SC PERMITS ABORTION BEYOND 24 WEEKS OF PREGNANCY  
CHILD CARE LEAVES

**ECONOMY**

TOP STARTUP CITIES  
PAYMENT AGGREGATOR  
COMPULSORY CONVERTIBLE DEBENTURES  
INHERITANCE TAX  
ASSET RECONSTRUCTION COMPANY

**INTERNATIONAL RELATIONS**

VETO ON WEAPON FREE STATE  
INTERNATIONAL CRIMINAL COURT  
BIMSTEC CHARTER

**SCIENCE AND SPACE TECHNOLOGY**

DOPPLER RADAR GUNS  
EVTOL(ELECTRIC VERTICAL TAKE OFF AND LANDING) AIRCRAFT  
TRAI RECOMMENDATION ON TELECOMMUNICATION  
CENTRE FOR CELLULAR AND MOLECULAR PLATFORMS (C-CAMP)  
50 YEARS OF ARYABHATTA LAUNCH  
SPECULOOS-3B  
ARTIFICIAL INTELLIGENCE ACT  
GRAPHITE

**HEALTH/ AGRICULTURE**

WHO REPORT IN GLOBAL IMMUNIZATION  
MAXIMUM RESIDUAL LIMIT OF PESTICIDES ON HERBS AND SPICES  
BACTERIAL PATHOGENS PRIORITY LIST  
PSYCHEDELIC DRUGS IN INDIA  
MATERIOVIGILANCE PROGRAMME OF INDIA PLATFORM  
PRE-ECLAMPSIA  
MALARIA VACCINE R21/MATRIX-M

**DEFENCE**

CRYSTAL MAZE 2

TRENDS IN MILITARY EXPENDITURE REPORT 2023

**MISC**

TRAVEL AND TOURISM DEVELOPMENT INDEX 2024

INTERNATIONAL BOOKER PRIZE

GANGA JATRA – TRIPURA FOLK FESTIVAL

**PLACES IN NEWS**

STRAIT OF GIBRALTAR

PHAWNGPUI NATIONAL PARK

KOUNDINYA WILDLIFE SANCTUARY

UJANI DAM ON BHIMA RIVER

NEW CALEDONIA

**PERSONS IN NEWS**

PANDITA RAMABAI

DR SARVEPALLI RADHAKRISHNAN

NARSIMHA GOPALASWAMI AYYANGAR

PURNIMA DEVI BARMAN

**SPECIES IN NEWS**

NEPTIS PHILYRA

GOLDEN TREVALLY

ORCA

GREATER ADJUTANT STORK

MEITEI SAGOL (MANIPURI PONY)

PHTHEIROSPERMUM LUSHAIORUM

NAEGLERIA FOWLERI

## EXPANSION OF GLACIAL LAKES IN HIMALAYAS

As per ISRO, long-term satellite imagery covering the catchments of Indian Himalayan river basins from 1984 to 2023 indicates significant expansion of glacial lakes.

- Indian Himalayas are often called Third Pole because of extensive glaciers and snow cover.
- Satellite remote sensing technology is crucial for understanding glacier retreat rates, assessing Glacial Lake Outburst Floods (GLOF) risks, and gaining insights into climate change impacts.

### Key observations

- Glacial Lake is a body of water that originates from melting of glacier.
- Based on their formation process, they are grouped into four broad categories, namely
  - Moraine-dammed (water dammed by moraine),
  - Ice-dammed (water dammed by ice),
  - Erosion (water dammed in depressions formed by erosion), and
  - Other glacial lakes.
- Material, usually soil and rock, left behind by moving glacier is called Moraine.
- Of the 2,431 lakes, 676 glacial lakes have expanded since 1984.
- 130 of these lakes are situated within India in Indus, Ganga, and Brahmaputra River basins.
  - Among 676 expanding lakes, majority of them are Moraine-dammed followed by Erosion dammed glacial lakes.
- Glacial lakes are freshwater sources for rivers in Himalayan region. However, they also pose significant risks like GLOFs.
- Indian Space Research Organisation (ISRO) tracks notable expansion of glacial lakes in Indian Himalayas '**Ensuring safety and health at work in a changing climate**' released by International Labour Organization (ILO)

### About GLOFs

- GLOFs occur when glacial lakes release large volumes of melt-water due to failure of natural dams, such as those made of moraine or ice, resulting in sudden and severe flooding downstream.

- These dam failures can be triggered by various factors, including avalanches of ice or rock, extreme weather events like global warming, earthquake etc.
- GLOFs are recognized as a potential climatological disaster in National Disaster Management Plan 2019 of India.

## CENSUS TO ESTIMATE BLUE SHEEP AND HIMALAYAN IBEX

The census to estimate blue sheep and Himalayan ibex populations has begun in **Himachal Pradesh's Lahaul & Spiti district**.

- Wildlife authorities are using the double observer survey technique to conduct the survey in the challenging terrain

### About Blue Sheep:

- **The Bharal, or blue sheep, is a Himalayan caprine species** with the scientific name *Pseudois nayaur*, the sole member of its genus.
- Found in the **high Himalayas**, it inhabits regions across **India, Bhutan, China, Myanmar, Nepal, and Pakistan**.
- Bharal are medium-sized, with males slightly larger than females, and sport a slate grey coat with white underparts and black markings.
- Their **distinctive horns curve** upwards and then backwards.
- **Bharal are diurnal and active throughout** the day, grazing and resting on mountain slopes.
- Conservation status: **Least Concern on the IUCN Red List** and are protected under the Wildlife Protection Act of 1972 in India.



### About Himalayan Ibex:

- **The Himalayan ibex, a subspecies of the Siberian ibex**, is native to the Himalayan region spanning India, Pakistan, Tibet, and Nepal.
- Scientifically known as *Capra sibirica hemalayanus*, it thrives in **high-altitude areas between 3,000 and 5,800 meters**.

- In India, it's primarily found in **Jammu and Kashmir, Himachal Pradesh, and Uttarakhand.**
- These sturdy wild goats **weigh about 90 kg**, stand 40 inches tall, and sport large curved horns with notches.
- Their coat ranges from **light brown to reddish-brown**, with a woolly texture in winter.
- Typically found in small herds, they can reach **speeds of up to 50 km/h.**
- The Himalayan ibex is classified as **Near Threatened on the IUCN Red List.**



## CLIMATE TECHNOLOGY CENTRE AND NETWORK (CTCN)

Climate Technology Centre and Network (CTCN) marks its 10th anniversary.

