

## MAY CURRENT AFFAIRS

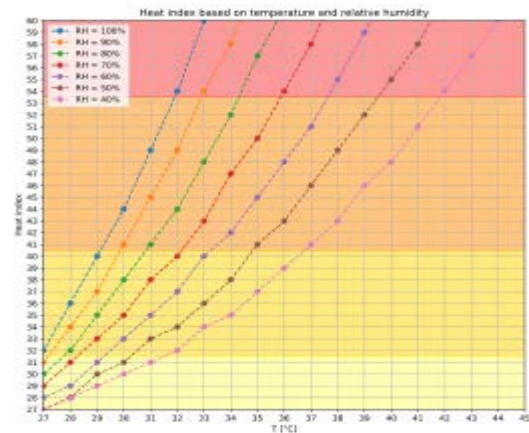
### HEAT INDEX

#### Why in News?

Next year, **India plans to launch a composite index of its own** to measure the effect of heat on its population and produce impact-based heat wave alerts for specific locations.

#### About Heat Index:

- The heat index (HI) is an index that **combines air temperature and relative humidity, in shaded areas, to posit a human-perceived equivalent temperature, as how hot it would feel if the humidity were some other value in the shade.**
- The result is also known as the "felt air temperature," "apparent temperature," "real feel" or "feels like."
- **Aim:** To quantify the impact of heat on its population and generate impact-based heatwave alerts for specific locations.
- The heat index is **measured using a multiple regression analysis that uses the actual temperature and humidity to produce a number that is more representative of how hot it feels outside.**
- Aside from using it to provide a more accurate measure of what it feels like outside, the **National Weather Service relies on the heat index to let people know how much heat the human body can handle before it becomes dangerous.**
- The **National Weather Service uses heat index values to know when to issue heat advisories, watches and warnings, which urge residents in an area to avoid being outside during the hottest parts of the day.**
- The **heat index was developed in 1979 by Robert G. Steadman.**



- Like the wind chill index, the heat index contains assumptions about
  - the human body mass and height,
  - clothing, amount of physical activity,
  - individual heat tolerance,
  - sunlight and ultraviolet radiation exposure, and
  - wind speed.

## SHILABHATTARIKA

### Why in News?

- Researchers at the **Pune-based Bhandarkar Oriental Research Institute (BORI)** in India recently embarked on a mission to decode copper plates and revealed that the celebrated **Sanskrit poetess Shilabhatarika** was a **daughter of the “Satyashraya” Chalukyan ruler Pulakeshin II.**
- Previously, it was thought that she was the wife of the 8th-century Rashtrakuta ruler Dhruva
- The **title of “Satyashraya” (patron of truth)** was associated with **Chalukyan Emperor, Pulakeshin II of Badami.**

### About:

- Copper-plate charters are **ancient inscriptions on copper plates** that were used as legal documents in India during the medieval period.
- These **plates were used to record land grants, donations, and other royal decrees.**
- **This charter had five plates,** held together by a copper ring bearing a beautiful **Varaha (boar) seal** (*trademark of the Badami Chalukyas*).
- The copper plate charter **dated from the time of Badami Chalukyan ruler Vijayaditya (696-733 CE).**
- The charter had **five plates measuring 23.4 cm by 9.4 cm,** held together by a copper ring bearing a beautiful **varaha (boar) seal.**



- The **varaha seal is the trademark of the Badami Chalukyas.**
- The charter contained a Sanskrit text of a total of 65 lines inscribed in late-Brahmi script.

### About Shilabhatarika:

- The celebrated **Sanskrit poetess of ancient India** has now been established as the **daughter of the famed Chalukyan emperor Pulakeshin II of Badami** (in modern Karnataka).
- This decipherment revealed Shilabhatarika, as a **poetess in the ancient Indian world in the heavily male-dominated field of classical Sanskrit literature.**
- The **Sanskrit poet-critic Rajashekhara** (who lived in the 9th-10th century CE) and was the court poet of the Gurjara-Pratiharas, **has praised Shilabhatarika for her elegant and beautiful compositions.**
- Noted Marathi poetess, Shanta Shelke drawn inspiration from Shilabhatarika's verse to compose one of her most iconic songs— *toch chandrama nabhat* (translated as 'it is the same moon in the sky').
- **Her works adheres to the Panchali style** that calls for a balance of words with its meaning.
- M. B. Padma, a scholar of the University of Mysore, *speculates that she may be the same as Shila-maha Devi, the queen of the 8th-century Rashtrakuta ruler Dhruva.*
- Shilabhatarika has been quoted by several classical Sanskrit literary critics, and **her verses appear in most major Sanskrit anthologies.**
- She is **known to have written at least 46 poems on topics such as "love, morality, politics, nature, beauty, the seasons, insects, anger, indignation, codes of conduct.**

### About Chalukya Dynasty:

- The Chalukya dynasty was a **Classical Indian dynasty** that ruled large parts of **southern and central India between the 6th and the 12th centuries.**
- During this period, they ruled as **three related yet individual dynasties.**

- **Badami Chalukyas:** The earliest Chalukyas with their capital at **Badami (Vatapi)** in Karnataka. They **ruled from mid-6<sup>th</sup>**. They declined after the death of their greatest king, Pulakesin II in 642 AD.
- **Eastern Chalukyas:** Emerged after the death of Pulakesin II in Eastern Deccan with **capital at Vengi**. They ruled till the 11th century.
- **Western Chalukyas:** Descendants of the Badami Chalukyas, they emerged in the late 10th century and ruled from Kalyani (modern-day Basavakanlyan).

## About Pulakeshin II

- **Pulakeshin II (610–642 CE)** was the **most famous ruler of the Chalukya dynasty of Vatapi** (present-day Badami in Karnataka, India).
- Pulakeshin was a **son of the Chalukya king Kirttivarman I**.
- During his reign, the Chalukya kingdom expanded to cover most of the Deccan region in peninsular India.
- The most notable military achievement of Pulakeshin was his victory over the powerful northern emperor Harshavardhana, whose failure to conquer the Chalukya kingdom is attested by the Chinese pilgrim Xuanzang (Hiuen Tsang).
- **Hiuen Tsang visited his kingdom.** He has praised Pulakesin II as a good and authoritative king.
- Pulakeshin also achieved some successes against the Pallavas in the south, but was ultimately **defeated during an invasion by the Pallava king Narasimhavarma I**.
- **Pulakeshin was a Vaishnavite**, but was tolerant of other faiths, including Shaivism, Buddhism, and Jainism.
- He **patronized several scholars**, including **Ravikirti**, who composed his Aihole inscription.



## KRISHI MAPPER

### Why in News?

At the National Conference on Agriculture for Kharif Campaign 2023-24, the **Union Agriculture Minister of India** launched **Krishi MApper**.

### About Krishi Mapper:

- Krishi MApper is an **integrated app for Geospatial Data in Agriculture**.
- It is an integrated mobile application developed by the Indian government for the agriculture sector.
- It **provides geospatial data and other relevant information to farmers, policymakers, researchers, and other stakeholders in the agriculture sector.**
- Geospatial data refers to information that describes objects, events or other features with a location on or near the surface of the earth.
- It will help the users to access information on soil health, weather, crop health, crop suitability, land use, and other relevant data for informed decision-making.
- It is aimed at enhancing the productivity and profitability of Indian agriculture, promoting sustainable agricultural practices, and ensuring food security for the nation.
- The **app covers monitoring of all land-interventions-based schemes/programs** such as Digital Crop Survey, Natural Farming, Seed Production and Distribution, NFSM Horticulture, Agroforestry & other related schemes.
- Significance: The app will help minimize the duplication of efforts and provide ready-to-analysis data products to innovators in India.
- It **will facilitate Ease of access to credit, near Real-time stress watches for the sector** at various levels of granularity with the ability to drill down to individual land parcels under stress and Near Real-time assessment and processing of claims.





## BIHAN MELA

### Why in News?

The members of the **Kondh tribe** in **Odisha's Nayagarh district** celebrates **Bihan Mela**.

Since 2019, members of the Kondh tribe in Odisha's Nayagarh district have added one more event to their calendar of festivals and celebrations called- Bihan Mela.

### About Bihan Mela:

- The **Bihan Mela, or seed festival**, has been initiated by the non-profit Nirman in the **Nayagarh district of Odisha to help tribal Kondh farmers** return to their traditional ways of farming, including mixed-cropping
- **Aim**: The Bihan Mela and seed bank **aim to address the issue of crop failures** caused by erratic rainfall and pest attacks, and **to restore food and nutritional security to the region's farmers.**
- The fair **mimics a traditional market where farmers used to exchange seeds.**
- Farmers in the Kondh Villages of Odisha **are mostly marginal and depend on the monsoon rains.**
- In recent years, they have seen repeated crop failures either due to erratic rainfall or pest attacks.
- Since the Green Revolution, farmers in the region have abandoned native crops and varieties that are naturally resistant to pests and better suited to the region's climate.
- Even in dongarsor hilltops, where families used to practice mixed cropping until recently, have shifted to monoculture cash crops like cashew. This has not only affected their food and nutritional security but also degraded the soil and made the farmers more vulnerable to crop loss.
- The seed festival was thus introduced to help farmers return to their traditional ways of farming like mixed cropping.



- The festival involves the exchange of indigenous seeds and serves as a platform for farmers to collect, store and share their native varieties of crops.
- The non-profit also set up a seed bank in Raisar village to facilitate access to indigenous seeds.
- Preparations begin as soon as farmers have harvested Kharif crops, which include both hybrid and indigenous varieties of paddy, millets, maize and sorghum.
- Women are at the helm of this festival and carefully collect seeds of the indigenous varieties and store them in earthen pots.
- On a designated day in December, they decorate the pots with red and white motifs, place them in a bamboo basket and carry it on their head to the village where the fair is being organized.
- Along the way, they are accompanied by men beating drums and other traditional instruments.
- This was introduced to help farmers return to their traditional ways of farming like mixed cropping.

### About KONDH TRIBE:

- Khonds (also spelt Kondha and Kandha ) are an indigenous Adivasi tribal community in Odisha ,India.
- They have several sub-tribes, for instance, the Dongria, Kovi, Kuttia, Languli, Penga, and Jharnia. Raj Konds etc.
- Traditionally hunter-gatherers, they are divided into the hill-dwelling Khonds, and plain-dwelling Khonds for census purposes, but the Khonds themselves identify by their specific clans.
- Khonds usually hold large tracts of fertile land, but still practice hunting, gathering, and slash-and-burn agriculture in the forests as a symbol of their connection to, and as an assertion of their ownership of the forests wherein they dwell.
- Khonds speak the Kui language and write it in the Odia script.



- These belong to the Dravidian language family and have strong similarities to Telugu, Tamil, and Kannada.
- The **Khonds are the largest tribal group in the state of Odisha.**
- They are **known for their rich cultural heritage, valourous martial traditions, and indigenous values**, which center on harmony with nature.
- The **Kandhamal district in Odisha has a fifty-five percent Khond population**, and is named after the tribe.
- They are a **designated Scheduled Tribe in the states of Andhra Pradesh, Bihar, Chhattisgarh, Madhya Pradesh, Maharashtra, Odisha, Jharkhand and West Bengal.**

## THRISSUR POORAM

### Why in News?

Festivities of the famous **Thrissur Pooram began with Kodiyettam, ceremonial flag hoisting**, at the participating temples.

### About Thrissur Pooram:

- Thrissur Pooram is **an annual Hindu temple festival held in Thrissur, Kerala.**
- It is **held at the Vadakkunnathan Temple in Thrissur every year on the Pooram day** (the day when the moon rises with the Pooram star in the Malayalam Calendar month of Medam i.e April-May)
- Thrissur Pooram is an important temple festival in Kerala that **dates back over 200 years.**
- **Prior to Thrissur Pooram, Arattupuzha Pooram was the most significant temple festival in Kerala.**





- The festival was the brainchild of **Raja Rama Varma, famously known as Sakthan Thampuran, the Maharaja of Cochin** (1790–1805).
- It is **the largest and most famous of all poorams in India.**
- It is an **impressive exhibition of cultural customs and traditions**, featuring adorned elephants, colourful umbrellas, and percussion music.
- The **festival is a splendid blend of Kerala's spiritual and cultural heritage** and is held in the Thekkinkadu Maidanam in Thrissur during the Malayalam month of medam, which falls in April-May.
- **Pooram officially begins with Kodiyettam (flag hoisting ceremony)** in which all the participating temples of the festival are present.
- The **Pooram consists of ten temples in and around Thrissur** and is considered to be a **ceremony where these deities come together to pay obeisance to Lord Shiva at the Vadakkunnathan Temple, located in the centre of the town.**
- One of the hallmarks of the festival is the percussion ensemble consisting of **traditional instruments like chenda, maddalam, edakka, thimila and kombu.**
- The **seventh day of the pooram is the last day.** It is also known as “**Pakal Pooram**”.
- Pooram, though a Hindu ritual, has grown to encompass all religious and cultural **strains of Kerala.** **Both the Muslim and Christian communities participate in the festival in a variety of ways highlighting secular credentials of the state.**

## OPERATION KAVERI

### Why in News?

India has started ‘**Operation Kaveri**’ to evacuate its nationals owing to the Current Crisis in Sudan.

Around 3,000 Indians are stuck in various parts of Sudan, including **capital Khartoum** and in distant provinces like **Darfur**.

