

# OFFICERS' Pulse

## DIGEST

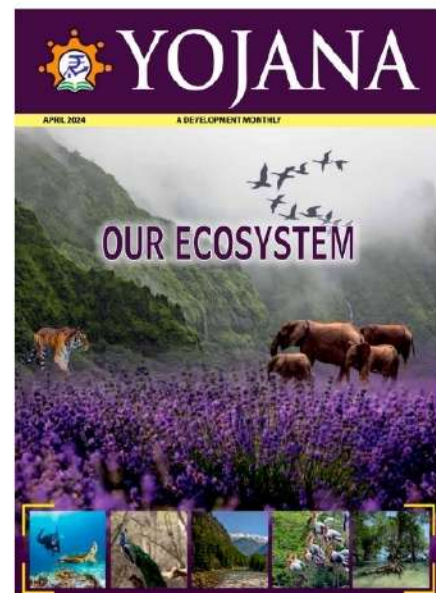
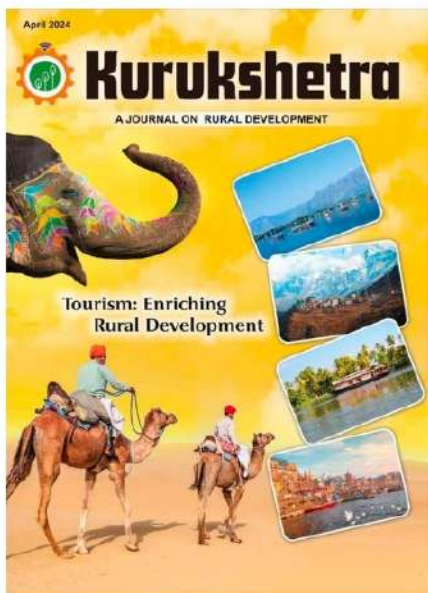
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# Schemes

## 1) RBI Retail Direct Scheme

### What is RBI Retail Direct Scheme?

- Introduced in 2021, the Retail Direct scheme is a one-stop solution to **facilitate investment in Government Securities by individual investors.**
- Under this scheme, individual retail investors can open a Gilt Securities Account - "**Retail Direct Gilt (RDG)**" Account with the RBI.

### Who can open a Retail Direct Gilt Account?

- Retail investors, that is, **individuals** (natural persons) are allowed to open an RDG account. The following are required to open an account:
  - Rupee savings bank account maintained in India;
  - Permanent Account Number (PAN) issued by the Income Tax Department;
  - Any Officially Valid Document (OVD) for KYC purpose;
  - Valid email id; and
  - Registered mobile number.
- **Non-Resident retail investors** eligible to invest in Government Securities under **Foreign Exchange Management Act, 1999** are eligible under the scheme.

### What are the benefits of the Scheme?

- Retail investors (individuals) will have the facility to open and maintain the '**Retail Direct Gilt Account**' (RDG Account) with RBI.
- The investor can place **non competitive bids in Primary issuance of all Central Government securities** (including Treasury Bills and Sovereign Gold bonds) as well as **securities issued by various State Governments.**

- Under this scheme, the **individual can also access the Secondary market through "NDS OM" - RBI's trading system.**
  - *NDS-OM is an anonymous screen-based order matching system for secondary market dealing in government securities.*
  - *This is an order driven electronic system, where the participants can trade anonymously by placing their orders on the system or accepting the orders already placed by other participants.*
  - *NDS-OM is owned by the RBI.*
- The investor will **automatically receive any interest paid/maturity proceeds** into his linked bank account on due dates.

### What are the kinds of Government securities that one can invest in through the Retail Direct platform?

1. Government of India Treasury Bills (T-Bills)
2. Government of India dated securities (dated G-Sec)
3. State Development Loans (SDLs)
4. Sovereign Gold Bonds (SGB)

### What are the charges/fees payable?

- **No fee** will be charged for opening and maintaining 'Retail Direct Gilt account' with RBI.
- **No fee** will be charged by the aggregator for submitting bids in the primary auctions.
- **Fee** for payment gateway etc., as applicable, will be borne by the registered investor.

### Why in News?

- The Reserve Bank of India (RBI) has announced it will introduce a mobile application for its Retail Direct Scheme. The app will help investors in different types of government

securities such as bonds and treasury bills.

## 2) Agnipath Scheme

### About the Scheme

- The Union Cabinet in 2022 approved the Agnipath scheme which allows patriotic and motivated **youth (17.5 years to 21 years old) to serve in the Armed Forces for a period of four years.**
- The youth (male/female) selected under this scheme will be known as **Agniveers.**
- Agniveers would form a **distinct rank** in the armed forces, different from any other existing rank.

### Benefits

- On completion of the engagement period of four years, Agniveers will be paid a one time '**Seva Nidhi**' package, comprising 30 percent monthly contributions from their salaries, a matching contribution from the government, and interest earned.
- In addition, Agniveers will get **skill certificates, awards of credits** so that they can study further, and a financial package to support future endeavours after their short-term military service.
- There will, however, be **no pension or gratuity benefits** for these recruits.