### About CTCN

- Headquarters: Copenhagen, Denmark.
- Established in 2014, it is the implementation arm of Technology Mechanism of the United Nations Framework Convention on Climate Change.
  - Technology Mechanism was established in 2010 for accelerating and enhancing climate technology development and transfer.
- It is hosted by the UN Environment Programme.
- It promotes accelerated transfer of environmentally sound technologies for low carbon and climate resilient development at the request of developing countries.
- The CTCN is a **demand-driven mechanism** as its services are offered upon request by developing countries, and the volume and **specific nature of activities** ultimately **depends on countries' requirements** and needs.
- The CTCN **consists of two parts: a centre—a coordinating entity located in UN City Copenhagen—and a worldwide network of**

**organizations** that delivers CTCN services—both virtually and actually.

## MIYAWAKI METHOD

Embassy of Israel in India joined 'Million Miyawaki' project, a community-led initiative aimed at improving air quality in Indian cities through mass afforestation urban spaces.

### About Miyawaki

- Method based on work of Japanese botanist Akira Miyawaki, it enhances green cover within a limited area.
- It involves cultivating multi-layered forests that exhibit rapid growth and replicate natural biodiversity found in native forests.
- Such forests lack some qualities of natural forests, like medicinal properties and ability to bring rain.
- **Benefits:** Mitigate ecological impact of mining activities, creating carbon sinks, etc.

## INTERGOVERNMENTAL NEGOTIATING COMMITTEE MEETING

Recently, the fourth session of the **Intergovernmental Negotiating Committee (INC-4) of the United Nations Environment Agency (UNEA)** was held in **Ottawa, Canada** attracting participation from over 170 member states.

- United Nations Environment Assembly adopted a resolution in 2022, mandating the creation of an INC to develop a legally binding instrument to end plastic pollution across its life cycle.

### About Plastic Pollution

- Annual plastic production has doubled from 234 million metric tonnes (MMT) in 2000 to 460 MMT in 2019 and is set to reach 1,261 MMT by 2060.
- China (32%) has evolved as a hub for plastic manufacturing in 2022.
- **India ranked third globally, contributing 5.5 million tonnes of single-use plastic (SUP) waste**, with per capita single-use plastic waste of 4 kg per year.

### Initiatives to combat plastic pollution Global

- **Basel Convention:** To regulate movement and disposal of hazardous waste, including plastic waste.

- **Global Partnership on Marine Litter:** To share knowledge and coordinate effort to reduce marine litter.

### India

- **Plastic Waste Management Rules, 2016:** Mandate implementation of Extended Producer Responsibility (EPR) by producers, importers, and brand owners. EPR was introduced as an important feature in E-waste (management & handling), Rules 2011.
- Ban on SUP products, including plastic bags, straws, cups, and plates.
- Campaigns like "Beat Plastic Pollution" and "Plastic-Free India".

### Chemicals used in plastics and its human impact

- **Vinyl chloride** monomer in liquid and vapour form increases risk of liver and brain cancer.
- **Benzene** and **butadiene** cause leukemias and lymphomas.
- **Styrene** is neurotoxic and a possible human carcinogen.

### Intergovernmental Negotiating Committee (INC)

- The INC is a committee established by the **United Nations Environment Programme (UNEP)** in March 2022 to develop an **international legally binding agreement on plastic pollution**.
- The INC's mandate is to develop an instrument that addresses the entire life cycle of plastic, including in the marine environment, and could include both voluntary and binding approaches.
- The INC-1 started in November 2022 in Punta del Este, Uruguay.
- The INC-2 occurred in May-June 2023 in Paris, France.
- The INC-3 convened in Nairobi in December 2023.

## WORLD HYDROGEN SUMMIT

World Hydrogen Summit 2024 held in Rotterdam, Netherlands

- The summit featured India's Ministry of New & Renewable Energy showcasing advancements in green hydrogen technology at its pavilion.
- **India's initiatives:**
  - National Green Hydrogen Mission (NGHM) in 2023
  - Strategic Interventions for Green Hydrogen Transition Programme (SIGHT)
  - Hydrogen Valley Innovation Clusters



- **Hydrogen**, a colourless, odourless, tasteless, and flammable gas, is the most abundant element in the universe and the third most abundant on Earth's surface, resembling alkali metals and halogens.

## COMPETITION COMMISSION OF INDIA

At the **15th Foundation Day event of the Competition Commission of India (CCI)**, the Attorney General of India highlighted the challenges digital markets pose for global competition regulators.

### **About the Competition Commission of India:**

- The Competition Commission of India (CCI) is a regulatory body established by the Government of India to enforce the Competition Act, 2002.
- Composition:
  - It has the composition of a quasi-judicial body, with one chairperson and six additional members.
  - All members of the CCI are appointed by the Central Government.
- Headquarters: New Delhi
- Its primary objective is to promote and sustain competition in markets, protect the interests of consumers, and ensure freedom of trade.

## SUPREME COURT (SC) PERMITS ABORTION BEYOND 24 WEEKS OF PREGNANCY

Observing that pregnancy outside marriage, especially in cases of sexual assault, is injurious and a cause of stress, the **Supreme Court of India** allowed a rape survivor from Gujarat to terminate her **27-week pregnancy**.

- SC used special powers under **Article 142** to allow a medical termination of a 14 year old minor who survived rape.
- Relief is rare as abortion law in India caps the upper limit for termination of pregnancy at 24 weeks.

### **About India's law on abortion**

- Medical Termination of Pregnancy (MTP) Act 1971 provides for the termination of certain pregnancies by registered Medical Practitioners.
- 2021 amendment of MTP Act raised the upper gestation limit from 20 to 24 weeks.
- Further,



- Opinion of 1 doctor is required where gestation period does not exceed 20 weeks.
- Opinion of 2 doctors is required where gestation period is between 20 to 24 weeks.
- After 24 weeks of pregnancy, a medical board has to be set up in “approved facilities”.
- MTP (Amendment) Rules, 2021 lists categories of forced pregnancies, like
  - Rape in case of minors or sexual assault or incest;
  - Women with disabilities;
  - When there is a change in marital status of women during pregnancy etc.
- Recent judgement holds significance as it ensures dignity, autonomy, confidentiality and justice for women who need to terminate pregnancy

**Article 142:** It provides a unique power to the SC, to do “complete justice” in any case before it, where, at times, the law or statute may not provide a remedy.

### CHILD CARE LEAVE

Recently, a 2-judge bench of the SC directed the government of Himachal Pradesh to review its policies on CCL concerning working mothers, especially mothers of children with special needs.

- This ruling brings into focus the often overlooked issue of unpaid care work performed disproportionately by women.
- In India, women shoulder a staggering **84%** of the total time devoted to **unpaid care work**.
- This colossal burden of invisible, uncompensated, undervalued and unrecognised labor is the backbone of the **nation's care economy**.
- **Key highlights** of the SC Directive Court observed that where the state is the employer of a working mother, it cannot be ignorant of her responsibilities at home while serving the state.
- Participation of women in workforce is a constitutional entitlement protected by Article 15 of the Constitution.
  - **Article 15** provides that State shall not discrimination on grounds only of religion, race, caste, sex, place of birth, or any of them.

- Maternity benefits given for delivering the child were not sufficient and are perhaps distinct from the concept of CCL.