### OPERATION KAVERI:

- **Operation Kaveri is a codename for India's evacuation effort to bring back its citizens stranded in Sudan amid intense fighting between the army and a rival paramilitary force there.**

- The operation involves the deployment of **Indian Navy's INS Sumedha**, a stealth offshore patrol vessel, and **two Indian Air Force C-130J special operations aircraft** on standby in Jeddah.
- The operation is being conducted for the evacuations of thousands of Indians in Sudan, primarily in the capital (Khartoum).
- Sudan has been witnessing **deadly fighting between the country's army and a paramilitary group** that has reportedly left around 400 people dead.
- Under Operation Kaveri, India has been rescuing its citizens in buses from **conflict zones in Khartoum and other troubled areas to Port Sudan** from where they are being taken to Jeddah in Indian Air Force's transport aircraft and Indian Navy's ships.
- From Jeddah, the Indians are being brought home in either commercial flights or IAF's aircraft.
- India has set up separate control rooms in Jeddah and Port Sudan and the India embassy in Khartoum has been coordinating with them and the MEA's headquarters in Delhi.
- As per official estimates, the **total number of Indians in Sudan is around 3,400 with around 1,000 PIOs** (Persons of Indian Origin) who have been residing in Sudan for generations.
- **Many Indians working for the oil and gas industry stay in distant places** and it is not easy to find out about them in the given circumstances.
- **India completed the evacuation of Hakki Pikki tribe members of Karnataka from Sudan.** The Indian evacuees including the Hakki Pikki tribes were housed in a school in Port Sudan, before being flown to Jeddah.
- The **focus of Operation Kaveri is now shifting to those groups of Indians who live in distant parts of Sudan away from Khartoum.**



## ARTICLE 142

### Why in News?

A five-judge or constitution bench of the Supreme Court Monday (May 1) held that a court can directly grant divorce under Article 142 of the Constitution, in cases where the marriage has irretrievably broken down, without referring the parties to a family court first, where they must wait for 6-18 months for a decree of divorce by mutual consent.

### About Article 142:

- Article 142 provides a unique power to the Supreme Court, to do “complete justice” between the parties, where, at times, the law or statute may not provide a remedy. In those situations, the Court can extend itself to put an end to a dispute in a manner that would fit the facts of the case. Any decree so passed or order so made shall be enforceable throughout the territory of India.
- Recently, the Supreme Court ruled that it can exercise its plenary power to do “complete justice” under Article 142(1) of the Constitution to dissolve a marriage on the ground that it had broken down irretrievably, without referring the parties to a family court where they must wait 6-18 months for a decree of divorce by mutual consent.
- Under The Hindu Marriage Act (HMA), 1955 people need to wait for a mandatory six month period for divorce.
- The court can waive the mandatory six-month waiting period for divorce under The Hindu Marriage Act (HMA), 1955, and allow the dissolution of the marriage on grounds of an irretrievable breakdown even if one of the parties is not willing.
- The decision enables couples to bypass the time-consuming process of obtaining a decree of divorce through family courts, which have a large number of similar cases pending.
- Article 142 (1) provides discretionary power to the Supreme Court as it states that the SC in the exercise of its jurisdiction may pass such decree or make such



order as is necessary for doing complete justice in any cause or matter pending before it.

- Article 142 has some negative aspects such as **ambiguity, promoting judicial overreach, and unaccountability**. It is further argued that the Court then has wide discretion, and this allows the possibility of its **arbitrary exercise or misuse due to the absence of a standard definition for the term “complete justice”**.
- **Defining “complete justice” is a subjective exercise that differs in its interpretation from case to case.** Thus, the court has to place checks on itself.
- **Application of Article 142 by the Supreme Court of India:-**
  - **Release of AG Perarivalan**, one of the life convicts in the Rajiv Gandhi assassination case;
  - **Cleansing of Taj Mahal** and granting justice to many undertrials;
  - **Ayodhya dispute case**
  - **Bhopal gas tragedy case**, etc.
- Article 142 has been invoked **to protect the rights of different sections of the population and serves as a check on the government, acting as a system of checks and balances with the legislature**. It provides complete justice to various deprived sections of society or protects the environment
- An order to do complete justice **must be consistent with the fundamental rights and cannot be inconsistent with the substantive provisions of the relevant statutory laws**.
- A person cannot directly approach the SC and seek dissolution of marriage on the ground irretrievable breakdown. **It can be used only as a remedy for a competent court’s judgement.**
- Writ jurisdiction under Articles 32 and 226 **cannot be used** to circumvent due procedure.

## CYCLONE MOCHA

### Why in News?

**Cyclone Mocha** that made **landfall recently in Myanmar** has been categorized as an Extremely Severe Cyclonic Storm by the IMD (Indian Meteorological Department) and as a **‘Super Cyclone’ by global weather website Zoom Earth**.

## About Cyclone Mocha:

- Cyclone Mocha was a very severe cyclonic storm that **formed in the Bay of Bengal on May 10, 2023.**
- It became the **strongest cyclone on earth so far in 2023** according to Typhoon Research Center in South Korea's Jeju National University.
- Mocha **originated from a low-pressure area** that was first noted by the India Meteorological Department (IMD) on 8 May.
- The storm intensified rapidly, reaching peak winds of 160 kilometers per hour (100 miles per hour) before making **landfall in Bangladesh on May 14.** The storm caused **widespread damage in Bangladesh and Myanmar.**
- Mocha made landfall during the afternoon hours of May 14 on the **Myanmar coast near Sittwe at a speed of 180-190 kmph**, gusting to 210 kmph, IMD stated.
- Mocha, with a recorded wind speed of 150 knots or 277 kilometres per hour, also became the strongest cyclone in the North Indian Ocean during the pre-monsoon season, tying with Cyclone Fani.
- Cyclone Mocha was the **strongest cyclone to hit Bangladesh in over a decade.**
- The storm caused widespread flooding and damage to homes, businesses, and infrastructure. The government of Bangladesh declared a state of emergency and deployed the military to help with relief efforts.
- **Cyclone Mocha also caused significant damage in Myanmar.**
- The storm made landfall in the country's Rakhine state, which is home to many Rohingya refugees. The storm displaced thousands of refugees and destroyed many of their homes. The United Nations estimates that Cyclone Mocha could have a devastating impact on the Rohingya refugee population.
- Heavy rainfall, with the possible risk of floods, flash floods and landslides and there will be major impacts both ahead and after landfall for potentially hundreds of thousands of the world's most vulnerable people.
- Thousands of volunteers assisted citizens of Myanmar and Bangladesh in evacuating as the cyclone approached the international border.





- India's Meteorological Department observed that **Mocha had intensified into a very severe cyclonic storm** and warned fishermen and trawlers against sailing far into the Bay.
- According to IMD, the **Northeastern states of Tripura, Mizoram, Nagaland, Manipur and the southern part of Assam were likely to witness heavy-to-very heavy rains** until May 18.

### **NAMING OF CYCLONE:**

- Cyclones are **mostly named after regions and areas where they are formed**, mostly the region of the sea or river where it is formed.
- The **World Meteorological Organization (WMO)** and the **United Nations Economic and Social Commission for the Asia Pacific (ESCAP)** have **been naming cyclonic storms since 2000.**
- In 2000, the twenty-seventh session of the WMO/ESCAP Panel on Tropical Cyclones (PTC) decided to name tropical cyclones in the Bay of Bengal and the Arabian Sea.
- The **India Meteorological Department (IMD)** names the cyclones developing **over the north Indian Ocean, including the Bay of Bengal and the Arabian Sea.** It also issues advisories to 12 other nations in the region on the development of cyclones and storms.
- The naming **of the cyclones started in September 2004** when the member countries proposed different names.
- The **panel has 13 member countries** including **India, Bangladesh, Iran, Myanmar, Pakistan, and Saudi Arabia, Thailand, Yemen, Sri Lanka, Maldives, United Arab Emirates (UAE), Oman, Qatar.**
- There have been 16 cyclones so far this year in both Northern and Southern Hemispheres.
- **Yemen suggested the name 'Mocha'**, which is supposed to be pronounced as Mokha. The cyclone has been named after a Red Sea port city known for its coffee production.
- The **next name in line is "Biporjoy" suggested by Bangladesh.**

## ABOUT TROPICAL CYCLONES:

- A tropical cyclone is a **rapidly rotating storm system** characterized by a **low-pressure center**, a closed **low-level atmospheric circulation**, **strong winds**, and a spiral arrangement of thunderstorms that produce strong winds, heavy rain and squalls.
- **Depending on its location and strength, a tropical cyclone is referred to by different names**, including hurricane , typhoon , tropical storm, cyclonic storm, tropical depression, or simply cyclone.
- Cyclone refers to their winds moving in a circle, whirling round their central clear eye, with their surface winds blowing counterclockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere.
- **Pre-Conditions for Tropical Cyclones:-**
  - Large sea surface with temperature higher than 27°C
  - Presence of Coriolis force
  - Small variations in the vertical wind speed
  - Pre-existing weak low-pressure area or low-level cyclonic circulation
  - Upper divergence above the sea level system.

## WORLD PRESS FREEDOM INDEX

### Why in News?

On the **World Press Freedom Day (WPDF) (3rd May)**, the World Press Freedom Index 2023 was published by Reporters Without Borders (RSF).

India ranked 161st among the 180 countries with a score of 36.62. In 2022, India's rank was 150.

### About World Press Freedom Index:

- The World Press Freedom Index is an **annual report** compiled by **Reporters Without Borders (RSF)** since 2022.



- The Index is a **global indicator of the state of journalism and media freedom in 180 countries and territories.**
- The index is **based on various indicators** such as **media pluralism, independence, transparency, legislative framework, quality of infrastructure and abuses and violence against journalists.**
- Each country or territory's score is evaluated using five contextual indicators: **political context, legal framework, economic context, sociocultural context and safety.**
- Countries are **ranked on a scale from 0–100 points**, with **100 being the best possible score** (the highest possible level of press freedom) and **0 the worst.**
- The **top three countries** on the ranking are **Norway, Ireland, and Denmark**, while Vietnam, China, and North Korea placed last.
- In comparison to other South Asian nations, India does poorly in the World Press Freedom Index, ranked 161.
- Except for Bangladesh (163), Myanmar (173) and China (179), all other neighbours have a better rank than India -- Bhutan (90), Nepal (95), Sri Lanka (135), Pakistan (150), Afghanistan (152).

### About Reporters Without Borders (RSF):

- Reporters Without Borders (RWB; French: Reporters sans frontières; RSF) is an **international non-profit and non-governmental organization** with the **stated aim of safeguarding the right to freedom of information.**
- RSF defines press freedom as *“the ability of journalists as individuals and collectives to select, produce, and disseminate news in the public interest independent of political, economic, legal and social interference and in the absence of threats to their physical and mental safety.”*
- RSF has **consultative status at the United Nations, UNESCO, the Council of Europe, and the International Organisation of the Francophonie.**
- **Headquarters: Paris, France.**



- RSF works on the ground in defence of individual journalists at risk and also at the highest levels of government and international forums to defend the right to freedom of expression and information.
- It provides daily briefings and press releases on threats to media freedom in French, English, Spanish, Portuguese, Arabic, Persian and Chinese and publishes an annual press freedom round up, the World Press Freedom Index, that measures the state of media freedom in 180 countries.

## NEUROTOXINS

### Why in News?

- 11 people died due to a gas leak in the Giaspura area of Ludhiana, Punjab.
- The reason behind the deaths: According to the air quality sensors used by NDRF, **high levels of Hydrogen Sulphide gas, a kind of neurotoxin**, have been detected.
- The Giaspur area of Ludhiana has several factories and is a thickly-populated area.

### About NEUROTOXINS:

- Neurotoxins are **poisonous substances** which can **directly affect the nervous system**.
- Neurotoxicity occurs when exposure to natural or man-made toxic substances alters the normal activity of the nervous system.
- These substances can eventually **disrupt or even kill neurons or nerve cells**, which are important for transmitting and processing signals in the brain and other parts of the nervous system.
- Though neurotoxins are often neurologically destructive, their ability to specifically target neural components is important in the study of nervous systems.
- Common **examples of neurotoxins** include **lead, ethanol (drinking alcohol), glutamate, nitric oxide, botulinum toxin (e.g. Botox), tetanus toxin, and tetrodotoxin**.



## **NEUROTOXIC GASES:**

- **Methane, hydrogen sulphide, carbon monoxide and carbon dioxide are common neurotoxic gases.**
- Methane and carbon monoxide are odourless gases, but **hydrogen sulphide has a pungent odour and in higher concentration can be fatal for humans.**
- Hydrogen sulphide is so toxic that even one breath of it taken inside can kill a person.
- Neurotoxins are synthetic or naturally occurring substances that damage, destroy, or impair the functioning of the central and/or peripheral nervous system.
- They may also cause metabolic imbalances that can secondarily affect the central nervous system (CNS).
- To **remove such gases from wastewater, chemical oxidation is done** where oxidants such as hydrogen peroxide are added to wastewater.

## **INTERNATIONAL LEOPARD DAY**

### **Why in News?**

A new portal dedicated to leopards (*Panthera pardus*) was **launched by the Cape Leopard Trust (CLT)**, an active predator conservation working group, on **International Leopard Day (May 3, 2023)** to promote and celebrate leopards worldwide.

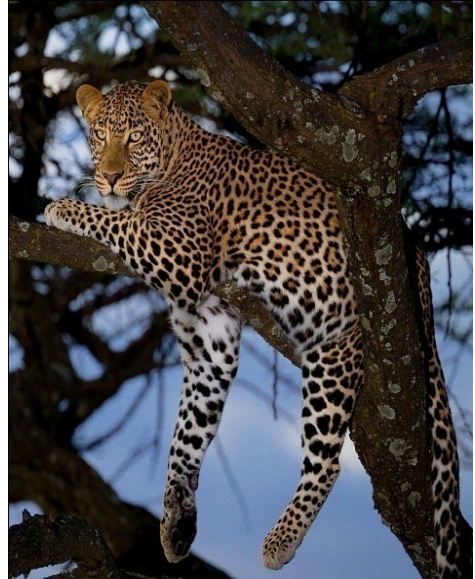
The launch of the website org follows the Global Leopard Conference held from March 13-19 by CLT, global wild cat organization Panthera and some other organizations.