### Objectives

- The scheme has been designed to enable a **youthful profile** of the Armed Forces.
  - The **average age** in the forces is 32 years today, which will go down to **26** in six to seven years.
- The best among Agniveers, up to **25 percent in each batch**, will be selected for **regular cadre** to serve for another 15 years, based on transparent and merit-based assessment.

### Why in News?

- The **Parliamentary Standing Committee on Defence** has recommended that family members of Agniveers killed in the line of duty should receive the same benefits that are provided to the kinfolk of a regular soldier.
- Under the existing provisions, families of Agniveers killed in action are **not eligible for regular benefits including pension.**

# Initiatives

## 1) National Pension System (NPS)

### About

- NPS, regulated by the **Pension Fund Regulatory and Development Authority (PFRDA)**, is a **contributory pension scheme** under which **employees contribute 10 per cent of their salary**. The **government contributes 14 per cent towards the employees' NPS accounts**.
- This pension programme is **open to employees from the public, private and even the unorganised sectors, except those from the armed forces**.
- Under NPS, **individual savings are pooled into a pension fund** which are invested by PFRDA regulated professional fund managers as per the approved investment guidelines into the **diversified portfolios** comprising **Government Bonds, Bills, Corporate Debentures and Shares**.
- These contributions would grow and accumulate over the years, depending on the returns earned on the investment made.
- At the time of normal exit from NPS, the subscribers may use the **accumulated pension wealth** under the scheme to purchase a **life annuity** from a **PFRDA empaneled Life Insurance Company** apart from withdrawing a **part of the accumulated pension wealth as lump-sum**, if they choose so.

### Eligibility

#### Citizens:

- A **citizen of India**, whether **resident or non-resident**, between **18 – 70 years of age**.

- Citizens can join NPS either as **individuals** or as an **employee-employer group(s)** (corporates).

#### Central Government Employees:

- The Central Government had introduced the NPS with effect from **January 1, 2004 (except for armed forces)**. Hence, all Central Government employees joining on or after 01-01-2004 are **mandatorily covered** under NPS.

#### State Government Employees:

- To be a subscriber under a State Government, the individual has to be employed under the particular State Government. Various State Governments have adopted NPS architecture and implemented NPS with effect from different dates.

#### Can an NRI open an NPS account?

- **Yes, a NRI can open an NPS account**. Contributions made by NRI are subject to regulatory requirements as prescribed by RBI and Foreign Exchange Management Act, 1999 (FEMA) from time to time.

#### Why in News?

- Assets under the National Pension System (NPS) grew by 27.85%, reaching Rs 11.73 lakh crore.
- This growth was largely fuelled by the 9.47 lakh new subscribers who onboarded NPS from the **non-government sector**.

## 2) Uniform Code for Pharmaceutical Marketing Practices

### What's in the news?

- The **Department of Pharmaceuticals** under the **Ministry of Chemicals and Fertilizers** has issued the **Uniform Code for Pharmaceutical Marketing Practices (UCPMP) 2024**, in a bid to

control unethical practices in the pharma industry.

### Highlights of UCPMP

- The code **prohibits the offering or providing of gifts for the personal benefit** of any healthcare professional or their family members by pharmaceutical companies, agents, distributors, wholesalers, or retailers.
- This restriction aims to **mitigate any potential conflicts of interest** that may arise from such practices.
- Additionally, the code imposes **limitations on pecuniary benefits**, stating that no financial advantages or benefits in kind may be offered, supplied, or promised to any person qualified to prescribe or supply drugs by pharmaceutical companies or their representatives.
- The promotion of a drug must be **consistent with the terms of its marketing approval** and a drug must not be promoted prior to receipt of its marketing approval from the competent authority, authorizing its sale or distribution.
- The new code creates a **mechanism of enforcement and oversight**. Each of the pharma associations will have to create an **ethics committee** and a **portal** linked to the UCPMP portal of the pharma department.
- If a breach of the code is established, the committee can propose to **suspend or expel** the entity from the association. They can also ask the entity to recover money or items given in violation of the code.
- By establishing clear guidelines and mechanisms for enforcement, the code aims to **foster trust, transparency, and integrity** within the pharmaceutical industry, ultimately benefiting **public health and well-being**.

## 3) Accessible India Campaign

### About

- Accessible India Campaign (Sugama Bharat Abhiyan) was launched in 2015 by the **Department of Empowerment of Persons with Disabilities (DEPwD)** under the **Ministry of Social Justice & Empowerment** as a nation-wide Campaign for **achieving universal accessibility** for Persons with Disabilities (PwDs).
- It aims at providing equal opportunity to PwDs to participate in all the aspects of life and live independently.
- The Accessible India Campaign comprises of the following three components:
  - **Built Environment Accessibility:** It aims to provide an accessible physical environment for everyone. To achieve this, measures need to be undertaken to eliminate obstacles and barriers to indoor and outdoor facilities including schools, medical facilities, and workplaces.
  - **Transportation System Accessibility:** It focuses on providing persons with disabilities an equal right to travel and use public and private transportation infrastructure with dignity and independence.
  - **Information and Communication System Accessibility:** Access to information refers to all information. This can range from actions such as being able to read price tags, to physically enter a hall, to participate in an event, to read a pamphlet with

healthcare information, to understand a train timetable, or to view webpages.