### **About Child Care Leave (CCL)**

- Rule 43-C of the Central Civil Services (Leave) Rules, 1972 provides for 2 years (730 days) of CCL to female employees with children under 18 years of age to look after their kids.
  - This leave can be used for any child-related needs like exams or illness.
  - State of Himachal Pradesh has not adopted these provisions of CCL. There's no age limit in case of disabled child.

### **Maternity Benefit (Amendment) Act, 2017**

- Provides for 26 weeks of paid maternity leave to women workers.
- Out of these 26 weeks, not more than 8 weeks shall be preceding the expected date of delivery.

## **TOP STARTUP CITIES**

PitchBook recently released its **2024 global Venture Capital ecosystem rankings**, spotlighting the top 50 startup cities worldwide.

- **Mumbai secured the 32nd spot, Bengaluru ranked 34th, and Gurugram made it to 48th place.**
- The report highlights a **surge in innovation and growth** in the global startup landscape, attracting significant investments and fostering multi-billion-dollar valuations.

### **The top five cities were:**

1. San Francisco Bay Area, USA
  2. New York City, USA
  3. Beijing, China
  4. Shanghai, China
  5. Los Angeles, USA
- India has emerged as the **3rd largest ecosystem** for startups globally as of 31st May 2023.
  - **India ranks 2nd in innovation quality** with top positions in the quality of scientific publications and the quality of its universities among middle-income economies.

## PAYMENT AGGREGATOR

PayU has received an in-principle approval from the Reserve Bank of India (RBI) to operate as a PA.

### About PA

- It is a financial technology company that simplifies the process of accepting electronic payments for businesses.
- It acts as an intermediary between the business and the financial institutions.
- It is incorporated as a company under the Companies Act, 1956 / 2013.
- Non-bank PAs require authorisation from RBI under the Payment and Settlement Systems Act, 2007.

### Types:

- **Bank Payment Aggregators:**
  - They involve high setup costs and are difficult to integrate.
  - They lack many of the popular payment options along with detailed reporting features.
  - Because of the high cost, bank payment aggregators are not suitable for small businesses and startups.
  - e.g.; Razorpay and CCAvenue.
- **Third-Party Payment Aggregators:**
  - Third-party PAs offer innovative payment solutions to businesses and have become more popular these days.
  - Their user-friendly features include a comprehensive dashboard, easy merchant onboarding, and quick customer support.
  - e.g.; PayPal, Stripe and Google Pay.

### RBI's Criteria for Approving an Entity as Payment Aggregator:

- Under the payment aggregator framework, only firms approved by the RBI can acquire and offer payment services to merchants.
- A company applying for aggregator authorisation must have a minimum net worth of Rs 15 crore in the first year of application, and at least Rs 25 crore by the second year.
- It must also be compliant with global payment security standards.

## COMPULSORY CONVERTIBLE DEBENTURES (CCD)

Competition Commission of India approved subscription to CCD of Napino Auto and Electronics Limited by International Finance Corporation (IFC).

## About CCD

- CCDs are debt instruments that are convertible into equity at a specified time or on happening of specified event(s).
- These are hybrid securities as they initially behave like debt instruments but eventually convert into equity shares.
- It is often used by companies for raising long-term funds without immediately diluting equity shareholding of existing investors

## INHERITANCE TAX

Recently, a prominent political leader of India's opposition party has expressed interest in the proposed legislation on Inheritance Tax.

- The use of inheritance tax to address economic inequality is widely debated in India.
- **Inheritance tax** is levied on property inherited upon an individual's death.
  - It differs from estate tax.
- **An estate tax** is levied on the entire estate before it is distributed to the heirs, whereas an inheritance tax is paid by the heirs on the property they receive.
  - Estate duty is paid by the earner of the estate (assets) before death. Inheritance tax is paid by the inheritors, the beneficiaries.
  - They are different as far as the amount on which the tax is paid and the persons who pay.
  - It is levied by many countries.
  - E.g. Japan (tax rate is 55%), South Korea (tax rate is 50%) etc.
- In India, currently there is no inheritance tax. Earlier, estate duty was imposed in 1953.
  - The tax rate reached up to 85%, making it highly unpopular.
  - Thus, it was abolished in 1985.
- Similar to Estate duty, gift tax and wealth tax were imposed in India. These were abolished in 1998 and 2015 respectively.
- However, gift tax was introduced in 2004.

### Note:

- In the Union List, Entry 82 deals with the income tax.
- Gift tax, corporate tax, inheritance tax, estate tax, wealth tax and so on are all forms of income tax.
- It is imposed by the Union Government and shared with states via the Finance Commission recommendations.

## ASSET RECONSTRUCTION COMPANIES (ARCS)

The **Reserve Bank of India (RBI)** has issued a direction outlining updated guidelines for **Asset Reconstruction Companies (ARCs)**.

- These have been issued in exercise of the powers conferred by the Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act, 2002.
- **Aim of the direction:** To ensure prudent and efficient functioning of ARCs and to protect the interest of investors.

### **Asset Reconstruction Companies (ARCs)**

- ARCs are financial institutions that buy the Non-Performing Assets (NPA) or bad assets from banks and financial institutions to clear their balance sheets.
- Union Budget 2021-22, announced the setting up of ARCs.
- It is incorporated under the **Companies Act, 2013**.
- They are registered by RBI under SARFAESI Act, 2002.
- **The RBI's direction to ARCs:** Have to maintain capital adequacy ratio of a minimum of 15% of its total risk-weighted assets.
  - Prohibited from raising money by way of deposit.
- No ARC shall invest in land or building, except for investment for its own use up to 10% of its owned funds.

### **Significance of ARCs:**

- Incentivize quicker action on resolving stressed assets thereby helping in better value realization.
- Help in bringing liquidity into the economy.
- Improves bank's valuation and enhances their ability to raise market capital.

## VETO ON WEAPON FREE STATE

The United Nations Security Council recently witnessed the rejection of a draft resolution aimed at promoting the peaceful use of outer space and preventing an arms race beyond Earth's atmosphere.

- Weaponization of Outer Space generally refers to physical placement in orbit of space-based machinery that has destructive capacity.
- However, a broader definition also includes ground-based systems designed for destroying space-based assets.

- Various systems that can proliferate weaponization of outer space include:
  - Missile systems including Anti-Satellite (ASAT) Missiles and Ballistic missiles.
  - Use of dual-use (civilian and military use) technologies such as satellites, communication and navigation systems such as GPS.
  - Space debris can both be an outcome of space weaponization and can itself be weaponized.
  - Space-based assets are increasingly being used for assisting armies through communications, surveillance, and reconnaissance.
- Outer Space Treaty of 1967 provides basic framework for international space law and prohibits placement of nuclear weapons or any other weapons of mass destruction in outer space.
- It establishes basic principles related to the peaceful use of outer space.
- India is a party to the treaty.

#### **Other treaties:**

- Rescue Agreement of 1968
- Space Liability Convention of 1972
- Launch Registration Convention of 1975
- Moon Agreement of 1979
- UN Resolution on Prevention of an Arms Race in Outer Space (PAROS)

## INTERNATIONAL CRIMINAL COURT

ICC issues arrest warrant against Israel's PM and Hamas leader.