### **About Leopard:**

- The **leopard is the smallest of the Big Cats** (namely the Tiger, Lion, Jaguar, Leopard, and Snow Leopard), and *known for its ability to adapt in a variety of habitats.*
- **Scientific Name : Panthera pardus**
- It is a **nocturnal animal (hunts by night).**
- **Melanism is a common occurrence in leopards**, wherein the entire skin of the animal is black in colour, including its spots.



- A melanistic leopard is often called **black panther or jaguar**, and mistakenly thought to be a different species.
- The **Indian leopard** is a leopard subspecies widely distributed on the Indian subcontinent.
- It is one of the big cats occurring on the Indian subcontinent, apart from the Asiatic lion, Bengal tiger, snow leopard and clouded leopard.
- **Habitat – India, Nepal, Bhutan and parts of Pakistan.**
- Leopards are generally asocial animals, living solitarily and avoiding other leopards.
- In comparison to other large carnivores, **leopards are quite adaptable with respect to their habitat needs and food requirements**, being found in agro-pastoral landscapes, plantations and near human habitation (both rural and urban).
- It occurs in a wide range in **sub-Saharan Africa**, in small parts of **Western and Central Asia**, on the **Indian subcontinent to Southeast and East Asia**.
- As per a recent report 'Status of leopards in India, 2018' (by MoEFCC), there has been a **“60% increase in the population count of leopards in India from 2014 estimates”**.
- It numbers nearly 13000 currently with the **highest population in Madhya Pradesh> Karnataka> Maharashtra.**
- **Threats** : Poaching for the illegal trade of skins and body parts, road Kill, habitat loss and fragmentation , human-leopard conflict.
- **Conservation Status:**
  - **IUCN Red List: Vulnerable.**
  - **CITES: Appendix-I.**
  - **Indian Wildlife (Protection) Act, 1972: Schedule-I.**
- Leopards are a species that have never been as well acknowledged and studied as, say, tigers. It is good that this website has been created. It means there will be more knowledge out there in the public domain.



## WORLD BANK

### Why in News?

The Executive Directors of the World Bank selected **Ajay Banga** as the **14<sup>th</sup> President of the World Bank** for a five-year term beginning June 2, 2023.

### About World Bank:

- The **World Bank** is an international financial institution that provides loans and grants to the governments of low- and middle-income countries for the purpose of pursuing capital projects.
- The **World Bank** is the collective name for the **International Bank for Reconstruction and Development (IBRD)** and **International Development Association (IDA)**, two of five international organizations owned by the World Bank Group.
- It was established along with the **International Monetary Fund** at the 1944 Bretton Woods Conference.
- **Headquarter : Washington D.C.**
- It has **189 member countries**.
- **India is also a member country.**
- For the last 30 years, it has included NGOs and environmental groups in its loan portfolio.
- Its loan strategy is influenced by the United Nations' Sustainable Development Goals, as well as environmental and social safeguards.
- The **World Bank Group** is an extended family of five international organizations, and the parent organization of the World Bank, the collective name given to the first two listed organizations, the IBRD and the IDA:
  - 1) International Bank for Reconstruction and Development (IBRD)
  - 2) International Development Association (IDA)
  - 3) International Finance Corporation (IFC)
  - 4) Multilateral Investment Guarantee Agency (MIGA)
  - 5) International Centre for Settlement of Investment Disputes (ICSID)



- **India is not a member of ICSID.**
- Major Reports published by World Bank:-
  - Ease of Doing Business (Stopped publishing).
  - Human Capital Index.
  - World Development Report.

## INDIA'S 1<sup>ST</sup> NATIONAL WATERBODY CENSUS

### Why in News?

The **Ministry of Jal Shakti** has released the report of **India's first water bodies census**, a comprehensive data base of ponds, tanks, lakes, and reservoirs in the country.

The census was conducted in 2018-19, and enumerated more than 2.4 million water bodies across all states and Union Territories.

The census provides an extensive inventory of water sources in India, highlighting disparities between rural and urban areas and varying levels of encroachment.

### About:

- The **census of waterbodies was conducted in conjunction** with the **6th Minor Irrigation Census for 2017-18.**
- First Census Report considers “all natural or man-made units bounded on all sides with some or no masonry work used for storing water for irrigation or other purposes (e.g. industrial, pisciculture, domestic/ drinking, recreation, religious, ground water recharge etc.)” **as water bodies.**
- The water bodies “are usually of various types known by different names like tank, reservoirs, ponds etc.”, it says.
- The **census aimed to provide an inventory of India's water resources**, including natural and man-made water bodies like ponds, tanks, lakes, and more, and to collect data on the encroachment of water bodies.
- According to the report, “**A structure where water from ice-melt, streams, springs, rain or drainage of water from residential or other areas is accumulated or water is stored by diversion from a stream, nala or river will also be treated as water body.**”

## HIGHLIGHTS OF THE REPORT:

- The census enumerated a total of **24,24,540 water bodies** across the country, with **West Bengal accounting for the most (7.47 lakh)** and **Sikkim the least (134)**.
- **West Bengal has the highest number of ponds and reservoirs.**
- **West Bengal's South 24 Pargana** has been ranked as the **district having the highest (3.55 lakh) number of water bodies across the country.**
- The district is followed by **Andhra Pradesh's Ananthapur (50,537)** and **West Bengal's Howrah (37,301)**.
- **Andhra Pradesh has the highest number of tanks.**
- **Tamil Nadu has the highest number of lakes.**
- **Maharashtra leads in water conservation schemes.**
- The report highlights that **97.1% of the waterbodies are in rural areas, with only 2.9% in urban areas.**
- "Traditional methodology, i.e., paper-based schedules, were canvassed both for rural and urban areas.
- A "village schedule", "urban schedule" and "water body schedule" were canvassed, and a smart phone was used to "capture latitude, longitude and photo of water bodies", the report says.
- The census found that **1.6% of enumerated water bodies — 38,496 out of 24,24,540 — had been encroached upon.**
- **Uttar Pradesh accounted for almost 40% (15,301) of water bodies under encroachment, followed by Tamil Nadu (8,366) and Andhra Pradesh (3,920).**
- No encroachment was reported from West Bengal, Sikkim, Arunachal Pradesh, and Chandigarh.
- Seven specific types of water bodies were **excluded** from the count.
  1. oceans and lagoons;

### MAIN FINDINGS

**24,24,540**

water bodies in India

**7.47 lakh**

West Bengal has largest number

**3.55 lakh**

South 24-Parganas in West Bengal is the district with the most water bodies

### MOST IN THE COUNTRY

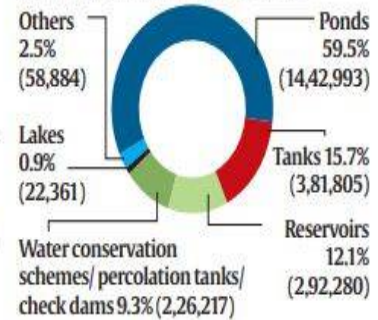
Ponds, reservoirs **West Bengal**

Tanks **Andhra Pradesh**

Lakes **Tamil Nadu**

Conservation Schemes **M'ashtra**

### TYPES OF WATER BODIES



### 1 LAKH+ (BESIDES BENGAL)

Uttar Pradesh	<b>2.45 lakh</b>	Assam	<b>1.72 lakh</b>
Andhra Pradesh	<b>1.90 lakh</b>	Jharkhand	<b>1.07 lakh</b>
Odisha	<b>1.81 lakh</b>	Tamil Nadu	<b>1.06 lakh</b>

2. rivers, streams, springs, waterfalls, canals, etc. which are free flowing, without any bounded storage of water;
3. swimming pools;
4. covered water tanks created for a specific purpose by a family or household for their own consumption;
5. a water tank constructed by a factory owner for consumption of water as raw material or consumable;
6. temporary water bodies created by digging for mining, brick kilns, and construction activities, which may get filled during the rainy season; and
7. pucca open water tanks created only for cattle to drink water.

### **DRAWBACKS OF of 1st WATERBODY CENSUS:**

- Gaps in conducting census
- Limited focus on Human use of Water Bodies.
- Inconsistency in Categorization of Water Bodies.
- Lack of Standardization of data across states.

## **LAUNDROMAT COUNTRIES**

### **Why in News?**

A report titled **“Laundromat: How the price cap coalition whitewashes Russian oil in third countries”** published by the Helsinki-based Center for Research on Energy and Clean Air (CREA) has found that oil from Russia is getting backdoor entry into Europe via Laundromat countries.

**India leads ‘Laundromat’ countries** buying Russian crude and selling oil products to Europe.

### **ABOUT:**



- “Laundromat” countries refer to those nations that are involved in purchasing cheap crude oil from Russia and converting it into refined petroleum products, which are “laundered” in Europe and other G7 countries.



- The five countries (India, China, Turkey, UAE and Singapore) are identified as ‘laundromats’ for Western countries by the Centre for Research on Energy and Clean Air (CREA).
- The five countries are responsible for **70 percent of Russia's crude oil exports**, the study highlighted.
- As per the latest CREA report, among the five laundromat countries, **India has remained the highest global consumer of seaborne Russian crude** and is exporting close to 3.8 million tonnes of processed oil products to “Price Cap Coalition” countries.
- The **“Price Cap Coalition”** bars trade and insurance for any oil purchased **above a certain price from Russia**.
- The Price Cap Coalition countries include the European Union (EU), G-7 countries, Australia and Japan.

## TUNGNATH TEMPLE

### Why in News?

As per the Archaeological Department of Uttarakhand, Kedar Tungnath Temple will be declared a national monument.

### About TUNGNATH TEMPLE:

- Tungnath is **one of the highest Shiva temples in the world** and is the highest of the five Panch Kedar temples located in the Rudraprayag district, in the Indian state of **Uttarakhand**.

- The Tungnath temple is **located at an altitude of about 3680 m above sea level.**
- The Tungnath (literal meaning: Lord of the peaks) mountains **form the Mandakini and Alaknanda river valleys.**
- It is located **at an altitude of 3,690 m (12,106 ft)**, and just below the peak of Chandrashila.



- **It has a rich legend linked to the Pandavas**, heroes of the Mahabharata epic.
- It is **believed to have been discovered by Adi Shankaracharya.**
- Significantly, the Central Government issued a notification on 27 March 2023 to declare the ancient temple Tungnath as a monument of national importance.
- Panchkedars (“five+ Kedar (Shiva)”) are a group of five sacred Hindu temples dedicated to Lord Shiva, located in the Indian state of Uttarakhand. **Kedarnath, Tungnath, Rudranath, Madhyamaheshwar, and Kalpeshwar.** It is believed that the Panchkedars were built by the Pandavas during the Mahabharata era.

## ARTICLE 355 IN NEWS

### Why in News?

The Centre has taken control of security in Manipur (by allegedly invoking **Article 355**), **deploying 12 companies of the Border Security Force (BSF)** and airlifting anti-riot vehicles to the northeastern state.

The move comes after at least ten people were killed by mobs, and several villages and community-specific urban localities were destroyed during tribal clashes.

### ABOUT:

- An ethnic clash erupted on 3 May 2023 in India's north-eastern state of Manipur **between the Meitei people**, a largely Hindu majority that lives in the Imphal Valley, and the **mainly Christian tribes from the surrounding hills, including the Kuki and Zo peoples.**

- Recently, **unrest in the state of Manipur** was triggered by a decision of the High Court to pursue a 10-year-old recommendation to grant Scheduled Tribe (ST) status to the non-tribal Meitei community.
- In view of the prevailing unprecedented burning situation, the Centre has imposed Article 355 in the state, in an effort to control the situation, according to reliable sources.
- The violence killed more than 70 people, and injuring hundreds.
- **It began in Churachandpur district during the "Tribal Solidarity March"** called by the All Tribal Student Union Manipur (ATSUM) to protest the granting of reservations to the majority Meitei community.
- **The Indian Army flew in close to 10,000 troops and paramilitary forces to restore law and order.**
- Internet services in the state were suspended for a period of five days and Section 144 of the Indian Penal Code was invoked. The Indian troops were given "shoot on sight" orders to enforce the curfew in "extreme cases".



### ABOUT ARTICLE 355:

- **Article 355** is part of the emergency provisions in **Part XVIII of the Indian Constitution**, which extends from Article 352 to 360.
- Article 355 of the Constitution states, "***It shall be the duty of the Union to protect every State from external aggression and internal disturbance, and to ensure that the government of every State is carried on in accordance with the provisions of this Constitution.***"
- It is based on the principle of "duty to protect" enshrined in the Constitution, which makes it mandatory for the Union government to protect every state from external and internal threats.
- The **Union government does not require any prior 'request' from the state government to impose Article 355.**
- If the government of every state is not carried on in accordance with the provisions of the Constitution, the Centre takes over the government of a state

under Article 356 in case of failure of constitutional machinery in state. This is popularly known as 'President's Rule'. It is also known as 'State Emergency' or 'Constitutional Emergency'.

### What is the relationship between Articles 355 and 356?

- In the event of a failure or breakdown of a state's constitutional machinery, the central takes over the state government under Article 356.
- This is **usually referred to as 'President's Rule.'**
- Imposition grounds: Under Article 356, the president's ruler can be proclaimed on two grounds:
- Article 356 gives the President the power to issue a proclamation ***if he is satisfied that a situation has arisen in which the government of a state cannot be carried out in line with the provisions of the constitution.***
- According to **Article 365**, *whenever a state fails to comply with or give effect to any direction from the centre, the President can proclaim that a situation has arisen in which the state government cannot be carried on in accordance with the provisions of the constitution.*
- **Within two months** of its issuance, a **proclamation imposing the president's rule must be approved by both houses of parliament.**
- A **proclamation** imposing the president's rule **must be approved by both the houses of parliament within two months from the date of its issue.**
- The **President** acquires the following extraordinary powers when the President's rule is imposed in a state:
  - He can take up the functions of the state government and powers vested in the governor or any other executive authority in the state.
  - He can declare that the powers of the state legislature are to be exercised by the parliament.
  - He can take all other necessary steps including the suspension of the constitutional provisions relating to anybody or authority in the state.
  - Scope of judicial review: The 38th Amendment act of 1975 made the satisfaction of the President in invoking Article 356 final and conclusive which would not be challenged in any court on any ground.
  - But, this provision was subsequently deleted by the 44th Amendment Act of 1978 implying that the satisfaction of the President is not beyond judicial review.