- To provide full legislative cover to the Campaign and Right to accessibility, the Government enacted the **Rights for Persons with Disabilities (RPwD) Act, 2016** which came into force from 2017.

#### Why in News?

- As part of the Accessible India Campaign, 597 Railway Stations have been made Divyangjan friendly by providing either lifts or escalators.

#### Related Information

##### Rights of Persons with Disabilities Act, 2016

- Rights of Persons with Disabilities Act, 2016 fulfills the obligations to the **United National Convention on the Rights of Persons with Disabilities (UNCRPD)**, to which **India is a signatory** and subsequently ratified the same in 2007.
- The Act came into force during December 2016.

##### Disabilities covered

- Disability has been defined based on an evolving and dynamic concept.
- The types of disabilities have been increased from **existing 7 to 21** and the Central Government will have the power to add more types of disabilities.

##### Rights and entitlements

- Responsibility has been cast upon the appropriate governments to take effective measures to ensure that the persons with disabilities enjoy their rights equally with others.
- Every child with benchmark disability between the age group of **6 and 18 years** shall have the **right to free education**.

- **All Government institutions of higher education** and those **getting aid** from the Government are required to **reserve at least 5% of seats** for persons with benchmark disabilities.
- **Four percent reservation** for persons with benchmark disabilities is to be provided in **posts of all Government establishments** with differential quotas for different forms of disabilities.
- **Incentives to employers in the private sector** are to be given who provide **5% reservation** for persons with benchmark disability. **Special employment exchanges** for the PWD are to be set up.

##### Children with disabilities not to be separated from their parents

- The Act states that no child with disability shall be separated from his or her parents on the grounds of disability except on an order of a competent court, if required, in the best interest of the child.

##### Establishment of Authorities

- Broad based **Central & State Advisory Boards on Disability** are to be set up to serve as apex policy making bodies at the Central and State level.
- The **Office of Chief Commissioner of Persons with Disabilities** has been strengthened who will now be assisted by **2 Commissioners** and an **Advisory Committee** comprising not more than 11 members drawn from experts in various disabilities.
- The **Chief Commissioner for Persons with Disabilities and the State Commissioners** will act as **regulatory bodies** and **Grievance Redressal agencies** and also **monitor** implementation of the Act.

##### Penalties for offences



- The Act provides for penalties for offences committed against persons with disabilities and also violation of the provisions of the law.
- Any person who violates provisions of the Act, or any rule or regulation made under it, shall be punishable with **imprisonment up to six months and/ or a fine of Rs 10,000, or both**. For any **subsequent violation, imprisonment of up to two years and/or a fine of Rs 50,000 to Rs five lakh** can be awarded.
- Whoever intentionally insults or intimidates a person with disability, or sexually exploits a woman or child with disability, shall be punishable with **imprisonment between six months to five years and fine**.
- **Special Courts** will be designated in each district to handle cases concerning violation of rights of PwDs.

#### 4) CDP-SURAKSHA

##### What's in the news?

- The Government of India has introduced a new platform — CDP-SURAKSHA — to **disburse subsidies to horticulture farmers** under the Cluster Development Programme (CDP).
  - *CDP is the Ministry of Agriculture and Farmers Welfare's initiative to **promote horticulture crops**.*
  - *CDP is designed to leverage the **geographical specialisation of horticulture clusters and promote integrated and market-led development of pre-production, production, post-harvest, logistics, branding, and marketing activities**.*

- *The **National Horticulture Board** has been designated as the Nodal Agency for implementation of the Cluster Development Programme.*

##### What is the CDP-SURAKSHA?

- The CDP-SURAKSHA (System for Unified Resource Allocation, Knowledge, and Secure Horticulture Assistance) is essentially a digital platform.
- The platform will allow an **instant disbursement of subsidies to farmers in their bank account** by utilising the **e-RUPI voucher** from the National Payments Corporation of India (NPCI).
- The move seeks to push the **growth of India's horticulture sector, which contributes nearly one-third to the agriculture gross value addition (GVA)**, making a substantial contribution to the Indian economy.

##### Related Information

##### About e-RUPI

- The **National Payments Corporation of India (NPCI)**, the body overseeing the digital payments ecosystem in India, launched **e-RUPI, a voucher-based payments system** to promote cashless transactions in 2021.
- e-RUPI is a **digital voucher that can be redeemed by beneficiaries** when they make use of any specific government services.
- The digital system **does not require a card, app or internet access** to redeem the vouchers. The digital tokens will be sent to respective citizens by the government via **SMS strings or QR codes to be used for a specific purpose**.
- The digital token-style **cashless and contactless medium** is seen as a way to **spot potential gaps in the**

existing welfare payments infrastructure and fix them.