- The Prosecutor of the International Criminal Court (ICC) requested arrest warrants against leaders of Hamas and Prime Minister Benjamin Netanyahu of Israel about the October 7, 2023 attacks and the war in Palestine.

#### **International Criminal Court**

- The International Criminal Court (ICC) is a permanent international court
- Headquartered in **The Hague, Netherlands.**
- Established by the Rome Statute in 1998 (entered into force on July 1, 2002)
- It investigates, prosecutes, and tries individuals accused of genocide, crimes against humanity, war crimes, and the crime of aggression.

- With 124 countries as States Parties to the Rome Statute, **India, US, China are notably not a member.**
- **Funding:** The Court is funded by **contributions from the States Parties and by voluntary contributions** from Governments, international organizations, individuals, corporations, and other entities.
- The ICC comprises **18 judges serving non-renewable 9-year terms** and operates alongside, rather than replacing, national criminal justice systems, complementing their efforts.
- Palestine became the 123rd member of the Rome Treaty on April 1, 2015.
- **Israel is not a Party to the Rome Statute.**
- **Jurisdiction of ICC:** Unlike the International Court of Justice, which hears disputes between states, the ICC **handles prosecutions of individuals.**
- The ICC is **only competent to hear a case if:**
  - The country where the offence was committed is a party to the Rome Statute; or
  - The perpetrator's country of origin is a party to the Rome Statute.
  - The ICC may only exercise its jurisdiction if the national court is unable or unwilling to do so.
  - The ICC only has jurisdiction over offences committed after the Statute's entry into force on 1 July 2002.

## ICJ vs. ICC

	International Court of Justice (ICJ) La Cour Internationale de Justice (CIJ)	International Criminal Court (ICC) La Cour pénale internationale (CPI)
<b>Year Court Established</b>	1946	2002
<b>UN-Relationship</b>	Official court of the U.N., commonly referred to as the "World Court."	Independent. May receive case referrals from the UN Security Council.
<b>Location</b>	The Hague, The Netherlands	The Hague, The Netherlands
<b>Types of Cases</b>	Contentious between parties & Advisory opinions	Criminal prosecution of individuals
<b>Subject Matter</b>	Sovereignty, boundary, & maritime disputes, trade, natural resources, human rights, treaty violations, treaty interpretation, and more.	Genocide, crimes against humanity, war crimes, crimes of aggression
<b>Funding</b>	UN-funded.	Assessed contribution from state parties to the Rome Statute; voluntary contributions from the U.N.; voluntary contributions from governments, international organizations, individuals, corporations and other entities.



## BIMSTEC CHARTER

The BIMSTEC Charter, which came into force on May 20, 2024, grants the organization a **'legal personality,' enabling it to welcome new members and observers.**

- This milestone **allows BIMSTEC to engage in structured diplomatic dialogue** with other countries and groupings.
- The charter reaffirms India's dedication to fostering a prosperous, peaceful, and sustainable neighbourhood, emphasizing shared history, culture, and mutual respect among member states.

### What is Legal Personality?

- Legal personality refers to the **recognition of an entity**, such as an organization or corporation, as having rights and obligations similar to those of a natural person.

## BIMSTEC

- BIMSTEC is a **regional organisation** comprising **7 member states - Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka, and Thailand.**
- It was formed in **1997** with the aim of promoting multifaceted technical and economic cooperation among the countries of the **Bay of Bengal** region.
- The region covered by BIMSTEC is home to around **1.5 billion people**, with a combined GDP of over **USD 3.8 trillion.**

## DOPPLER RADAR SPEED GUNS

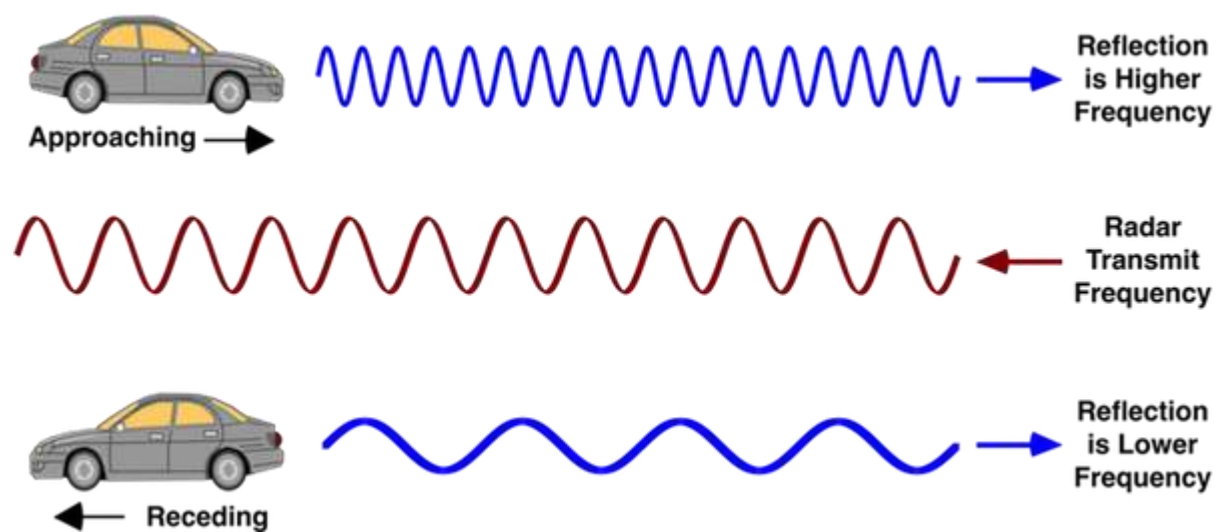
The Consumer Affairs Ministry has proposed new rules for radar speed guns used to measure vehicle speeds on roads.

- According to the draft rules, radar equipment installed after the finalization of the rules must be verified and stamped within one year
- Existing equipment should also undergo verification whenever re-verification is due.
- Conditions are outlined for the use of speed measurement results in legal proceedings.

### About Doppler radar:

- It utilizes the **Doppler Effect to collect velocity data.**

- The Doppler Effect, proposed by **Johann Christian Doppler in 1842**, describes the change in **wave frequency** when there's relative motion between a wave source and its observer.
- This phenomenon is observed in **sound waves and electromagnetic waves**.
- **Function:**
  - Emits radio waves.
  - Detects the **Doppler shift** in the reflected waves.
  - Calculates the object's **velocity** based on the shift.
- Doppler radar finds applications in astrophysics and vehicle speed monitoring by law enforcement.



## EVTOL (ELECTRIC VERTICAL TAKE-OFF AND LANDING) AIRCRAFT

IIT Madras-incubated ePlane Company is set to launch eVTOL (electric Vertical Take-Off and Landing) aircraft in Bengaluru.