## Meiti Community

- The Meitei people, also known as the **Manipuri people** or Meetei, are the **predominant ethnic group of Manipur in Northeast India**.
- They **speak Meitei language** (officially called Manipuri), one of the 22 official languages of the Indian Republic and the **sole official language of Manipur**.
- The **Meiteis primarily settled in the Imphal Valley region in modern-day Manipur**, though a sizable population has settled in the other Indian states of Assam, Tripura, Nagaland, Meghalaya, and Mizoram.
- There is also a notable presence of Meitei in the neighboring countries of Myanmar and Bangladesh.
- The Meitei ethnic group **represents about 53% of Manipur's population**.
- The Manipuri martial art Thang-ta is a combative sport which had its origin from the Meitei knights during the kings rule.

## KUKI TRIBE

- The Kuki people are an **ethnic group in the southeastern part of Manipur, Mizoram and Myanmar in India**.
- The **Kuki constitute one of several hill tribes within India, Bangladesh, and Myanmar**.
- In Northeast India, they are present in all states except Arunachal Pradesh.
- Some fifty tribes of Kuki peoples in India are recognised as scheduled tribes, based on the dialect spoken by that particular Kuki community as well as their region of origin.
- The Chin people of Myanmar and the Mizo people of Mizoram are kindred tribes of the Kukis. Collectively, they are termed the Zo people.

## ZO TRIBE

- The Zo people/Kuki people are an ethnic group which inhabit areas of India, Myanmar and the Chittagong hill tracts of Bangladesh.



- The word **Zo** is used to describe an ethnic group, which is also known as the **Chin, the Mizo, the Kuki**, or a number of other names based on geographic distribution, that speaks the Kuki-Chin languages.
- They are **from same origin which is known as Sinlung**.
- They spread throughout the northeastern states of India, northwestern Myanmar (mainly in Chin State, Sagaing Division and Arakan State) and the Chittagong Hill Tracts of Bangladesh. In northeastern India, they are present in Tripura, Nagaland, Mizoram, Manipur, Meghalaya and Assam.

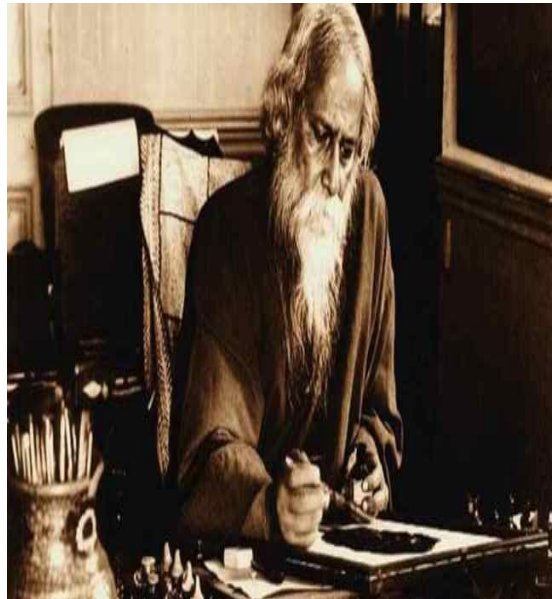
## RABINDRANATH TAGORE

### Why in News?

Prime Minister recently paid tributes to Rabindranath Tagore on his birth anniversary.

### About Rabindranath Tagore:

- **Rabindranath Tagore (7 May 1861 – 7 August 1941)** was a Bengali polymath who worked as a poet, writer, playwright, composer, philosopher, social reformer and painter and Asia's first Nobel laureate.
- He was the son of **Debendranath Tagore**, a prominent philosopher and religious reformer.
- He **reshaped Bengali literature and music** as well as Indian art with Contextual Modernism in the late 19th and early 20th centuries.
- Author of the "profoundly sensitive, fresh and beautiful" poetry of **Gitanjali**, he became in **1913 the first non-European and the first lyricist to win the Nobel Prize in Literature**.



- Tagore's poetic songs were viewed as spiritual and mercurial; however, his "elegant prose and magical poetry" remain largely unknown outside Bengal.
- He was a **fellow of the Royal Asiatic Society**. Referred to as "the **Bard of Bengal**", Tagore was known by sobriquets: **Gurudeb, Kobiguru, Biswokobi**.
- Tagore **modernised Bengali art by spurning rigid classical forms and resisting linguistic structures**. His novels, stories, songs, dance-dramas, and essays spoke to topics political and personal.
- **Gitanjali** (Song Offerings), **Gora** (Fair-Faced) and **Ghare-Baire** (The Home and the World) **are his best-known works**, and his verse, short stories, and novels were acclaimed—or panned—for their lyricism, colloquialism, naturalism, and unnatural contemplation.
- Other notable poetry publications include **Sonar Tari and Manasi**.
- He was **also an influential artist and musician**. He wrote around 2230 songs and painted 3000 paintings. His songs are known as **Rabindra Sangeet**.
- His compositions were chosen by **two nations as national anthems**: India's "**Jana Gana Mana**" and Bangladesh's "**Amar Shonar Bangla**". The Sri Lankan national anthem was inspired by his work.
- Viswa Bharti University, which was known as **Shantiniketan founded by Rabindranath Tagore**.
- He was awarded a knighthood in 1915, but he repudiated it in 1919 as a protest against the Amritsar (Jallianwalla Bagh) Massacre.

## ARAB LEAGUE

### Why in News?

Recently, the Arab League has re-admitted Syria into the organization, after a suspension over a decade.

### About Arab League:

- The Arab League, formally the League of Arab States, is a **regional organization in the Arab world**, which is located in Northern Africa, Western Africa, Eastern Africa, and Western Asia.
- The Arab League was **formed in Cairo on 22 March 1945**, following the adoption of the **Alexandria Protocol** in 1944, initially with six members: **Egypt, Iraq, Transjordan, Lebanon, Saudi Arabia, and Syria.**
- **Yemen joined as a member** on 5 May 1945. **Currently, the League has 22 members.**
- Currently, there are 22 Arab countries: Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, Palestine, Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, the United Arab Emirates, and Yemen.
- The League also has several **observer countries, including Brazil, Eritrea, India, and Venezuela.**
- The League's **main goal** is to "***draw closer the relations between member states and co-ordinate collaboration between them, to safeguard their independence and sovereignty, and to consider in a general way the affairs and interests of the Arab countries***"
- Aim: To strengthen and coordinate the political, cultural, economic, and social programs of its members and to mediate disputes among them or between them and third parties.
- The organization has received a relatively low level of cooperation throughout its history.
- It has been criticized for its internal conflicts and collective inaction on important international issues.
- The league has also been **criticized for its lack of effectiveness in enforcing decisions and resolving conflicts among its members.**



***Why was Syria suspended?***

- **Syria's membership in the Arab League was suspended in 2011** after protests against President Bashar Assad turned violent.
- Anti-government protests had erupted across the country as part of the Arab Spring uprisings.
- These protests had **killed nearly a half million people since March 2011** and displaced half of the country's pre-war population of 23 million.
- The **Arab League accused Syria of not complying with a peace plan** that called for a withdrawal of military forces, the release of political prisoners, and the start of a dialogue with opposition groups.
- Despite attempts at peace negotiations and ceasefire agreements, the violence continued, leading to Syria's suspension.
- The **league had imposed economic and political sanctions on Syria over its failure to stop the violence.**
- A committee involving Egypt, Saudi Arabia, Lebanon, Jordan, and Iraq will be established to help Syria achieve these goals.
- The move signifies softness in relations between Syria and other Arab governments and is seen as the start of a gradual process to resolve the crisis in Syria.
- **But the decision does not mean a resumption of relationships between Arab states and Syria as it is up to each country to decide this individually.**
- It calls for a resolution of the crisis resulting from Syria's civil war, including the flight of refugees to neighboring countries and drug smuggling across the region.

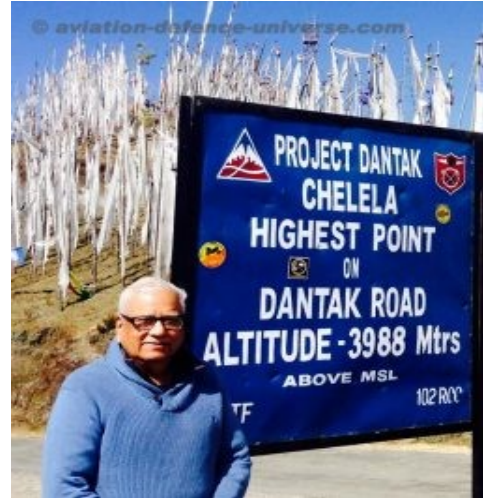
## PROJECT DANTAK

### Why in News?

The Prime Minister has praised the initiative by **Border Roads Organisation Project Dantak** to commemorate 64th Raising Day.

### About PROJECT DANTAK:

- Dantak, also known as **Project DANTAK**, is an **overseas project of the Border Roads Organisation under the Ministry of Defence of India.**
- Project DANTAK was **established on 24 April 1961** as a result of an agreement between Jigme Dorji Wangchuck, the third king of Bhutan and then Prime Minister of India Jawahar Lal Nehru.
- **Colonel T.V. Jaganathan** was appointed as the **first Chief Engineer of DANTAK.**
- The project is involved in identifying the most important aspects of connectivity and in spurring the socio-economic development and growth of Bhutan.
- It is tasked to construct and maintain roads suitable for motorised transportation in Bhutan.
- It was **established under the provision of the Indo-Bhutan Treaty of Peace and Friendship, 1949.**
- The **project also constructs infrastructure in adjoining Indian districts**, some of the important ones include Sherbathang–Nathu La road, Gangtok–Sherbathang road and Sevoke–Gangtok road.
- The medical and education facilities established by DANTAK in outlying areas were the first in those regions.
- The **Takthi Canteen**, commonly known as the DANTAK canteen midway between Phuentsholing and Thimphu is a major stop for travelers.
- The **project recruits local workers from Bhutan as well as Indian workers from adjoining districts** like Jaigaon, Alipurduar and other parts of Eastern and North-Eastern India under a basic monthly wage. **It posts officials from India for the supervision of work.**



### **About BORDER ROAD ORGANISATON (BRO):**

- The Border Roads Organisation (BRO) is a road construction executive force in India that provides support to and is now a part of the Indian Armed Forces.

- It was formed on May 7, 1960 and has its headquarters in Seema Sadak Bhawan, New Delhi.
- It functions under the control of the Ministry of Defence.
- The organization's motto is **Shramena Sarvam Sadhyam** (*everything is achievable through hard work*).
- BRO develops and maintains road networks in India's border areas and friendly neighboring countries.



## START PROGRAMME

### Why in News?

The Indian Space Research Organisation (ISRO) has announced a new introductory-level online training programme called Space Science and Technology Awareness Training (START).

### About START : Space Science and Technology Awareness Training

- The START programme is part of the ISRO's efforts to enable Indian students to become professionals in Space Science and Technology.
- START is aimed at postgraduate and final-year undergraduate students of Physical Sciences and Technology.
- The programme will cover various domains of Space Science, including Astronomy and Astrophysics, Heliophysics and Sun-Earth interaction, Instrumentation, and Aeronomy.
- It will be delivered by scientists from Indian academia and ISRO centres.
- Its purpose is to provide students with introductory-level training in Space Science and Technology.

For the Indian academic institutes, offering post-graduate / under-graduate courses on physical sciences / technology

# START

An online Space Science & Technology Awareness Training

Major Themes

- Introduction to space
- Solar System
- Comparative Planetology
- Space Weather
- Astronomy & Astrophysics
- Astrobiology
- Indian Space Exploration Programme
- Research Opportunities in Space Science & Technology

Indian academic institutions may send Expression of Interest by **May 20, 2023** through <https://jigyasa.iirs.gov.in/START>

A course of lectures by scientists from ISRO/DOS, IISc, IIA, IIG, TIFR, IISER

Science Programme Office (SPO), ISRO Headquarters & Indian Institute of Remote Sensing (IIRS), Dehradun



- The **training will also emphasize the cross-disciplinary nature of Space Science**, giving students insights into how the individual aptitudes can be applied to the field.
- The **lectures will also cover topics on the Indian Space Science exploration program and research opportunities in Space Science and technologies.**
- It is also expected to help build a human capacity that will lead Space Science and research in the future.

## FORUM SHOPPING

### Why in News?

Recently, the Chief Justice of India (CJI) Chandrachud has **condemned the practice of Forum Shopping** after a litigant mentioned the hearing before CJI although he had mentioned the same case a day before another Judge.

### About Forum Shopping:

- Forum shopping refers to the practice of litigants or lawyers deliberately selecting a particular judge or court where they believe the judgment will be more favourable to their case.
- This practice involves choosing a court that is likely to provide the most favourable outcome, rather than following the standard legal process.
- Litigants and lawyers often consider this strategy as part of their litigation plan.
- For example, they might opt for a higher court like the Supreme Court (SC) to gain more attention for their case. However, if someone is clearly trying to manipulate the system or avoid a particular judge, it is seen as unfair.
- Similarly, “**Bench Hunting**” refers to petitioners managing to get their cases heard by a particular judge or bench to ensure a favourable order.