### Is e-RUPI a digital currency?

- **No**, the e-RUPI is built for a specific transaction for a service availed at a particular welfare centre. The digital vouchers are **backed by the Indian rupee and are not transferable**.
- This puts e-RUPI within the framework of a voucher-based payment system rather than a virtual currency, which has a different character.

## 5) DigiLocker

### About DigiLocker

- DigiLocker is a flagship initiative of the **Ministry of Electronics & IT (MeitY)** under the **Digital India programme**.
  - *Digital India is a flagship programme of the Government of India with a vision to transform India into a digitally empowered society and knowledge economy.*
- It is a **secure cloud based platform for storage, sharing and verification of documents & certificates**.
- Linked to both **Aadhaar card and cellphone numbers**, DigiLocker **eliminates the use of physical documents** as part of the government's Digital India drive, since all data is stored in the **cloud**.
- One can **upload scanned copies** of their documents (PDF, JPEG or PNG format) and **access it anywhere** they want. One can also **e-sign** these uploaded documents, which works like **self-attestation of physical documents**.



- On the other hand, organisations like the CBSE, the Registrar Office or the Income Tax Department can also push electronic copies of documents and certificates directly into Citizens' e-lockers.
- The issued documents in DigiLocker system are **deemed to be at par with original physical documents** as per the Information Technology (Preservation and Retention of Information by Intermediaries providing Digital Locker facilities) Rules, 2016.
- DigiLocker is available both on **websites and mobile apps**.

### Why in News?

- Indian Air Force (IAF) has launched an initiative to integrate with the DigiLocker platform.
- Authorized IAF departments and divisions will now be able to seamlessly upload digital records, certificates, and vital documents to the national DigiLocker repository, ensuring secure storage and easy accessibility.

## 6) Other Notable Topics

### 6.1. Nirbhaya Fund

#### About Nirbhaya Fund Framework

- Nirbhaya Fund is a dedicated fund set up by the Government of India in **2013** which can be utilized for projects specifically designed to **improve the safety and security of women**.
- It is a **non-lapsable corpus fund** administered by the **Department of Economic Affairs of the Ministry of Finance**.

- As per this framework, the **Ministry of Finance through the Department of Economic Affairs** is the nodal Ministry for any accretion into and withdrawal from the corpus, and the **Ministry of Women & Child Development (WCD)** is the nodal authority for appraisal of the schemes/proposals received under Nirbhaya Fund.
- **Funding to Non-Governmental Organisations is not envisaged under the framework.**
- The proposed projects under the Nirbhaya Fund should have the following features:
  - Direct impact on safety and security concerns of women
  - Optimum use of existing infrastructure
  - Innovative use of technology
  - No duplication of existing government schemes/programmes
  - Provision for real time intervention as far as possible.

## 6.2. Ayushman Bharat Health Accounts

### About

- Ayushman Bharat Health Accounts (ABHA) is an integral component of the **Ayushman Bharat Pradhan Mantri Jan Arogya Yojana (AB-PMJAY)**, which is India's flagship national health protection scheme.
  - *Refer Pulse Digest May 2023 edition for details about AB-PMJAY.*
- ABHA is designed to **facilitate cashless transactions and manage financial aspects** related to healthcare services under the Ayushman Bharat scheme.
- ABHA is a **unique 14 digit number used to link all the health records of a person.** ABHA intends to create a **digital health ecosystem** & aims

to promote **digitization of healthcare.**

- Any individual can enroll in **Ayushman Bharat Digital Mission (ABDM)** to generate a Health ID or ABHA, free of cost.
  - *Refer Pulse Digest September 2023 edition for details about ABDM.*

### Objective

- Ayushman Bharat Health Accounts aim to provide a seamless and efficient financial framework for implementing the Ayushman Bharat scheme.
- It **ensures transparency, accountability, and accessibility of funds** allocated for healthcare services.

### Features

- **Cashless Transactions:** ABHA enables cashless transactions for eligible beneficiaries seeking treatment at empanelled healthcare facilities. This **reduces the financial burden** on beneficiaries during medical emergencies.
- **Electronic Health Records (EHR):** ABHA integrates electronic health records, facilitating the **storage and retrieval of patient information.** This helps in maintaining medical histories and streamlining healthcare delivery.
- **Portability:** The accounts are designed to be **portable across various healthcare providers empanelled** under the Ayushman Bharat scheme, allowing beneficiaries to access services seamlessly, regardless of their location.
- **Real-time Monitoring:** ABHA incorporates real-time monitoring mechanisms to **track the utilization of funds** and ensure that resources are allocated efficiently. This helps in preventing misuse and

optimizing the distribution of healthcare resources.

- **Transparency and Accountability:** By promoting digital transactions and maintaining electronic records, ABHA enhances transparency and accountability in the healthcare system. This **reduces**

**the scope for corruption** and ensures that funds are utilized for their intended purpose.

# Environment

## 1) Geo engineering

### What is Geo engineering?

- It refers to **deliberate, large-scale intervention** carried out in the **Earth's natural systems** to reverse the impacts of climate change.
- This involves **techniques to physically manipulate** the global climate to cool the planet.
- Geo engineering technologies mainly consist of **Carbon Dioxide removal technologies** and **Solar radiation management**.