### What are eVTOLs (electric Vertical Take-Off and Landing aircraft)?

- These are vehicles that can take off and land vertically using **electric propulsion**.
- They use electric motors to drive rotors or propellers, with energy stored in batteries, typically lithium-ion.
- eVTOLs are designed to operate in urban areas, reducing traffic congestion, and air pollution, and improving connectivity and emergency services.

## TRAI RECOMMENDATIONS ON TELECOMMUNICATION

Telecom Regulatory Authority of India (TRAI) has released recommendations on 'Telecommunication Infrastructure Sharing, Spectrum Sharing, and Spectrum Leasing'.

- At present only spectrum trading and intra-band spectrum sharing are permitted.
- Spectrum refers to the radio frequencies allocated to the mobile industry and other sectors for communication over the airwaves.
- Telecommunication **service licensees** should be **allowed** to **share** the **passive infrastructure** such as **buildings, towers, electrical equipment including battery and power plant, dark fiber, duct space, Right of Way**, etc. owned, established, and operated by them under the respective licenses with all types of telecommunication service licensees
- Telecommunications Act, 2023 provided that the Central Government may permit the sharing, trading, leasing and surrender of assigned spectrum.
- These recommendations are on the Department of Telecommunications proposal to allow sharing of all kinds of telecom infrastructure and network elements.
  
- **Recommendations made** by TRAI Licensees should be allowed to share the passive infrastructure such as building, tower etc.
- Infrastructure built using Digital Bharat Nidhi should be mandated to allow roaming to other service providers in remote areas for 3 years.
- Spectrum leasing and inter-band spectrum sharing should also be permitted for efficient utilization of scarce spectrum.

### Telecom Regulatory Authority of India (TRAI)

- **Genesis:** In 1997 by Telecom Regulatory Authority of India Act, 1997.
- **Objective:** to provide a fair and transparent policy environment which promotes a level playing field and facilitates fair competition.

## CENTRE FOR CELLULAR AND MOLECULAR PLATFORMS (C-CAMP)

C-CAMP has joined the Blockchain for Impact Biome Virtual Network Program to accelerate transformative healthcare solutions through biomedical innovation.

## About C-CAMP

- It was conceptualised by Department of Biotechnology in 2009 as an enabler or catalyst of cutting-edge research and innovation in life sciences.
- It is also a member of Bangalore Life Science Cluster (BLiSC).
- Mandate: Promoting entrepreneurship and innovation, through its involvement in Seed Funding Schemes for Startups, Entrepreneur Mentorship program and Bio-Incubation facility

## 50<sup>TH</sup> YEAR OF ARYABHATTA LAUNCH

ISRO celebrated Satellite Technology Day (STD) commemorating the 50th year of the Aryabhata Launch in 1975.

## About Aryabhata

- It was India's first satellite, named after the famous Indian astronomer in the 5th century.
- It was built by the ISRO and launched by a Soviet Kosmos-3M rocket from Kapustin Yar (Russia).
- It aimed to conduct experiments in X-ray astronomy, aeronomics, and solar physics.

## SPECULOOS- 3 B

Astronomers at the University of Liège in Belgium discovered an **Earth-sized exoplanet, SPECULOOS-3 b**, orbiting an **ultra-cool red dwarf, 55 light-years away**.

- **Exoplanets:** Planets beyond our solar system, either orbiting other stars or free-floating.
- **Red dwarfs are the smallest main sequence stars**, much smaller than the Sun
- The star, roughly the **size of Jupiter and twice as cold as the Sun**, bombards the planet with intense radiation, likely stripping away any atmosphere, and making it uninhabitable.
- The SPECULOOS project, aimed at studying ultra-cool dwarf stars, previously discovered the **TRAPPIST-1 system**.
- The newly found exoplanet orbits its star every **17 hours and is tidally locked, with perpetual day and night sides**.

## ARTIFICIAL INTELLIGENCE (AI) ACT

The **European Union** has finalized the **world's first comprehensive law** regulating **artificial intelligence, known as the AI Act.**

- This legislation sets strict rules for AI applications, categorizing them based on the risks they pose to society.
- High-risk AI systems, such as autonomous vehicles and medical devices, face stringent evaluations, while AI applications deemed “unacceptable” like social scoring systems, predictive policing, and emotional recognition are prohibited.
- Companies violating the AI Act could face fines of up to 35 million euros or 7% of their annual global revenues.

The law, aimed at **ensuring trust, transparency, and accountability**, includes provisions for generative AI systems to respect copyright laws and undergo routine testing.

## GRAPHITE

India is discussing with Sri Lanka to acquire graphite mines, aiming to meet the rising demand for graphite, crucial for battery anodes, especially lithium-ion batteries.

- China is the world's largest producer of natural graphite, accounting for two-thirds of global supply.
- While Mozambique, Madagascar, and Brazil are significant non-Chinese producers, China also refines over 90% of the world's graphite for use in EV battery anodes.
- It is among 30 critical minerals declared by India.

### About Graphite:

- Graphite is a **naturally occurring crystalline** form of **carbon**.
- It's made up of **stacked layers of graphene**.
- Graphite is the most stable form of **carbon under standard conditions**.
- Graphite is a **mineral that's found in metamorphic and igneous rocks**.
- It's extremely **soft, cleaves with very light pressure, and has a very low specific gravity**.
- Graphite is a **good conductor of electricity** and heat.

- It's also lighter than diamond, smooth and slippery to the touch.
- Graphite, a **key component in electric vehicle (EV) batteries**, has seen a surge in demand due to the **growth of the EV industry**.
- The battery end-use market for graphite **has grown by 250% globally since 2018**

## WHO REPORT ON GLOBAL IMMUNISATION

Global immunizations have saved at least 154 million lives over the past 50 years.

- The study analyzed the Expanded Programme on Immunization (EPI), launched by WHO in 1974 to ensure that all children, in all countries, benefited from life-saving vaccines.

### Key findings

- Report shows that **Immunization** is the single greatest contribution of any health intervention to ensuring healthy lives of babies.
- Vaccines saved 6 lives every minute of every year over the past 50 years.
- Measles vaccination had the most significant impact on reducing infant mortality.
- Vaccination against 14 diseases contributed to reducing infant mortality by 40% globally For each life saved through immunization, an average of 66 years of full health were gained.
- Factors responsible for increase in access to immunisation Collaboration among stakeholders such as governments, health agencies, etc. UNICEF and GAVI have expanded vaccine access.
- Challenges in Immunization Inequitable vaccine distribution and Financing of vaccination.
- Under informed and misinformed populations fear side effects.

### Immunization in India

- India's immunisation programme, **UIP (Universal Immunization Programme)**, is one of the world's most extensive public health programmes.
- Under the UIP, India **annually vaccinated more than 30 million pregnant women and 27 million children**.
- The country was certified **polio-free in 2014** and eliminated **maternal and neonatal tetanus** in 2015.

- According to UNICEF, only **65%** of children in India receive full immunisation during the first year of their life.