### Advantages:

- It can allow plaintiffs to seek justice and compensation in a court that is more sympathetic to their claims or interests.
- It can encourage competition and innovation among courts and judges to improve their efficiency and quality of service.

### **Disadvantages:**

- Forum shopping has been criticized by judges because **it can lead to injustice for the opposing party and create an imbalance in the workload of different courts.**
- Judges have cited the **overburdening of some courts over others and interfering with judicial process.**
- It can **undermine the authority and legitimacy of courts and judges by creating perceptions of bias or favoritism.**
- It can **increase the costs and complexity of litigation** by creating conflicts of laws and multiple proceedings.
- The **Supreme Court has condemned this practice. It has no sanction in law and must be discouraged.**

## **GOPAL KRISHNA GOKHALE**

### **Why in News?**

The **Prime Minister paid tribute to Gopal Krishna Gokhale** on his 154th birth anniversary on May 9, 2023.

### **About Gopal Krishna Gokhale:**

- Gopal Krishna Gokhale (9 May 1866 – 19 February 1915) **was an Indian political leader and a social reformer during the Indian Independence movement.**
- He was the **Political Guru of Indian freedom fighter and Father of the Nation of India Mahatma Gandhi.**
- He was **also the mentor of Quaid e Azam Muhammad Ali Jinnah, founder of Pakistan.**
- Gokhale was a **senior leader of the Indian National Congress and the founder of the Servants of India Society.**

- Through the Society as well as the Congress and other legislative bodies he served in, **Gokhale campaigned for Indian self-rule and for social reforms.**
- He **was the leader of the moderate faction of the Congress party** that advocated reforms by working with existing government institutions, and a **major member of the Poona Association or the Poona Sarvajanik Sabha.**
- His famous quote was "What Bengal thinks today, India thinks tomorrow".
- He **became president of INC in 1905** in Banaras session.
- This was the time when bitter differences had arisen between his group of 'Moderates' and the 'Extremists' led by Lala Lajpat Rai and Bal Gangadhar Tilak among others. The two factions **split at the Surat session of 1907.**
- In **1908, Gokhale founded the Ranade Institute of Economics.**
- He **started english weekly newspaper, The Hitavada (The people's paper).**
- **Gokhale also published a daily newspaper entitled Jnanaprakash,** which allowed him to voice his reformist views on politics and society.
- He **was instrumental in the formation of the Minto-Morley Reforms of 1909,** which eventually became law.



## PRATIMA MURTHY COMMITTEE

### Why in News?

The **Insurance Regulatory and Development Authority (IRDAI)** has established a **five-member** expert committee **to provide guidance on insurance and mental health issues.**

### About Pratima Murthy Committee:

- The two-year tenure of the panel coincides with the recognition of mental health as an important area for insurance coverage consideration.

- The National Institute of Mental Health and Neurosciences (NIMHANS) Chief Pratima Murthy will seat the board.
- The **committee will offer suggestions and advice regarding mental illness coverage that is currently in place and future plans.**
- In addition, **it will provide guidance on the medical domain's terminology and concept as well as insurance-related mental illness aspects.**
- When dealing with products that are designed to cover mental illnesses and other aspects that are related to them, it is necessary to conduct a comprehensive examination of all aspects involved, including the kinds of conditions and treatments from an insurance perspective.

### **About Insurance Regulatory and Development Authority (IRDAI):**

- The **Insurance Regulatory and Development Authority of India (IRDAI)** is **a statutory body under the jurisdiction of Ministry of Finance , Government of India** and **is tasked with regulating and licensing the insurance and re-insurance industries in India.**
- **It was constituted by the Insurance Regulatory and Development Authority Act, 1999**, an Act of Parliament passed by the Government of India.
- The **agency's headquarters are in Hyderabad, Telangana**, where it moved from Delhi in 2001.
- **IRDAI is a 10-member body** including the **chairman, five full-time and four part-time members appointed by the government of India.**
- The **functions of the IRDAI** are defined in Section 14 of the IRDAI Act, 1999, and include:
  - Issuing, renewing, modifying, withdrawing, suspending or cancelling registrations
  - Protecting policyholder interests
  - Specifying qualifications, the code of conduct and training for intermediaries and agents



- Specifying the code of conduct for surveyors and loss assessors
- Promoting efficiency in the conduct of insurance businesses
- Promoting and regulating professional organisations connected with the insurance and re-insurance industry
- Levying fees and other charges
- Inspecting and investigating insurers, intermediaries and other relevant organisations
- Regulating rates, advantages, terms and conditions which may be offered by insurers not covered by the Tariff Advisory Committee under section 64U of the Insurance Act, 1938 (4 of 1938)
- Specifying how books should be kept
- Regulating company investment of funds etc.

## BAOBAB TREES

### Why in News?

The **Madhya Pradesh government** has decided that the **forest department cannot give permission to translocate Dhar's famed Baobab trees**, after the protest from Bhil tribes.

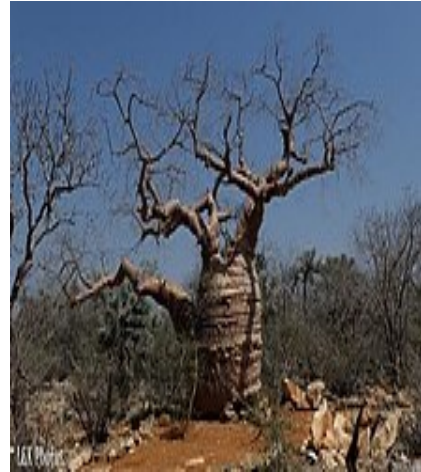
Under the Biodiversity Act, meaning that any commercial use of the trees will require permission from the state biodiversity board.

### About Baobab Trees:

- **Baobabs are long-lived deciduous**, small to large trees from 5 to 30 m (20 to 100 ft) tall with broad trunks and compact crowns which can live up to 2,000 years, and **are known for their extraordinary longevity.**
- These deciduous trees **found in mainland Africa, Madagascar, and Australia.**
- **Young trees usually have slender, tapering trunks, often with a swollen base.**



- **Mature trees** have massive trunks that are bottle-shaped or cylindrical and tapered from bottom to top.
- The trunk is made of fibrous wood arranged in concentric rings, although rings are not always formed annually and so cannot be used to determine the age of individual trees.
- Tree diameter fluctuates with rainfall so it is thought that water may be stored in the trunk.
- Baobab trees have two types of shoots—long, green vegetative ones, and stout, woody reproductive ones.
- The fruit of the tree is round or oval-shaped and is highly nutritious.
- Branches can be massive and spread out horizontal from the trunk or are ascending. *Adansonia rubrostipa* is the only baobab that sometimes has spines.
- The Baobab Tree is also known as the upside-down tree.
- Baobab trees can live to become thousands of years old. The oldest baobab tree on record was the Panke baobab in Zimbabwe, which lived to be a venerable 2450 years old.
- Baobab trees can live for more than a thousand years and provide food, livestock fodder, medicinal compounds, and raw materials.
- The Bhil tribe of Central India opposes the forest department's decision to uproot baobab trees for commercial use.
- IUCN Status: Endangered
- Madhya Pradesh government has applied for a GI tag for Baobabs.
- They are called the 'Tree of Life' because:
  - They can store large amounts of fresh water in their extraordinary trunks.
  - It also allows the baobab tree to produce nutritious fruits even during the driest years.
  - This makes them true life savers during times when water is scarce.
- Since 2005, 9 of the 13 oldest African baobab specimens and 5 of the 6 largest trees have died or suffered a collapse, possibly due to climate change.



## About Bhil tribes:



- Bhils are a group of tribal Indians scattered throughout India from Gujarat in the west to Tripura in the Far East.
- Bhils are listed as tribal people of the states of Gujarat, Madhya Pradesh, Chhattisgarh, Maharashtra and Rajasthan—all in the western Deccan regions and central India—as well as in Tripura in far-eastern India, on the border with Bangladesh.
- Bhils are divided into a number of endogamous territorial divisions, which in turn have a number of clans and lineages.
- Many Bhils now speak the dominant language of the region they reside in, such as Marathi, Gujarati or a Bhili language dialect.
- The word Bhil is derived from “Veel” or ‘billu’, which means “bow” in the Dravidian language.
- The Bhil tribe is called “Dhanush Purush of India” because they are highly adept at learning Dhanush.
- Bhil is the largest tribal group in India as per 2011 Census. They constitute approximately 38% of the total scheduled tribal population of India.
- Bhils have a rich and unique culture. The Bhilala subdivision is known for its Pithora painting.
- Ghoomar is a traditional folk dance of the Bhil tribe.
- The Bhil are known to be excellent archers coupled with deep knowledge about their local geography.
- Traditionally, experts in guerrilla warfare, most of them today are farmers and agricultural labourers. They are also skilled sculptors.




## PROJECT CHEETAH

### Why in News?

On the directions of the **National Tiger Conservation Authority (NTCA)**, a team of experts visited the Kuno National Park and reviewed the current status of the Project Cheetah.

## About Project Cheetah:

- India is going to be home once again to the majestic presence of cheetah, the world's fastest land animal.
  - The **Government of India has decided to reintroduce cheetahs, under the 'Action Plan for Introduction of Cheetah in India'.**
  - **"Project Cheetah aims to bring back independent India's only extinct large mammal – the cheetah.**
- 
- The very name 'Cheetah' originates from Sanskrit and means 'the spotted one'.
  - As part of the project, **50 cheetahs will be introduced in various National Parks over five years."**
  - **Cheetah happens to be the only large carnivore that got completely wiped out from India, mainly due to over-hunting and habitat loss.**
  - The Action Plan highlights the nation's preparedness in bringing the cheetah back.
  - Conservation of Cheetahs has a very special significance for the national conservation ethic and ethos.
  - **Cheetahs fulfil a unique ecological role within the carnivore hierarchy and their restoration is expected to enhance ecosystem health in India.**
  - As a charismatic species, the **cheetah can also benefit India's broader conservation goals** by improving general protection and ecotourism in areas that have been previously neglected.
  - It is a cheetah reintroduction policy of the Indian Government to ensure sustainable habitation of Cheetah in India.
  - They noted that in the first phase of the ambitious project aimed at reintroducing cheetahs to their historical range in India, **twenty cheetahs were successfully translocated from southern Africa to Kuno National Park (KNP) in September 2022 and February 2023.**

## MATRILINEAL MEGHALAYA

### Why in News?

Khasi Hills Autonomous District Council (KHADC) ordered not to issue an ST certificate to any Khasi person who adopts their father's surname as it is against the traditional custom of inheriting the mother's surname.

### Matrilineal Society of Meghalaya:

- Multiple tribes (Garo, Khasi, Jaintia, Boro) in Meghalaya, northeast India, **practice matrilineal descent.**
- Khasi and Garo people are the primary tribes discussed in the article.
- The term “**Ki Hynniew Trep**” (The Seven Huts) refers to the Khasi people, while the Garo people are also known as Achik people.
- These tribes have a proud heritage of matrilineality, but there are concerns about the decline of matrilineal traits.
- It refers to a social and kinship system where descent and inheritance are traced through the female line.
- In this system, family lineage, property, and clan membership are passed down from mother to daughter. Among Khasis, the youngest daughter (khatduh) of the family is entrusted the full share of the ancestral – or the clan's – property.
- The three tribes of Meghalaya — Khasis, Jaintias, and Garos — practise a matrilineal system of inheritance.

### About KHADC:

- KHADC is a **body under the Sixth Schedule of the Constitution.**
- The **Sixth Schedule** of the Constitution provides for the **administration of tribal areas in Assam, Meghalaya, Tripura and Mizoram to safeguard the rights of the tribal population in these states.**
- Khasi Hills Autonomous District Council (KHADC) is an **autonomous district council in the state of Meghalaya in India.**
- It provides for autonomy in the administration of these areas through Autonomous District Councils (ADCs), which are empowered to make laws in respect of areas under their jurisdiction.

## CHAM LAMA PERFORMANCE

### Why in News?

In the Lahaul region of Himachal Pradesh, a **Cham Lama performance** was held at **Tupchiling Gompa** on the auspicious day of **Buddha Jayanti**.

### About Cham Lama:

- The **cham dance** is a **lively masked and costumed dance** associated with some sects of **Tibetan Buddhism and Buddhist festivals**.
- The dance is accompanied by music played by monks using traditional Tibetan musical instruments.
- It was **started in the eighth century by Padmasambhava** (who introduced Tantric Buddhism to Tibet), to subjugate the local demons that were obstructing the building of the first monastery in Tibet, Samye.
- The dances often **offer moral instruction relating to karuṇā (compassion) for sentient beings** and are held to bring merit to all who perceive them.
- Chams are **considered a form of meditation and an offering to the gods.**
- The **leader of the cham is typically a musician**, keeping time with a percussion instrument like cymbals, the one exception being Dramyin Cham, where time is kept using dramyin.
- Chams **often depict incidents from the life of Padmasambhava**, the 9th century Nyingmapa teacher, and other saints.
- It is **an elaborate masked and costumed dance. It is considered an act of cleansing evil forces.**
- It is **unique to Tibetan Buddhism and an important cultural tradition.**



## WORLD BEE DAY

### Why in News?

The **Ministry of Agriculture and Farmers Welfare (MoA&FW)**, recently celebrated **World Bee Day on May 20th, 2023** at Balaghat, Madhya Pradesh.

The **United Nations declared May 20th every year to be observed as World Bee Day** to raise awareness of the importance of pollinators, the threats they face and their contribution to sustainable development.

### About:

- World Bee Day is an **annual event that is celebrated on May 20th** to raise awareness about the importance of bees and other pollinators for the environment, food security and biodiversity.
- The date was chosen to commemorate the birthday of Anton Janša, a pioneer of modern beekeeping from Slovenia.
- The **United Nations General Assembly declared 20 May as World Bee Day in 2017**, following a proposal by Slovenia and the support of 115 countries.
- The Theme of 2023 is **“Bee engaged in pollinator-friendly agricultural production”**.