### Carbon dioxide Removal Technologies

- **Carbon dioxide removal (CDR)** is a process in which carbon dioxide is removed from the **atmosphere** and durably stored in **geological, terrestrial, or ocean reservoirs**. Some proposed techniques include:
  - **Bioenergy with Carbon Capture and Storage:** It refers to capturing and sequestering CO<sub>2</sub> from bioenergy processes (e.g. ethanol production or burning biomass for electricity).
  - **Ocean Fertilization:** It refers to dumping iron sulphate into the ocean to stimulate the growth of phytoplanktons which absorb atmospheric CO<sub>2</sub>.
  - **Enhanced Photosynthesis:** This technique proposes to genetically manipulate plants and algae, so that they would metabolize more CO<sub>2</sub>.

### Solar Radiation Management

- It is a **geoengineering technique** which aims to **reflect** a small proportion of the Sun's energy back into space. This counters the **temperature rise** caused by

increased levels of **greenhouse gasses** in the atmosphere which **absorb energy** and **raise temperatures**. Some proposed techniques include:

- **Albedo enhancement:** It refers to increasing the reflectiveness of clouds or the land surface so that more of the Sun's heat is reflected back into space.
- **Space reflectors** can help block a small proportion of sunlight before it reaches the Earth.
- **Stratospheric Aerosol Injection (SAI):** It refers to introducing small, reflective particles into the upper atmosphere to reflect some sunlight before it reaches the surface of the Earth.

### Limitations in the use of geoengineering technologies

- These technologies are **expensive** and their **viability** needs to be effectively studied.
- **Aerosol sprays** contain **ozone depleting substances** which can lead to **ozone layer depletion**.
- **Aerosol injections** can cause **rapid warming** leading to **biodiversity loss** and **food security challenges**.

### Why in News?

- Several countries have highlighted the need to undertake **studies** regarding **potential risks** and **benefits** of **Geo engineering**.

## 2) Forest Fires

### About Forest fires

- Forest fire may be defined as an unclosed and **freely spreading combustion** that consumes the natural fuels (grass, tree, shrubs,

leaves) based on environmental conditions (wind, topography).

- **Fuel, heat and oxygen** are three important components for the formation of forest fires. They are commonly referred to as “**Fire Triangle**”.

#### Causes of Forest fires

- According to the UN Intergovernmental panel on climate change, **rising global temperatures and drier conditions** are leading to frequent, massive wildfires around the world.
- **Natural causes** for forest fires include **lightning, volcanic explosion, friction of rolling stone**, etc.
- **Anthropogenic causes** include, **shifting cultivation, stubble burning, incineration of waste**, for concealing **illicit felling**, etc.

#### Why in News?

- Forest Fires have reportedly gutted 108 hectares of forest surrounding Nainital in Uttarakhand.

#### Why is Uttarakhand an easy target for forest fire?

- Fires in the **North-Western Himalayas** are attributed to the **preponderance of pine trees** and the accumulation of **thick flammable litter**.
- In the summer, there is a large quantity of **pine needles** that gather on the **forest floor**, which is **highly susceptible to fire**.
- Studies have also shown that a sharp increase in **average and maximum air temperature**, **decline in precipitation**, and **change in land-use patterns** have caused increasing episodes of forest fires.

#### Measures to tackle forest fires

- **Removal of biomass** through controlled or prescribed burning to

get rid of undergrowth, dead trees and litter.

- Other preventive steps include engaging **temporary fire watchers, desilting of water sources within the forest**, etc.
- The government has also taken measures, including a **satellite-based fire alert system**, which makes it easy for staff to find out whether there are fires inside the forest.

### 3) UNESCO Global Geoparks

#### What is a UNESCO Global Geopark?

- UNESCO Global Geoparks (UGGp) are **single, unified geographical areas** where sites and landscapes of **international geological significance** are managed with a **holistic concept of protection, education and sustainable development**.
- The Global Geopark designation was created in **2015**.
- Geoparks serve local communities by combining the conservation of their significant geological heritage with public outreach and a sustainable approach to development.

#### A bottom-up approach

- UNESCO Global Geoparks are established through a **bottom-up process** involving all relevant local and regional stakeholders and authorities in the area (e.g. landowners, community groups, tourism providers, indigenous people, and local organizations).
- The **status does not imply restrictions on any economic activity** inside a Geopark where that activity complies with indigenous, local, regional and/or national legislation.

#### Is the designation permanent?

- UNESCO Global Geoparks are given this designation for a **period of four**

**years** after which the functioning and quality of each UNESCO Global Geopark is thoroughly re-examined during a revalidation process.

### Global Geoparks Network

- The Global Geoparks Network (GGN), of which **membership is obligatory for UNESCO Global Geoparks**, is a legally constituted **not-for-profit organisation**.
- The GGN was founded in **2004** and is a network where members are committed to work together and exchange ideas of best practise and join in common projects to raise the quality standards of all products and practises of a UNESCO Global Geopark.