### **Initiatives taken in India**

- **Mission Indradhanush (2014)** aims to cover all children who are partially vaccinated or unvaccinated against vaccine preventable diseases under Universal Immunisation Programme (UIP).
- UIP provide free vaccines against 12 life threatening diseases like Tetanus, Polio, etc.
- **Intensified Mission Indradhanush (2017)** progress reaching each child under two years of age and all those pregnant women left uncovered.
- U-WIN digital platform for routine Immunization in pilot mode.

### **Global Alliance for Vaccines and Immunization (GAVI)**

- It is a Vaccine Alliance, launched in 2000.
- Alliance includes WHO, UNICEF and the Bill & Melinda Gates Foundation (BMGF) as core founding members.
- It was created to expand the impact of EPI and help the poorest countries in the World to increase coverage.
- In 2014, India became the first implementing country donating to GAVI.

## **MAXIMUM RESIDUE LIMIT (MRL) OF PESTICIDES IN HERBS AND SPICES**

The latest order from Food Safety Standards Authority of India (FSSAI) has increased the MRL of pesticides from 0.01 mg/kg to 0.1 mg/kg.

### **About MRL**

- The Food and Agriculture Organization (FAO) defined MRL as the highest legally tolerable level of pesticide in food or animal feed.
- Codex Alimentarius Commission (CAC) sets MRLs for pesticides in food and feed crops for food safety and international trade.
  - It was established jointly by FAO and the World Health Organization (WHO) in 1963.
- Indian Scenario of MRL MRLs in India are specified under the Food Safety and Standards (Contaminants, Toxins and Residues) Regulation, 2011 by the FSSAI.



- They are fixed based on the field trial data received through the Central Insecticides Board and Registration Committee (CIBRC) under the Ministry of Agriculture.
- Issues with increasing the MRL: Can lead to ingestion of more pesticides into the human body, Can lead to ban on export of Indian food items due to the high pesticide residue, etc.

#### About FSSAI

- Established: Statutory Authority established under Food Safety and Standards Act, 2006
- Ministry: Ministry of Health and Family Welfare
- Role: Laying down science based standards for articles of food and regulating their manufacture, store, distribution and sale

### BACTERIAL PATHOGENS PRIORITY LIST (BPPL)

The World Health Organization (WHO) updated its **Bacterial Pathogens Priority List (BPPL)**, highlighting critical priority pathogens that pose significant global health threats due to their resistance to treatment and ability to spread resistance.

#### About BPPL:

- The Bacterial Pathogens Priority List (BPPL) is a **crucial tool in combating antimicrobial resistance**.
- Introduced by the **WHO in 2017**, it initially listed 13 bacterial pathogens to guide research and development efforts for new antibacterial.
- The 2024 list categorizes **15 families of antibiotic-resistant bacteria** into critical, high, and medium-priority groups to aid in prioritizing responses.
- Some high-priority pathogens, like **Salmonella and Shigella**, burden low- and middle-income countries, posing challenges in healthcare settings.
- Antibiotic resistance, **driven by misuse and overuse of antimicrobials**, makes infections harder to treat and increases the risk of severe illness and death.

**The WHO Bacterial Priority Pathogens List** serves as a vital tool in combating antimicrobial resistance, updating rankings to address evolving threats.

## PSYCHEDELIC DRUGS IN INDIA

Driven by the need for better mental health treatments and the low success rate of current medications, researchers are calling for clinical trials of psychedelic drugs in India.

### About Psychedelics

- Psychedelics are a **class of drugs that alter perception, behaviour, consciousness, and thought**, often intensifying sensory awareness.
- These drugs, a subset of psychotropic substances, are known for causing vivid hallucinations and drastically changing an individual's thoughts and perceptions.

### Categories of Psychedelics:

- **Classical Psychedelics:** Primarily cause hallucinations by activating the serotonin 5-HT receptor, found throughout the body.
  - Examples include LSD, psilocybin, and DMT.
- **Non-Classical Psychedelics:** Interact with various receptors.
  - Notable examples are ketamine and MDMA.

### Working:

- Psychedelics typically **enhance serotonin, a mood-stabilizing hormone**, by binding to serotonin receptors on cell surfaces, triggering specific biochemical reactions.
- **Research and Clinical Use:** Five psychedelics—psilocybin, LSD, MDMA, ketamine, and DMT—are being extensively studied for treating mental health issues.
- **Regulation:** The 1971 UN Convention on Psychotropic Substances regulates about 200 psychotropic substances, categorizing them into four schedules based on abuse potential, with Schedule I being the most restrictive.
- The convention does not specify the exact number or types classified as psychedelics.

## MATERIOVIGILANCE PROGRAMME OF INDIA (MVPI) PLATFORM

The Drugs Controller General of India (DCGI), through a circular, has directed all device license holders and manufacturers to report any adverse events on the **Materiovigilance Programme of India (MvPI) platform** to mitigate risks and ensure public health safety.

### About MvPI:

- It was launched in 2015, and is overseen by the **Indian Pharmacopoeia Commission since 2018**.
- It serves as the National Coordination Centre, focusing on monitoring **Medical Device-associated Adverse Events (MDAE)** and raising awareness among healthcare professionals.
- MDAE reports can be submitted by various stakeholders, including clinical specialists, biomedical engineers, nurses, pharmacists, and patients.

### About DCGI:

- The **Drugs Controller General of India (DCGI)** heads the Central Drugs Standard Control Organization, overseeing the approval of licenses for specified drug categories in India, including blood products, vaccines, and IV fluids.
- **DCGI operates under the Ministry of Health & Family Welfare** and establishes standards for drug manufacturing, sales, import, and distribution in the country.

## PRE-ECLAMPSIA

World Preeclampsia Day, observed annually on May 22nd, aims to raise crucial awareness about preeclampsia, a potentially life-threatening pregnancy complication.

### About Preeclampsia:

- **Pre-eclampsia is a hypertensive disorder of pregnancy** that leads to multiorgan dysfunction in the mother.
- It typically **manifests after 20 weeks of pregnancy**, characterized by **high blood pressure**.
- Other symptoms include **swelling in the face, hands, and feet, severe headaches**, vision changes, upper abdominal pain, and trouble breathing.
- Studies show that **pre-eclampsia significantly raises the risk of heart failure**, coronary heart disease, stroke, and cardiovascular death in mothers.
- **Treatment:**
  - The **only cure** for preeclampsia is to give birth.
  - **Even after delivery, symptoms** of preeclampsia can **last 6 weeks or more**.

- Treatment, if necessary, is based on how far along the pregnancy is, and may include **induced labor or a Caesarean section (C-section)**.

### India's Adverse Pregnancy Outcomes:

1. India accounts for nearly a quarter of the **world's adverse pregnancy outcomes**.
2. **NFHS-5 statistics** show perinatal mortality at 32 per 1,000 pregnancies and neonatal mortality at 25 per 1,000 live births.
3. **Hypertensive disorders** in pregnancy are a leading cause of maternal death.