### ABOUT BEES:

- Bees are **winged insects known for their role in pollination and producing honey.**
- They are **entirely dependent on flowers for food**, which consists of pollen and nectar, the latter sometimes modified and stored as honey.
- There is no doubt that bees and the flowers, as they pollinate, evolved simultaneously.
- Bees are **winged insects closely related to wasps and ants**, known for their roles in pollination and, in the case of the best-known bee species, the western honey bee, for producing honey.
- Bees are a monophyletic lineage within the superfamily Apoidea.
- They are presently considered a clade, called Anthophila.



- There are **over 16,000 known species of bees** in seven recognized biological families.
- **Some species** – including honey bees, bumblebees, and stingless bees – **live socially in colonies** while most species (>90%) – including mason bees, carpenter bees, leafcutter bees, and sweat bees – **are solitary**.
- **Bees are found on every continent except Antarctica**, in every habitat on the planet that contains insect-pollinated flowering plants.
- **Bees feed on nectar and pollen**, the former primarily as an energy source and the latter primarily for protein and other nutrients.
- Bee pollination is important both ecologically and commercially, and the **decline in wild bees has increased the value of pollination by commercially managed hives of honey bees**.

### Significance:

As bees go from flower to flower gathering pollen, a small amount is rubbed from their bodies and deposited on the flowers they visit.

This loss of pollen is significant, for it often results in the **cross-pollination of plants**.

Together with wild pollinators, **bees play a major role** in-

- maintaining biodiversity
- supporting forest regeneration
- promoting sustainability
- adaptation to climate change
- improving the quantity and quality of agricultural production.
- Commercially bees are valued for honey and wax production.

## EXERCISE SAMUDRA SHAKTI-2023

### Why in News?

The 4th edition of the Indo-Indonesia bilateral Exercise Samudra Shakti-23 concluded on 19 May 23.



## About Exercise Samudra Shakti :

- In pursuance of India's Act East Policy, Exercise 'Samudra Shakti' was conceived in 2018 as a bilateral IN-IDN (India-Indonesia) exercise.
- Exercise Samudra Shakti is aimed at enhancing interoperability, jointness and mutual cooperation between both the navies.
- Other Exercises with **Indonesia**:
  - Garuda Shakti (Military Exercise)
  - IND-INDO CORPAT, IND-INDO BILAT (Maritime Exercise)



## CORPSE FLOWER

### Why in News?

Over a **thousand people queued up outside an abandoned gas station in San Francisco's Bay Area** this week to catch a glimpse of the extremely rare and aptly named 'corpse flower'.

### About Corpse Flower:

- The ultra-rare Corpse Flower is a flowering plant, which is **native to the rainforests of Sumatra in Indonesia**.
- Corpse Flower, whose **scientific name is Amorphophallus Titanum**, is said to be one of the largest flowers in the world.
- It is **known to be one of the world's largest 'unbranched inflorescence' or a stalk bearing a cluster of flowers**.



- In **about a decade**, the ‘corpse flower’ can grow to be up to **10 feet tall** and unveil two of its key components a **deep red skirt-like petal** known as the **spathe** and a **yellow rod-like ‘spadix’**.
- Another crucial component of the plant is the ‘**corm**’, a **fleshy underground plant stem that acts as a storage organ where the corpse plant’s energy is stored**.
- The unique plant is **said to have the biggest corm in existence**, sometimes weighing around 100 kgs.
- The Scientist says that the **corpse flower emits such a smell to attract insects that can help to pollinate it**.
- The main odorant which gave the flower its distinct smell was **dimethyl trisulfide**, the same compound that is emitted from cancerous wounds, microorganisms, and some vegetables.
- It was listed as an **endangered** plant in 2018 by the **International Union for Conservation of Nature (IUCN)**.

## CALCIUM-41 DATING

### Why in News?

Scientists have suggested using **Calcium-41 for Radiometric Dating as an alternative to Carbon-14** for determining the age of fossilized bones and rocks.

They have suggested a **technique called Atom-Trap Trace Analysis (ATTA)** as a solution, because ATTA is sensitive enough to spot Calcium-41, which is a rare isotope.

### About Calcium-41:

- **Calcium-41 is a rare long-lived radioisotope of calcium with a half-life of 99,400 years.**
- **Calcium-41 is produced in the Earth's crust when cosmic rays from space collide with calcium atoms in soil or rocks.**
- **Calcium-41 is called a cosmogenic nuclide,**

#### New technique welcomes calcium-41 to radiometric dating

Yanadram Mahanth

Since its invention in 1947, carbon dating has revolutionised many fields of science by allowing scientists to estimate the age of an organic material based on how much carbon-14 it contains. However, carbon-14 has a half-life of 5,730 years, so the technique cannot determine the age of objects older than around 50,000 years.

Calcium-41 is rarer, occurring once in around 1,015 calcium atoms. In the new study, researchers at the University of Science and Technology of China (USTC) used a technique called atom-trap trace analysis (ATTA) to solve this. ATTA is sensitive enough to spot these atoms, specific enough to not confuse them for other similar atoms and fit on a tabletop.

A sample is vaporised in an oven. The atoms in the vapour are laser-cooled and loaded into a cage made of light and

ing and losing carbon-14 atoms. When it dies, this process stops and the extra carbon-14 starts to decay away. Using the difference between the relative abundance of these atoms in the body and the number that should have been there, researchers can estimate when the entity died. A significant early issue with carbon dating was to detect carbon-14 atoms, which occur once in around 1,012 carbon atoms. Calcium-41 is rarer, occurring once in around 1,015 calcium atoms.

In an atom, an electron in one orbital can transition to the next if it's given a specific amount of energy then it jumps back by releasing that energy.

Electron transition In ATTA, a laser's frequency is tuned such that it imparts the same energy as required for an electron transition in calcium-41. The electrons absorb and release this energy, revealing the presence of their atoms. The researchers reported



Scientists: Carbon-14 dating cannot determine the age of objects older than around 50,000 years.

being able to spot one calcium-41 atom in every 1,016 calcium atoms with 12% precision is a new feat.

In future, "we hope that from the diffuse atomic beam, the leading efficiency of the Ca-41 atoms into the trap can be improved" so that the measurement time for each sample is lower and the

sensitivity is higher, Dr. Xia added. His group leader, Zheng-Tian Gu, said in the journal, *Physical Review Letters*, that ATTA's success is due to innovation with lasers' laser power is a lot higher, and laser frequency control is better".

ATTA also avoids potassium-41 atoms, which are similar to calcium-41 atoms but lack the same electron transition.

The researchers are currently exploring an earth-science application. In warmer climates, glaciers retreat and allow rock sediments to accumulate calcium-41. In colder climates, glaciers advance and block the calcium-41 from reaching the rock. This way, scientists hope to use ATTA to study how long some rock has been covered in ice. "We are collaborating with geoscientists, by measuring the Ca-41 abundance in some rock samples," Dr. Xia said.

because it is produced when cosmic rays from space smash into calcium atoms in the soil in a fission reaction, called spallation.

- This isotope has the potential to be employed in dating methods for objects that are older than what can be accurately determined using carbon-14 dating.
- It is found in the earth's crust, opening the door to dating fossilized bones and rock.
- The issue is **Calcium-41 is rarer**, occurring once in around 1015 Calcium atoms.

### **Advantages of Calcium-41:**

**Longer Half-Life:** Calcium-41 has a much longer half-life of 99,400 years, allowing for the dating of much older materials compared to carbon-14.

**Abundance in Earth's Crust:** Calcium-41 is found in the Earth's crust, making it available for dating various geological materials, including fossilized bones and rocks.

**Atom Trap Trace Analysis (ATTA):** The technique of ATTA enables the detection of calcium-41 atoms with high sensitivity and selectivity, improving the accuracy of dating methods.

**Potential for Extension:** The successful application of ATTA to calcium-41 opens the possibility of using similar techniques for other metal isotopes, expanding the range of dating methods available.

**Earth-Science Applications:** Calcium-41 and ATTA can be used to study geological processes, such as determining how long rocks have been covered by ice, providing valuable insights into Earth's history and climate changes.

### **ATTA: ATOM TRAP TRACE ANALYSIS**

- Atom Trap Trace Analysis (ATTA) - Researchers at the University of Science and Technology of China pitched a technique called atom-trap trace analysis (ATTA) to spot these atoms.
- ATTA is both extremely sensitive and selective, and is **based on the laser manipulation and detection of neutral atoms**.

- The sample is vaporized, and the atoms are laser-cooled and loaded into a light and magnetic field cage.
- By tuning the laser's frequency, Calcium-41 atoms can be detected through electron transitions.
- The electrons absorb and release this energy, revealing the presence of their atoms.
- Electron transition: In an atom, an electron in one orbital can transition to the next if it's given a specific amount of energy; then it jumps back by releasing that energy.
- Significance - It can spot one calcium-41 atom in every 10<sup>16</sup> calcium atoms with 12% precision in seawater.
- ATTA also avoids potassium-41 atoms, which are similar to calcium-41 atoms but lack the same electron transition.

### **Applications of ATTA:**

- The successful application of a calcium isotope opens the possibility of extension to other metal isotopes.
- ATTA can be adapted to study other isotopes, such as argon-39, krypton-81, and krypton-85.
- In warmer climates, glaciers retreat and allow rock below to accumulate calcium-41. In colder climates, glaciers advance and block the calcium-41 from reaching the rock. This way, scientists hope to use ATTA to study how long some rock has
- been covered by ice.

### **RADIOMETRIC DATING:**

- **Radiometric dating is a method used to determine the age of rocks, minerals, and fossils based on the decay of radioactive isotopes.**
- It relies on the principle that certain isotopes of elements are unstable and spontaneously decay over time into more stable forms.
- The rate of decay is measured by the half-life, which is the time it takes for half of the parent isotope to decay into the daughter isotope.
- **Different isotopes have different half-lives, which makes them useful for dating different time ranges.**

- For example, carbon-14 dating is effective for dating organic materials up to about 50,000 years old. When an organic entity is alive, its body keeps absorbing and losing carbon-14 atoms. When it dies, this process stops and the extant carbon-14 starts to decay away.
- Using the difference between the relative abundance of these atoms in the body and the number that should've been there, researchers can estimate when the entity died.

### **Limitations with Carbon-14:**

- **Limited Time Range:** Carbon-14 dating is effective for objects up to approximately 50,000 years old due to the short half-life of carbon-14 (5,700 years).
- **Contamination Issues:** Contamination from modern carbon sources can affect the accuracy of carbon-14 dating, leading to inaccurate age estimates.
- **Incomplete Preservation:** Organic materials must be well-preserved to contain sufficient carbon-14 for dating. Poor preservation or exposure to environmental factors can compromise the reliability of carbon-14 dating.

### **CARBON-14 DATING:**

- Carbon-14 - **Radiocarbon (Carbon 14) is an isotope of the element carbon that is unstable and weakly radioactive** [The stable isotopes are carbon 12 and carbon 13]
- It **has a half-life of 5,700 years**, so the technique can't determine the age of objects older than around 50,000 years.
- Radiocarbon dating – It is a method that provides objective age estimates for carbon-based materials that originated from living organisms.
- **Plants and animals assimilate Carbon 14 from carbon dioxide throughout their lifetimes.**
- When they die, they stop exchanging carbon with the biosphere and their carbon 14 content then starts to decrease at a rate determined by the law of radioactive decay.
- An age could be estimated by measuring the amount of carbon-14 present in the sample.
- There are 3 principal techniques used to measure carbon 14 content of any given sample.
  - Gas proportional counting
  - Liquid scintillation counting

- Accelerator mass spectrometry (Advanced method)
- The method was developed 1940s by Willard Libby, who received the Nobel Prize in Chemistry to this work in 1960.

## PANGENOME MAP

### Why in News?

Recently, a new study has been published in the Nature journal describing a Pangenome Reference Map, **built using genomes from 47 anonymous individuals** (19 men and 28 women), mainly from Africa but also from the Caribbean, Americas, East Asia, and Europe.

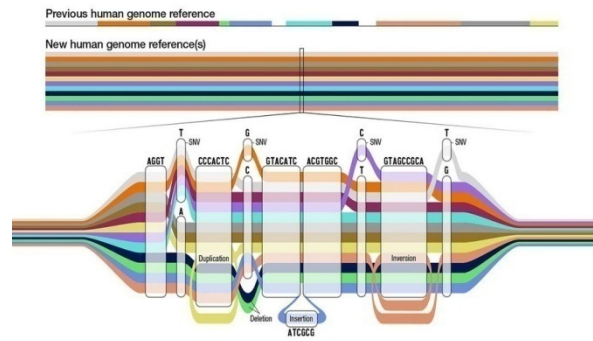
### About Reference Genome:

- A **reference genome or reference map is like a standard map that scientists use when they sequence and study new genomes.** It serves as a guide to compare and understand the differences between the newly sequenced genome and the reference genome.
- When genomes are newly sequenced, they are compared to a reference map called a reference genome. This helps to understand the regions of differences between the newly sequenced genome and the reference genome.
- **Reference genome was first built in 2001.** It helped scientists discover thousands of genes linked to various diseases and better understand diseases like cancer at the genetic level and design novel diagnostic tests.
- However, the reference genome had many gaps and errors. **It was also not representative of all human beings** as it was built using mostly the genome of a single individual of mixed African and European ancestry.
- Therefore, to address these gaps and errors, scientists have developed the pangenome map.