### Why in News?

- UNESCO has announced the designation of 18 new Global Geoparks, bringing the total number of Global Geoparks to **213** representing **48 countries around the world**.
- The new geoparks are situated in Brazil, China, Croatia, Denmark, Finland, France, Greece, Hungary, Poland, Portugal and Spain.
- There is an additional **new transboundary geopark spanning Belgium and the Kingdom of the Netherlands**.

### India's Case

- Despite its extremely diverse geological terrain and markings of some of the world's most fabulous geological events, **India does not have a single geopark recognised by UNESCO**.

### Related Information

#### Difference between UNESCO Global Geoparks, Biosphere Reserves and World Heritage Sites

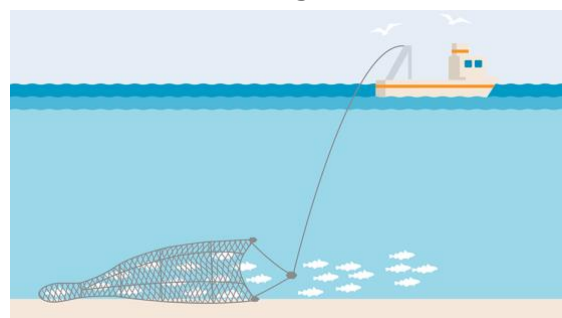
- There are **three types** of UNESCO site designations: **UNESCO Global Geoparks, biosphere reserves and World Heritage sites**.

- While **biosphere reserves** focus on the harmonised management of biological and cultural diversity and **World Heritage sites** promote the conservation of natural and cultural sites of outstanding universal value, **UNESCO Global Geoparks** give international recognition for sites that promote the importance and significance of protecting the Earth's geodiversity through actively engaging with the local communities.

## 4) Bottom Trawling

### What is Bottom Trawling?

- The **UN Food and Agriculture Organization (FAO)** defines Bottom trawling as a **fishing method** that uses a **cone-shaped net** towed on the seabed and designed to catch fish living on or near the seabed.
  - *FAO is a specialized agency of the United Nations leading international efforts to defeat hunger.*
  - *It is an intergovernmental organization, established in 1945, with more than 190 member countries (including India) and one member organization, the European Union.*
- Nearly 25% of the world's wild-caught seafood is obtained through bottom trawling.



### Issues associated with bottom trawling

- Bottom trawling can cause **significant damage to the seabed**

and its **ecosystems**. The heavy gear used in trawling can **crush or disturb delicate habitats** like coral reefs, sponge beds, and seamounts.

- Bottom trawling can contribute to **overfishing** when not properly regulated.
- Continuous trawling can **alter the physical structure** of the seabed, making it **less hospitable** for marine organisms and **affecting sediment composition and nutrient cycling processes**.
- Bottom trawling often results in **high levels of bycatch**, which refers to the unintentional capture of non-target species.

#### Why in News?

- Greece has pledged to ban bottom trawling, in all of its Marine Protected Areas by 2030.

#### Related Information

##### Marine Protected Areas (MPAs)

- MPAs are **pecially designated regions of the ocean** that are protected for the conservation and preservation of marine ecosystems and their diverse species of flora and fauna.
- MPAs are essentially a space in the ocean where **human activities are more strictly regulated than the surrounding waters** - similar to parks we have on land.
- Additionally, MPAs act as **carbon sinks**, absorbing and storing carbon dioxide from the atmosphere and mitigating the impacts of climate change on marine ecosystems.
- Further, they **contribute to local economies** through sustainable tourism, recreation, and supporting local fishing communities.
- The **Government of India** has notified more than 125 Marine Protected Areas across the Coastal States and Islands to take care of marine species conservation.

## 5) Hasdeo Arand Forest

### About

- Hasdeo Arand Forest in **Chhattisgarh** is one of India's most extensive contiguous forest tracts.
- This forest is home to 25 endangered species, including **leopards, sloth bears, grey wolves, striped hyenas, etc.**
- The forest is a **habitat and a major migratory corridor for elephants**, and has had confirmed sightings of **tigers**.
- Hasdeo's forests are also a catchment area for the **Hasdeo river**, a **tributary of the Mahanadi**.
- Tribes like **Gonds and Oraons** inhabit these forests.
- The region contains one of India's largest **coal reserves** — having an estimated five billion tons of coal.

### Why in News?

- Forest and tribal rights activist Alok Shukla has been awarded the **Goldman Environmental Prize-2024** for successfully leading a community campaign to save biodiversity-rich forests from planned coal mines in Chhattisgarh.

### Goldman Environmental Prize

- The Goldman Environmental Prize is awarded by the **Goldman Environmental Foundation**.
- The Prize was founded by civic leaders and philanthropists Richard and Rhoda Goldman in 1989.
- Also known as the **Green Nobel**, the **prize recognises grassroots environmental heroes** from roughly the world's six inhabited continental regions — **Africa, Asia, Europe, Islands & Island Nations, North America, and South & Central America**.