### MALARIA VACCINE 'R21/MATRIX-M'

The Serum Institute of India (SII) has begun exporting the 'R21/Matrix-M' malaria vaccine to Africa, targeting children in malaria-endemic regions.

- Developed in collaboration with the University of Oxford and Novavax's Matrix-M adjuvant.
- It is the second malaria vaccine recommended by WHO in 2023, after RTS, S/AS01 vaccine.

#### About Malaria:

- Malaria is a **life-threatening disease** caused by **parasites** that are **transmitted to people through the bites of infected female Anopheles mosquitoes**.
- It is **preventable and curable**, but it remains a **major public health problem**, particularly in **tropical and subtropical regions**.

### CRYSTAL MAZE 2

The Indian Air Force has successfully tested a new version of a medium-range ballistic missile Missile know as Crystal Maze 2

#### About Crystal Maze 2

- Origin: medium-range ballistic missile developed by Israel.
- Range: strike range of over 250 km
- Type: Air-to-surface missile
- Aim: designed to strike high-value stationary and relocatable targets in GPS-denied environments Missile can target long-range radar and air defense systems.

## TRENDS IN WORLD MILITARY EXPENDITURE, 2023 REPORT

It was released by Stockholm International Peace Research Institute (SIPRI).

- Established in 1966, it is an independent international institute dedicated to research into conflict, armaments, arms control and disarmament.

### Key findings

- India was fourth largest military spender in world in 2023 with an expenditure of \$83.6 billion after United States, China and Russia.
- In 2023, military expenditure by NATO member states reached \$1341 billion or 55% of world spending.
- World military expenditure, driven by Russia's invasion of Ukraine and geopolitical tensions, reached to an all-time high of \$2443 billion.

## TRAVEL & TOURISM DEVELOPMENT INDEX (TTDI) 2024

The World Economic Forum (WEF) released the TTDI 2024

- TTDI assesses factors and policies for sustainable and resilient Travel and Tourism development.
- This second edition evolved from the Travel & Tourism Competitiveness Index (TTCI), WEF's flagship index since 2007.
- India's rank improved to 39 in 2024 from 54 in 2021

## INTERNATIONAL BOOKER PRIZE 2024

**Jenny Erpenbeck's** novel "Kairos" wins the 2024 International Booker Prize, depicting a complex love story amidst East Germany's final years.

- Set against the backdrop of the **Berlin Wall's fall**, it explores personal and national transformations.

### About the International Booker Prize

- Formerly known as the Man Booker International Prize)
- It is awarded annually to recognize the finest translated work of fiction worldwide.
- Established in 2005, it encourages reading diverse fiction and has impacted reading habits in the UK.
- Eligible works must be long-form fiction originally written in any language but translated into English.

- The £50,000 prize is equally split between the author and translator, with shortlisted candidates receiving £2,500 each.

### GANGA JATRA – TRIPURA FOLK FESTIVAL

Devotees dress up in various costumes and smear sandalwood, chalk, and charcoal powder all over their bodies.

- Location: Tirupati, Andhra Pradesh
- Significance: Celebrates Thathayagunta Gangamma, a folk goddess believed to be Lord Venkateswara's younger sister
- Duration: Nine days

### STRAIT OF GIBRALTAR

A sailing yacht sank in Moroccan waters near the Strait of Gibraltar after being rammed by orcas.

#### About the Strait of Gibraltar:

- It is a **vital shipping route connecting the Mediterranean Sea to the Atlantic Ocean** and has been the site of recent orca attacks on vessels.
- It acts as a natural chokepoint between Europe and Africa.



### PHAWNGPUI NATIONAL PARK

- Phawngpui National Park, also known as Phawngpui Blue Mountain National Park, is one of two national parks in Mizoram, India, the other being the larger Murlen National Park.

- Located about 300 km from Aizawl in the Lawngtlai district near Burma, it encompasses Phawngpui, Mizoram's highest peak at 2,157 meters, along with the surrounding reserve forest.
- This park is **also called Phawngpui Blue Mountain National Park**, as the mountainous region of Phawngpui is **often covered by a thin layer of clouds**, which makes it blue in appearance from a distance.
- **Flora:** The flora of Phawngpui mostly includes **grasses, orchids**, trees of **rhododendrons**, and **oak**.
- **Fauna:** It is home to an amazing variety of birdlife, including the rare **Blyth's Tragopan, Dark Rumped Swift**, and **Mrs. Hume's Pheasant**, **the Mizoram state bird**, and endangered mammals like the **Slow Loris, Tiger, Leopard-d**, Leopard Cat, Serow, Goral, Asiatic Black Bear, Stump-tailed Macaque, and Capped Langur.
- The Lushai tribe, part of the Kuki-Chin group, is commonly known as Mizos and is of Mongoloid origin.
- Their main occupations are Jhum and orange cultivation, and they are historically known as a headhunter community.
- The popular Bamboo Dance (Cheraw-dance) is a cultural highlight.
- Lushai society is organized as a patrilocal joint family with patrilineal descent and inheritance rules.

### KOUNDINYA WILDLIFE SANCTUARY

The Sri Lankan golden-backed frog has been rediscovered in India after 200 years at Koundinya Wildlife Sanctuary.

- Located in the Kuppam and Palmaner Ranges of Chittoor district, Andhra Pradesh, it is the only sanctuary in the state known for Asian elephants.
- The Kaundinya and Kaigal tributaries of the Palar River flow through it.
- **Vegetation:** Southern tropical dry deciduous forest, with patches of thorn, scrub and grassy plains.
- **Flora:** Plants like Albizzia amara, Ficus glomerata, Zizyphus xylocarpus, Gymnosporia Montana, etc;
- **Fauna:** Elephant, Panther, Sloth bear, Wild boar, Chowsingha, Nilgai, Hyena, Jackal, etc.

### UJANI DAM ON BHIMA RIVER

Six people, including two children, drowned after their boat capsized in the Ujani dam backwaters in Maharashtra's Pune district due to **strong winds and rains**.



### About Ujani Dam:

- Ujani Dam is on the **Bhima River near Ujjani village** in Solapur district, Maharashtra.
- The dam generates 12 MW of hydroelectric power.

### About Bhima River:

- It is also known as the **Chandrabagha River, it is a major tributary of the Krishna River.**
- Originates in the **Bhimashankar hills** near Karjat, Pune District, Maharashtra.
- Flows southeast through Maharashtra, Karnataka, and Telangana, merging into the Krishna River at Kadlur, Karnataka.
- **Pandharpur**, an important pilgrimage cen-tre, is situated on its right bank.



## NEW CALEDONIA

A state of emergency has been declared by France in New Caledonia, including curfews and bans on gatherings and alcohol sales.

- New Caledonia is a French overseas territory in the South West Pacific Ocean.
- Its maritime neighbours include Australia, Fiji, New Zealand, Papua New Guinea, and Vanuatu.
- Though it is one of the European Union's Overseas Countries and Territories (OCTs), New Caledonia is not part of the EU, Euro, or Schengen zones.