### About Pangenome Map:



- The pangenome is a graph unlike the earlier reference genome which was a linear sequence.
- The graph of each chromosome resembles a bamboo stem, with nodes where sequences from all 47 individuals come together, indicating similarity.
- The **internodes, which have different lengths, represent genetic variations among individuals from different ancestries.**
- The researchers used long-read DNA sequencing technologies to create complete and contiguous chromosome maps in the pangenome project.
- Longer reads technology helps to assemble the sequences with minimum errors and read through the repetitive regions of the chromosomes which are hard to sequence with short-read technologies used earlier.
- However, **even though pangenome map is error free, it does not represent all of human diversity.**

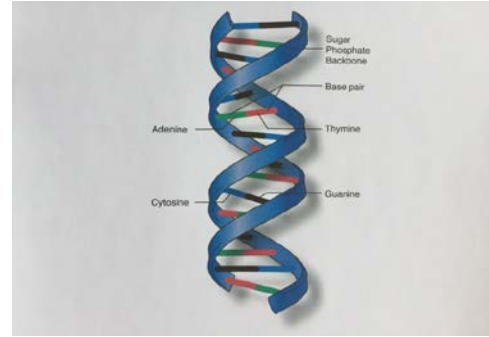


### Significance:

- Even though two humans are more than 99% similar in their DNA, there is still about a 0.4% difference between them.
- Hence, a complete and error-free human pangenome map will help understand these differences and explain human diversity better.
- It will **also help understand genetic variants in some populations**, which result in underlying health conditions.
- **The present map does not contain Indian genome sequences.** However, it will help in mapping Indian genomes against the error-free and full reference genomes known till date.
- Future pangenome maps incorporating high-quality genomes from diverse Indian populations, including endogamous and isolated groups, will provide insights into disease prevalence, facilitate the identification of new genes associated with rare diseases, and aid in the discovery of novel drugs to combat these diseases.

### What is genome?

- The **genome** is the entire set of DNA instructions found in a cell.
- It contains all the information needed for an individual to develop and function.
- In humans, the **genome consists of 23 pairs of chromosomes** located in the cell's nucleus, as well as in the mitochondria.
- Each **chromosome is a contiguous stretch of DNA string** which in turn is composed of millions of individual building blocks called **nucleotides or bases**.
- The **four bases** include **adenine, thymine, guanine and cytosine (A, T, G and C)**.
- The genome is an identity card like Aadhaar as **each our genome is unique**.
- To date, **humans are the only life form that has successfully sequenced its own genome**, yet there are many life forms that have substantially larger genomes.



## WORLD FOOD INDIA 2023

### Why in News?

In celebration of the International Year of Millets in 2023, India's Ministry of Food Processing Industries is organizing the second edition of '**World Food India 2023**' in **New Delhi from 3rd-5th November**.

### About:

- World Food India 2023 is a **gateway to the Indian food economy, facilitating partnerships between Indian and foreign investors**.
- The event aims to **showcase India's food culture and attract global investments in the food processing sector**. It will bring together manufacturers, producers, investors, policymakers, and organizations from across the global food ecosystem.



- It is a promising platform to **showcase, connect and collaborate** in retail, processing, technology transfer, manufacturing, and cold chain logistics, along the global food value chain.
- It will showcase investment opportunities in backward linkages, processing equipment, research and development, cold chain storage, start-ups, logistics, and retail chains.
- **Focus areas:**
  - Leveraging millets as a superfood;
  - positioning India as a global hub for food processing;
  - unlocking growth potentials in strategic segments;
  - establishing an efficient ecosystem, and promoting sustainable development.
- The event is part of India's vision to become a global leader in the food processing industry and highlights the country's production, consumption, and export potential in various food sectors.
- **India is taking steps to create an inclusive and sustainable ecosystem**, attract foreign investment, and enhance the ease of doing business, in the food processing system.
- The **first edition of World Food India was held in 2017**. India leads the world in the production of milk, bananas, mangoes, papayas, guavas, ginger, okra and buffalo meat, and ranks second in the production of rice, wheat, potatoes, garlic, cashew nuts.
- The **United Nations has declared 2023 as the International Year of Millets (IYM 2023)** with the aim of increasing the production and consumption of millets worldwide.

## WORLD BIODIVERSITY DAY 2023

### Why in News?

The International Day for Biological Diversity, celebrated on May 22 each year, is a reminder of the promise made in Montreal last December.

### About:

- The **United Nations General Assembly (UNGA)** in 1993 proclaimed **22nd May** as **IDB** to increase understanding and awareness of biodiversity issues.
  - The **International Day for Biological Diversity (IDB)**, celebrated on **22nd May 2023**, raises awareness about the importance of biodiversity for sustaining life on Earth.
- 
- The **theme** of the international day this year is appropriately **“From Agreement to Action: Build Back Biodiversity”**.
  - **2011-2020: United Nations (UN) Decade on Biodiversity**
  - **2021-2030: UN Decade of Ocean Science for Sustainable Development and the UN Decade on Ecosystem Restoration.**
  - To address the biodiversity crisis, the **Kunming-Montreal Global Biodiversity Framework** was adopted at the **15th Conference of Parties (COP 15)** to the **Convention on Biological Diversity.**
  - Kunming Montreal Global Biodiversity Framework (GBF) is a **non-binding international agreement** that **calls for urgent and integrated action to address biodiversity considerations in all sectors of the global economy.**
  - The framework has a total of **four goals with 23 targets** which **have to be met by 2030.**
  - The four goals are:
    1. Conserve and restore biodiversity.
    2. Ensure sustainable use of biodiversity.
    3. Share benefits fairly and equitably.
    4. Enable transformative change.
  - **30 by 30 Target** : One of the important targets is to **make 30% of the Earth’s land and oceans protected status by 2030.**
  - **Challenges with the implementation of this framework:-**
    - Limited timeframe and urgency.
    - Funding Gap
    - National Biodiversity Strategy and Action Plans (NBSAP) (Only Spain has submitted it , even India has not submitted the plan)
    - Balancing Conservation and Indigenous Rights

- Experts argue that the ‘targets of protection of 30% of land and water’, may infringe upon the rights of indigenous peoples.
- Lack of Political will (similar targets set under the previous Aichi Biodiversity Targets in 2011 were not met by 2020);

## LEATHERBACK TURTLES

### Why in News?

The government has granted approvals for an **international container port on the Great Nicobar Island**, which poses a threat to the survival of leatherback turtles, the largest turtles on Earth.

### About Leatherback Turtles:

- **The leatherback sea turtle** (*Dermochelys coriacea*), sometimes called the lute turtle or leathery turtle or simply the luth, **is the largest of all living turtles and the heaviest non-crocodilian reptile.**
- The Leatherback turtle is the **largest of the seven sea turtle species.**
- It can easily be **differentiated from other modern sea turtles by its lack of a bony shell**; instead, its carapace is covered by oily flesh and flexible, leather-like skin, for which it is named.
- It has a **leather-like shell** and is **found in all oceans except the Arctic and the Antarctic.**
- **In the Indian Ocean, it nests only in Indonesia, Sri Lanka, and the Andaman and Nicobar Islands.**
- It is the **only living species in its genus (Dermochelys) and family (Dermochelyidae).**
- The Leatherback is unique among reptiles as **it can generate heat to maintain high body temperatures.**



- **Conservation Status:**
  - **CITES: Appendix I**
  - **IUCN: Vulnerable / Critically Endangered**
  - **India's Wildlife Protection Act 1972: Schedule I**
- **Threats** : Loss of nesting sites, fishing activities, boat collisions, egg collection, plastic waste ingestion, and habitat destruction.

## YUVA PRATIBHA

### Why in News?

MyGov, in collaboration with Institute of Hotel Management, Pusa will launch – YUVA PRATIBHA – Culinary Talent Hunt on May 13, 2023.

### About YUVA PRATIBHA:

- YUVA PRATIBHA – **Culinary Talent is a cooking competition aimed at promoting the culinary talents of young chefs and home cooks, while also raising awareness of millets as a healthy and sustainable ingredient.**
- The competition is open to Indian citizens aged between 18 and 40 years, and participants are required to cook a dish in which 50 percent of the ingredients are millets.
- The competition aims to create awareness of the contribution of millets to food security and nutrition.
- The **United Nations has declared 2023 as the International Year of the Millets**, and the fusion of millets in this competition provides a unique opportunity for participants to showcase their creativity and innovation in cooking with healthy and sustainable ingredients.
- The purpose of this competition is to bring out the lost recipes and promote the culinary talents of young and aspiring chefs and home cooks.





## AIRAWAT- AI SUPERCOMPUTER

### Why in News?

India's AI Supercomputer 'AIRAWAT', which has been installed at C-DAC Pune, has been ranked 75th in the world in the 61st edition of Top 500 Global Supercomputing List at the International Supercomputing Conference (ISC 2023) in Germany.

### About AIRAWAT:

- **AIRAWAT (AI Research, Analytics and knowledge Assimilation)** is an AI-based cloud computing infrastructure.
- It is **part of the National Program on AI initiated by the Government of India**, aligning with Prime Minister Narendra Modi's vision of "AI for All."
- **Ministry of Electronics & Information Technology envisions scaling AIRAWAT to a computing capacity of 1,000 AI Petaflops to meet the current AI computational requirements.**
- The deployment of AIRAWAT **will empower academia, research labs, the scientific community, industry, and startups to develop indigenous AI-enabled products and solutions**, particularly for addressing India-specific challenges.
- AIRAWAT, **manufactured by Netweb Technologies.**
- It's **operating system is Ubuntu 20.04.2 LTS.**
- The supercomputer **runs on AMD EPYC 7742 64C 2.25GHz processor** with 81,344 cores.
- The supercomputer **has been installed this year only.**
- There are three other supercomputers in the Top 500 list. They are:
  - **PARAM Siddhi-AI** supercomputer ranked at No. 131
  - **Pratyush** supercomputer ranked at No. 169:
  - **Mihir** supercomputer at No. 316



### About SUPERCOMPUTER:

- A supercomputer is a computer with a high level of performance as compared to a general-purpose computer.
- The performance of a supercomputer is commonly measured in floating-point operations per second (FLOPS) instead of million instructions per second (MIPS).
- The processing speed of a supercomputer is measured in PETAFLIPS (ten to the power 15 floating point operations per second).
- From November 2017 to November 2022, China had been the leader in the number of supercomputers.
- However, as of June 2023, the United States is the leader with 150 supercomputers among the world's 500 most powerful supercomputers. It is followed by China, with 134 supercomputers, and Germany, with 36 supercomputers
- India's first supercomputer was PARAM 8000. It was followed by PARAM Shivay, PARAM Shakti, PARAM Brahma, PARAM Yukti, and PARAM Sanganak, installed at various institutions in India.



## NEW BIG 5 PROJECT

### Why in News?

The “New Big 5 project” is an international initiative involving more than 250 photographers, conservationists and wildlife charities across the globe to **photograph five animals**.

### About:

- It is an **international initiative of more than 250 of the world's wildlife photographers, conservationists, and wildlife charities.**
- Created by British photographer Graeme Green.

- The project aims to **frame these five animals across the world instead of poaching it.**
- These animals are **elephant, polar bear, gorilla, tiger and lion.**
- **Two animals from the Kaziranga National Park have made it into the list.** But, the legendary one horn rhino is out of the list.
- **All the New Big 5 animals are keystone species,** essential to the balance of nature in their habitats, biodiverse ecosystems, and the survival of other species, including humans.
- It raises awareness about the crisis facing the world's wildlife from threats including habitat loss, human-wildlife conflict, poaching, illegal wildlife trade, and climate change.



## VOLT TYPHOON

### Why in News?

The Volt Typhoon is **an alleged hacking group that mainly specializes in espionage and information gathering and has been active since at least 2017.**

The Volt Typhoon Campaign is chasing after advancement of capacities that could disturb basic correspondences framework between the US and Asia region during future emergencies.

### About:

- Volt Typhoon so far appears to be **focused on stealing information from “organizations that hold data that relates to the military or government in the United States.**
- It is **believed that the group is backed by China.**



- Microsoft and other researchers pointed out that Volt Typhoon was a quiet operator that hid its traffic by routing it through hacked network equipment like home routers and expunged evidence of intrusions from victim's logs.
- Microsoft assesses with moderate confidence that this Volt Typhoon campaign is pursuing development of capabilities that could disrupt critical communications infrastructure between the United States and Asia region during future crises.
- Volt Typhoon **has been active since mid-2021** and has targeted critical infrastructure organizations in Guam and elsewhere in the United States.

## CHEETAH PROJECT STEERING COMMITTEE

### Why in News?

National Tiger Conservation Authority (NTCA) formed a Cheetah Project Steering Committee.

### About Cheetah Project Steering Committee:

- On May 26, the **NTCA constituted the Project Steering Committee to guide and monitor the progress of Project Cheetah.**
- It will be **chaired by Dr Rajesh Gopal, Secretary General of Global Tiger Forum.**
- The **Committee comprises esteemed individuals from various backgrounds,** including R.N. Mehrotra, P.R. Sinha, H.S. Negi, G.S. Rawat, Qamar Qureshi, Inspector General of NTCA, Chief Wildlife Warden of Madhya Pradesh, and others.
- This **diverse group of experts brings a wealth of experience and perspectives to ensure the success of the cheetah reintroduction program.**
- **Kuno National Park,** located in Madhya Pradesh, **has been selected as the sanctuary for the reintroduction of cheetah.**
- The committee will be in force for two years and will convene at least one meeting every month, besides conducting field visits to Kuno National Park.
- The **functions of the Steering Committee** include –
  - **Reviewing progress, monitoring and advice** on the Cheetah introduction to the MP Forest Department and NTCA.

- **Opening the Cheetah habitat for eco-tourism** and suggesting regulations in this regard.
- Suggestions on community interface and for their involvement in the **project activities**.