## 6) Chipko Movement

### About Chipko Movement

- The Chipko movement was a **non-violent agitation** in **early 1970s** in **Garhwal Himalayas** of **Uttarakhand** that was aimed at **protection and conservation of trees**.
- The landmark event in this struggle took place on March 26, 1974, when a group of peasant women in **Reni village, in Uttarakhand's Chamoli district** hugged trees to prevent them from being felled and reclaim their traditional forest rights that were threatened by the contractor system of the state Forest Department.
  - The Hindi word chipko means **“to hug”** or **“to cling to”** and reflects the demonstrators’ tactic of **embracing trees** to impede loggers.
- Their actions inspired hundreds of such actions at the grassroots level throughout the region aimed at protecting trees and forests slated for government-backed logging.
- The Chipko Movement gained traction under **Sunderlal Bahuguna**, an eco activist, who spent his life persuading and educating the villagers to protest against the destruction of the forests and Himalayan mountains.
- It is best remembered for the **collective mobilisation of women** for the cause of preserving forests.

### Why in News?

- The Chipko movement marks its 50th anniversary.

## 7) Other Notable Topics

### 7.1. Coalition for Disaster Resilient Infrastructure

#### About CDRI

- Launched in 2019 under the leadership of the **Government of India**, the Coalition for Disaster Resilient Infrastructure (CDRI) is an international collaborative platform, aiming to **promote the resilience of infrastructure systems to climate and disaster risks**, thereby ensuring sustainable development.
- CDRI envisions enabling **measurable reduction in infrastructure losses** from disasters, including extreme climate events.
- CDRI is a **multi-stakeholder global partnership** of national governments, UN agencies and programmes, multilateral development banks and financing mechanisms, the private sector, and academic and knowledge institutions.
- At present, it is **not an intergovernmental organization**, which are ordinarily treaty-based organizations.
- CDRI has also created a dedicated initiative **“Infrastructure for Resilient Island States (IRIS)”**, which will work to achieve sustainable development through a systematic approach to promote resilient, sustainable and inclusive infrastructure in **Small Island Developing States (SIDS)**.
- **Members of CDRI:** 39 countries and 7 organisations.



## Governance

- Governance arrangements for CDRI Secretariat comprises **three principal bodies**, viz., the **Governing Council** (highest policy-making body), the **Executive Committee** (managerial body) and the **Secretariat in New Delhi** headed by a Director General appointed by the Governing Council.
- The **Government of India** will be a **permanent Co-Chair** of the Governing Council of CDRI and a **representative of another national government** nominated by rotation **every two years**.

## 7.2. El Nino and La Nina

### El Nino Southern Oscillation

- During normal conditions in the Pacific ocean, **trade winds blow west along the equator, taking warm water from South America towards Asia**.
- To replace that warm water, cold water rises from the depths — a process called **upwelling**.
- **El Niño and La Niña** are **two opposing climate patterns** that break these normal conditions. Scientists call these phenomena the **El Niño-Southern Oscillation (ENSO) cycle**.

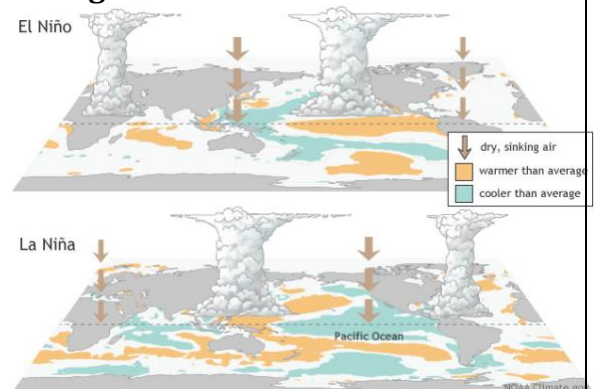
### El Nino

- A **warming of the ocean surface**, or above-average sea surface temperatures (SST), in the **central and eastern tropical Pacific Ocean**.

- Over Indonesia, rainfall tends to become reduced while rainfall increases over the tropical Pacific Ocean.
- The low-level surface winds, which normally blow from east to west along the equator (“easterly winds”), instead **weaken or, in some cases, start blowing the other direction (from west to east or “westerly winds”)**.

### La Nina

- A **cooling of the ocean surface**, or below-average sea surface temperatures (SST), in the **central and eastern tropical Pacific Ocean**.
- Over Indonesia, rainfall tends to increase while rainfall decreases over the central tropical Pacific Ocean.
- The **normal easterly winds along the equator become even stronger**.