- The Lagoons of New Caledonia and associated coral reef ecosystem are a UNESCO World Heritage site.



## PANDITA RAMABAI

166th birth anniversary of Pandita Ramabai Sarasvati was celebrated recently.

### About Pandita Ramabai

- She was a social reformer, educator, and freedom fighter.
- She was one of the ten women representatives at the 1889 Congress.
- Established Sharada Sadan in 1889.
- Testified before the Hunter Commission on Women's Education, Published 'Stree Dharma Niti', or 'Morals for Women'.
- Awarded the Kaiser É Hind Medal in 1919

## DR SARVEPALLI RADHAKRISHNAN

Recently, Dr. Sarvepalli Radhakrishnan was remembered on his 49th Death Anniversary.

### About Sarvepalli Radhakrishnan

- He was a distinguished scholar, philosopher, and statesman.
- Key Contributions: He served as the Vice President (1952-1962) and President of India (1962-1967).
- He was elected to the constituent Assembly. Literary works: The Principal Upanishads, The Hindu view of Life, Dhammapada etc.
- Honour and Award: knighthood (1931) and Bharat Ratna (1954)
- His birthday (September 5) is celebrated as 'Teacher's Day' for his contributions to education and philosophy.

- led the Indian delegation to the United Nations Educational, Scientific and Cultural Organisation (UNESCO)

## NARASIMHA GOPALASWAMI AYYANGAR

Madras City Cooperative Building Society Ltd. completes 100 years of which N. Gopaldaswami Ayyangar was the first president.

### About N. Gopaldaswami Ayyangar (1882-1953)

- He was an able administrator, freedom fighter and a politician.
- In 1905, he joined the Madras Civil Service and was appointed the 'Diwan' or Prime Minister of J&K in 1937.
- Elected to Council of States (1943-47).
- Part of 7-member Drafting Committee of Indian Constitution.
- He helped put in shape Article 370.
- Report on Reorganisation of the Machinery of Government in 1949.
- Served as Minister for Defence, Railways and Transport.

## PURNIMA DEVI BARMAN

**Dr Purnima Devi Barman** from India has been awarded **the 2024 Whitley Gold Award (dubbed 'Green Oscar') by the UK charity Whitley Fund for Nature (WFN)** for her efforts to save the **Greater Adjutant Stork (Hargila)**.

## NEPTIS PHILYRA

Rare butterfly species *Neptis philyra* was recently discovered for the first time in India.

### About *Neptis Philyra*

- It has been discovered in Tale Valley wildlife sanctuary in lower Subansiri district of Arunachal Pradesh.
- It is commonly known as long-streak sailor
- It has serrated wings with rich brownish-black on the upper side and yellow brown on the underside
- It is generally found in east Asia, including eastern Siberia, Korea, Japan, central and southwest China.
- Habitat- evergreen forests, riverine vegetation, and rocky streams

## GOLDEN TREVALLY (GNATHANODON SPECIOSUS)

Central Marine Fisheries Research Institute (CMFRI) achieved captive breeding of high-value marine fish golden trevally.

- It will help to promote sustainable seafood production and boost India's mariculture activities .

### **Golden trevally (or golden king fish)**

- It is a reef-associated fish and lives in company of larger fishes like skates, groupers etc.
- Use: For consumption and ornamental purposes.
- CMFRI: Monitor and assess the marine fisheries resources of the Exclusive Economic Zone (EEZ).
- Under the Ministry of Agriculture and Farmers Welfare.

### ORCA

A sailing yacht sank in Moroccan waters near the Strait of Gibraltar after being rammed by orcas.

#### **About Orcas**

- also known as killer whales:
- They are the **largest dolphins, recognized by their black-and-white colouring**, reaching up to 8 meters in length and weighing up to 6 tonnes.
- Highly intelligent and social, they use **echolocation for communication and hunting**.
- While powerful predators, they are **not aggressive towards humans in the wild**.
- Pods, or maternally related groups, have distinct communication patterns.
- Orcas are listed as **Data Deficient on the IUCN Red List and under CITES Appendix II**.

### GREATER ADJUTANT STORK

- **Distribution:** Known as 'Hargila,' primarily found in Assam (80%) and Bihar, India, and Cambodia.
- **Habitat:** Wetlands, nests in tall trees with closed canopies and bamboo clumps.
- **Threats:** Hunting, habitat destruction, felling of nest trees, and wetland degradation.
- **Conservation Status:** IUCN: Nearly Threatened (NT).
- **Significance:** The Greater Adjutant Stork plays a vital role in nutrient recycling and maintaining ecosystem health.

## MANIPURI PONY

Manipur has taken decisive steps to safeguard its iconic Manipuri Pony, known as Meitei Sagol, from extinction.

### About Meitei Sagol:

- It is one of India's seven recognized horse and pony breeds, and is known for its short stature yet remarkable attributes **like stamina, agility, and intelligence**.
- Originating from Manipur, they are esteemed as the **original polo pony**, tracing back to the traditional Sagol Kangjei sport.



- However, their population faces threats such as **habitat shrinkage and the lack of polo grounds**.
- To address these challenges, the Manipur government declared them an **Endangered Breed in 2013** and introduced the **Manipuri Pony Conservation and Development Policy in 2016**.
- Recent resolutions aim to safeguard the breed, including immediate actions for pony protection, forming a task force, and conducting a comprehensive census.

## PHTHEIROSPERMUM LUSHAIORUM

A rare hemi-parasitic terrestrial plant (*Phtheirospermum lushaiorum*) has been found in Phawngpui National Park of Mizoram.

- It is a **new species of hemi-parasitic terrestrial plant**.
- These hemi-parasitic plants lack fully **developed root system** and **form connections with another plant**, from which they obtain some or all of their water **and minerals**.

- Such plants **have chlorophyll** and **produce their own food by photosynthesis**, and in **some cases**, are **capable of limited growth in the absence of the host plant**.
- They **tap into** the sap-conducting **tissue of the host** by means of **specialized structures called haustoria**.
- *Phtheirospermum lushaiorum* **attaches themselves to the roots of their host** and **appear like normal plants** growing in the soil.
- They flower only during July to September and fruits are produced during August to October
- Lushaiorum is named after “Lushai” tribe of Mizoram.



### NAEGLERIA FOWLERI

A girl from Kerala, has died from **amoebic meningoencephalitis**, a **rare brain infection** caused by **Naegleria fowleri**, known as the ‘**brain-eating amoeba**’.

- *Naegleria fowleri* is a type of amoeba, a unicellular organism found in soil, warm freshwater lakes, rivers, and hot springs.
- If this amoeba enters the nose and reaches the brain, it can cause a severe infection known as Primary Amoebic Meningoencephalitis (PAM).
- Due to its ability to infect and destroy brain tissue, *Naegleria fowleri* is often referred to as the “brain-eating amoeba.”
- While infections caused by this organism are rare, they are almost always fatal.