### **About NTCA: National Tiger Conservation Authority**

- The National Tiger Conservation Authority (NTCA) is a **statutory body established in 2005 under the MoEF&CC under the enabling provisions of the Wildlife (Protection) Act, 1972.**
- It was **constituted following a recommendation of the Tiger Task Force**, constituted by the PM of India



- The **Prime Minister of India established it to reorganise the management of Project Tiger and India's many Tiger Reserves in India.**
- The **authority consists of the Minister in charge of the MoEF&CC (as Chairperson), the Minister of State in the MoEF&CC (as Vice-Chairperson) and other members.**

## **SENGOL**

### **Why in News?**

On May 28th 2023, the **Prime Minister Narendra Modi** inaugurated the new Parliament building, which is part of the Central Vista redevelopment project and **installed the 'Sengol' in the new Lok Sabha house.**

### **About Sengol:**

- The Sengol is profound in meaning, which is **derived from the Tamil word "Semmai", meaning "Righteousness".**

- One of the longest-reigning dynasties in history, the **Chola dynasty of South India, is where Sengol first appeared.**
- As a token of just and equitable governance and during the Chola dynasty, **the sacred “sengol” was used to signify the handover of authority from one monarch to another.**
- It was a traditional Chola practice for Samayacharyas (spiritual leaders) to lead the coronation of kings and sanctify the transfer of power.
- It is carried by a queen or king during some official ceremonies and symbolises their authority. Righteousness and Justice.
- **Its origin lies in Tamil Nadu.**
- The Sengol or Chengol is a **royal sceptre**. The sceptre is a decorated stick.
- The **five-foot-tall sceptre, which will be displayed for everyone to see close to the Lok Sabha Speaker’s platform, is topped with a Nandi, or bull.**
- The Nandi, with its unyielding gaze as the **beholder of “Nyaya”**, is hand-carved at the top.
- The **sceptre is made of silver and is covered with gold.**
- The Sengol was **placed before the goddess of Meenakshi in the great temple and then transferred to the throne room.**
- It is **on May 28, 2023 that Prime Minister Narendra Modi installed Sengol in the new Lok Sabha house.**
- After the ‘havan’, Prime Minister Narendra Modi bowed down.
- **He received the Sengol** which had been given to the first Prime Minister Jawaharlal Nehru on the eve of Indian Independence.
- It **had been kept all these decades in the Museum in Prayagraj.**
- The Prime Minister received the Sengol amid vedic chanting by priests with multi-faith prayers. **After receiving it from the priests, the Prime Minister placed it in a glass case behind the seat of Lok Sabha Speaker, Om Birla.**
- This **is the same Sengol that was accepted by the first Prime Minister of India Nehru at his residence on the night of 14th August,** in the presence of several leaders.





- On this night Jawaharlal Nehru received the 'Sengol' from the Adheenams (Priests) of the Thiruvaduthurai Adheenam (Mutt) in Tamil Nadu, who had specially arrived for the occasion.
- The recipient of the Sengol has the “order” (“Aanai” in Tamil) to rule justly and fairly.
- The Prime Minister took a decision to adopt the **Sengol as a national symbol of the Amrit Kaal.**

## MOHENJODARO'S DANCING GIRL

### Why in News?

Prime Minister Narendra Modi inaugurated the International Museum Expo 2023 in New Delhi.

The **mascot of International Museum Expo 2023 was inspired by Dancing Girl Sculpture.**

### About:

- The Dancing Girl figurine is one of the **most famous and iconic artifacts of the Indus Valley Civilization (IVC)**, also known as the Harappan Civilization.
- It was **discovered in 1926** by British archaeologist **Ernest McKay** during excavations at Mohenjodaro, a major site of the Indus Civilization.
- Even though Mohenjodaro and Harappa became part of Pakistani territory after the Partition, the Dancing Girl remained in India as part of an agreement.
- The **figurine is made of bronze** and was **sculpted using the lost wax technique.**
- Stands at a **height of 10.5 cm (original figurine).**



- It represents the high level of artistry and metallurgy in the Harappan civilization, showcasing the knowledge of metal blending and lost-wax casting techniques.
- Currently housed in the National Museum of India, serving as a prominent exhibit in the Indus Civilization gallery.

## GONGADI SHAWLS

### Why in News?

A group of alumni from the National Institute of Design has repurposed **Telangana's woollen gongadi shawls** into **all-weather shoes for farmers**.

### About Gongadi Shawls:

- Gongadi is the **traditional woollen blanket** woven by the **indigenous Kuruma and Kuruba pastoralist communities**.
- The word "Gongadi" is derived from the **Telugu language**, where "Gondu" means "tribal" and "adi" means "cloth."
- **Wool of the indigenous Deccani sheep** (known *locally as Nalla gorrae*) is used.
- The unique gongadi is not only the symbol of rich diverse traditional weaving culture of the Deccan region but also the pride and identity of the local indigenous pastoralist communities.
- The coarse woollen blanket is **famous for its durability and versatility**.
- The tough gongadi **usually lasts for more than a decade** and acquires this unique quality from the craft of hand weaving.
- One of the unique natures of gongadi is that **it does not fade but grows darker in time**.



- The indigenous Kuruma weavers say that gongadi is so strong that you can lift a fully grown bull off the ground with it.
- The traditional gongadi is **produced organically, without using any dyes either natural or synthetic.**
- Sizing of the strings is done using the paste of soaked and cooked tamarind seeds
- The famous blanket has once served the Indian Armed Forces to beat harsh winters at the borders.

## 75 YEARS OF UN PEACEKEEPING FORCE

### Why in News?

The Indian Army commemorated the 75th International Day of UN Peacekeepers, today, by paying homage to the fallen comrades by laying wreath at National War Memorial, New Delhi by the Chief of the Army Staff, Vice Chief of Army Staff and representatives from Navy and Air Force, Ministry of External Affairs and United Nations.



This is the day when in 1948 the first UN peacekeeping mission, “UN Truce Supervision Organisation (UNTSO)” began operations in Palestine.

### About :

- Each year on this Day, the UN and countries across the globe pay tributes to the professionalism, dedication and courage of all men and women who have served or are serving in UN Peacekeeping Missions and honour the memory of those who have laid down their lives in the cause of peace.
- **This year marks the 75th Anniversary of the UN Peacekeepers Day.**
- **India** has a rich legacy of contribution to UN Peacekeeping operations and is **one of the largest contributors of troops.**
- It has contributed approximately 2,75,000 troops to peacekeeping missions so far, with around 5,900 troops currently deployed in 12 UN Missions.

- India has suffered the highest number of casualties among its peacekeepers in United Nations (UN) peacekeeping operations over the past 75 years.
- Also, three Indian U.N. peacekeepers were honoured posthumously with the Dag Hammarskjold Medal.

### About UN PEACEKEEPING FORCE:

- Peacekeeping by the United Nations is a role of the UN's Department of Peace Operations as an "instrument developed by the organization as a way to help countries torn by conflict to create the conditions for lasting peace"
- Peacekeepers monitor and observe peace processes in post-conflict areas and assist ex-combatants in implementing the peace agreements they may have signed.
- Such assistance comes in many forms, including separating former combatants, confidence-building measures, power-sharing arrangements, electoral assistance, strengthening the rule of law, and economic and social development.
- Accordingly, UN peacekeepers (often referred to as **Blue Berets** or **Blue Helmets** because of their light blue berets or helmets) **can include soldiers, police officers, and civilian personnel**.
- Once a peace treaty has been negotiated, the parties involved might ask the United Nations for a peacekeeping force to supervise various elements of the agreed upon plan.
- The **financial resources of UN Peacekeeping operations are the collective responsibility of UN Member States**.



## BURA CHAPORI WILDLIFE SANCTUARY

### Why in News?

**Assam government** is currently taking measures to open the traditional path for wild animals from Kaziranga to Orang National Park via the **Bura Chapori Wildlife Sanctuary**.

### About Bura Chapori Wildlife Sanctuary (WLS):

- Bura Chapori Wildlife Sanctuary is a **protected area** located in the **state of Assam** in India.
- This wildlife sanctuary **covers 44.06 km<sup>2</sup>**, on the **south bank of the Brahmaputra River** in Sonitpur district.
- The area was **declared a Reserved forest in 1974**, it **became a sanctuary in 1995**.
- It is located 40 km from Tezpur town and 181 km away from Guwahati.
- It **forms an integral part of the Laokhowa-Burachapori eco-system** and is a **notified buffer of the Kaziranga Tiger reserve**.
- It is **considered to be an ideal habitat for the Bengal florican**. It is a *paradise for many migratory birds*.
- Other attractions are:
  - **Mammals** : Indian rhinoceros, tiger, leopard, wild buffalo, hog deer, wild pigs and occasionally a herd of elephants.
  - **Birds** : Bengal florican, black-necked stork, mallard, openbill stork, teal, whistling duck and many others



## SANCHAR SATHI PORTAL

### Why in News?

**Ministry of Communications** has **launched** the **Sanchar Saathi portal**, which **aims to enhance the safety and security of mobile phone users in India**.

### About Sanchar Sathi Portal:

- Sanchar Saathi portal is a **citizen centric initiative** of **Department of Telecommunications** to empower mobile subscribers, strengthen their security and increase awareness about citizen centric initiatives of the Government.



- Sanchar Saathi empowers citizens by allowing them to know the mobile connections issued in their name, get disconnected the connections not required by them, block/trace lost mobile phones and check genuineness of devices while buying a new/old mobile phone.
- **Aim** : The initiative is designed **to prevent frauds such as identity theft and banking fraud by misusing mobile phones.**



- Sanchar Saathi contains various modules like **CEIR, TAF COP etc.**
- The portal introduces three reforms:
  - **CEIR** (Central Equipment Identity Register) for blocking stolen/lost mobiles.
  - Know Your Mobile Connections for checking registered connections.
  - **ASTR** (Artificial Intelligence and Facial Recognition powered Solution for Telecom SIM Subscriber Verification) for identifying fraudulent subscribers.

#### **CEIR module :**

- It facilitates tracing of the lost/stolen mobile devices.
- This also facilitates blocking of lost/stolen mobile devices in network of all telecom operators so that lost/stolen devices cannot be used in India.
- If anyone tries to use the blocked mobile phone, its traceability is generated.
- Once mobile phone is found it may be unblocked on the portal for its normal use by the citizens.

#### **TAF COP module :**

- It facilitates a mobile subscriber to check the number of mobile connections taken in his/her name.
- It also facilitates to report the mobile connection(s) which are either not required or not taken by the subscriber.

#### **The portal allows mobile phone users to:**

- Check the connections registered on their names,



- Report fraudulent or unrequired connections,
- Block the mobile phones which are stolen/lost,
- Check IMEI genuineness before buying a mobile phone,
- The portal and its reforms aim to enhance transparency, security, and accountability in the telecom sector.

## OPERATION DHVAST

### Why in News?

NIA's Operation Dhvast was a **nationwide operation targeting terrorists, gangsters, and drug smugglers**. It involved raids at 129 locations across multiple states, resulting in three arrests.

### About:

- The massive crackdown — codenamed **'Operation Dhvast'** — had seen **simultaneous, day-long raids by NIA, Punjab police and Haryana Police** at 324 locations across Punjab, Delhi, Haryana, Uttar Pradesh, Rajasthan etc.
- Aim: The operation **aimed to dismantle the terror nexus** involved in targeted killings, terror funding, extortion, and smuggling of drugs and weapons.
- The **NIA has arrested three persons in connection with the multi-state raids** conducted on in three cases relating to the nexus among terrorists, gangsters and drug dealers.
- The nexus has been linked to targeted killings, extortion and terror funding of pro-Khalistan outfits with earnings from smuggling of drugs and weapons.
- **NIA investigations have so far revealed that conspiracies were being hatched in jails of different states** and executed by an organized network of operatives based abroad.



### About NIA (National Investigating Agency):

- The National Investigation Agency (NIA) is a specialized counter-terrorism law enforcement agency in India.
- The Agency came into existence with the enactment of the National Investigation Agency Act 2008 by the Parliament of India on 31 December 2008, which was passed after the deadly 26/11 terror attack in Mumbai.
- **Headquartered in New Delhi**, the NIA has branches in Hyderabad, Guwahati, Kochi, Lucknow, Mumbai, Kolkata, Raipur, Jammu, Chandigarh, Ranchi, Chennai and Imphal.
- The agency is empowered to deal with the investigation of terror related crimes across states without special permission from the states under written proclamation from the Ministry of Home Affairs.
- The **primary mandate** of the National Investigation Agency is to investigate and prosecute offenses that have national and cross-border implications, specifically focusing on terrorism, insurgency, and other related matters.
- It is empowered to investigate cases that involve threats to the sovereignty, security, and integrity of India.
- It has the authority to conduct searches, seizures, and arrests, as well as to collect evidence and maintain a database of terrorist organizations and their members.



## NATO PLUS

### Why in News?

The **US Congressional Committee on the Strategic Competition** between the US and the Chinese Communist Party has **recommended including India in Nato Plus.**

### About NATO PLUS:

- NATO is an intergovernmental military alliance comprising **31-member states**, mainly from Europe and North America.

- It aims to ensure the freedom and security of its members through political and military cooperation.
- **NATO Plus, currently NATO Plus 5**, is a security arrangement that brings together NATO and five aligned nations – **Australia, New Zealand, Japan, Israel, and South Korea** – to boost global defence cooperation.
- It is a **security arrangement that brings together NATO and five aligned nations to enhance global defence cooperation.**
- The term '**NATO Plus**' is **not officially recognised within NATO itself** but has been used in discussions regarding the potential expansion of the alliance.
- The US aims to strengthen security cooperation with India based on their shared interest in countering Chinese dominance in the Indo-Pacific region.
- **US believes that India should join NATO to safeguard its borders from China** and enhance global security to counter Chinese aggression in the Indo-Pacific region.
- **India has refused to join the NATO Plus.**
- India **maintains that it can handle any challenges posed by China independently.**
- ***Membership of the framework would give India protection and deterrence against threats but affect its strategic autonomy and position on China and Russia.***



Classic IAS ACADEMY

Classic IAS ACADEMY