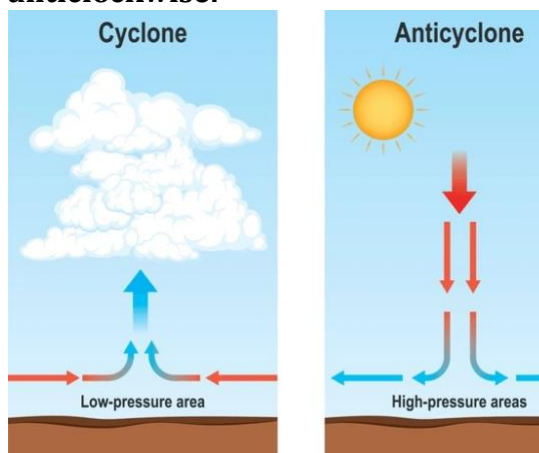


## 7.3. Anti-Cyclones

### What are AntiCyclones?

- An anticyclone, also known as a **high-pressure system**, is essentially an **area of high pressure in which the air goes downwards towards the Earth’s surface**.
- As the air sinks, its molecules get compressed, which increases the pressure, making it warmer. This **causes dry and hot weather**.

- The winds remain calm and gentle during an anticyclone, and there is **almost no formation of clouds because here the air sinks rather than rises.**
- When air hits the ground, it has to go somewhere. The earth's rotation makes the air change direction due to the coriolis effect. In the **Northern Hemisphere the air is pushed clockwise.** In the **Southern Hemisphere the air is pushed anticlockwise.**



#### Characteristics of summer anticyclones

- Few or no clouds. Strong sunshine will make it hot.
- Light winds.
- Cooling of ground leading to morning mist.
- Warm moist air rising from the ground forming thunderstorms.

#### Characteristics of winter anticyclones

- Cloudless skies.
- Temperature drop, making the days cold and the nights even colder due to lack of cloud cover.
- Fog and frost forming at night.

## 7.4. Glacial Lake Outburst Flood

### What is GLOF?

- Glacial lakes are large bodies of water that sit in front of, on top of, or beneath a **melting glacier.**
- A Glacial Lake Outburst Flood, or GLOF, is a **sudden release of water from a lake fed by glacier melt** that has formed at the side, in front,

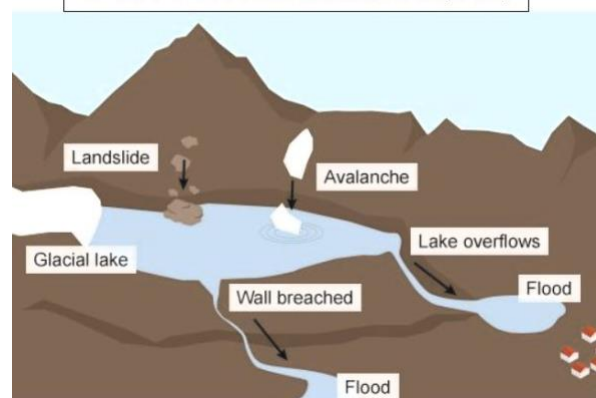
within, beneath, or on the surface of a glacier.

- As the Glacial lakes grow larger, they become more dangerous because glacial lakes are **mostly dammed by unstable ice or sediment composed of loose rock and debris.**
- In case the boundary around them breaks, huge amounts of water rush down the side of the mountains, which could cause flooding in the downstream areas.

### Causes of GLOF

- The primary trigger for a GLOF is the **collapse or breach of a moraine dam or ice dam** holding back water in a glacial lake.
- This can be caused by factors such as **glacial melt water, avalanches, earthquakes or volcanic activity.**

#### GLACIAL LAKE OUTBURST FLOODS (GLOF)



- **Landslides can trigger GLOFs** by displacing water or blocking waterways, creating sudden surges of water.
- **Heavy rainfall, or intense melting due to heatwaves** can destabilize ice dams or increase water pressure in proglacial lakes, triggering GLOFs.

### Potential Impacts

- The sudden release of water by GLOFs can cause **widespread flooding, inundating homes, farms, infrastructure, and transportation networks.**

- In some cases, GLOFs can **trigger landslides and mudflows**, further endangering lives and property.
- The sudden release of water and debris can **destroy habitats, disrupt food chains, and contaminate water sources**.
- GLOFs can **erode fertile topsoil and degrade land**, reducing agricultural productivity.
- GLOFs can lead to **long-lasting social and economic consequences**, including the displacement of communities, loss

of assets, and increased vulnerability to future hazards.

# Flora & Fauna

## 1) Golden Langurs

### About

- Golden Langurs (*Trachypithecus geei*) belong to a large group of **Old World monkeys** called the **Colobines**.
  - *Africa, Europe and Asian continents are considered as Old World and monkeys of these geographical regions are named as Old World Monkeys. The North and South Americas are considered as New World and the monkeys in these regions are said to be New World Monkeys.*
  - *The Colobines are principally leaf eating primates and have a multi-chambered stomach.*
- Golden langurs appear **uniformly deep cream colored** in dull light and **bright golden** in sunlight. The **coat colour varies seasonally**, becoming white or cream colored in summer and dark golden to chestnut in winter.
- **Males are larger and more robust** than females.
- Golden langurs are **diurnal** (active during the day) in habit and are **arboreal** (tree-dwelling) creatures.



### Geographical Distribution:

- Golden langurs occur in **lowland evergreen, semi-evergreen** and

**sal-dominated moist deciduous forest.**

- They have a restricted range in **southern Bhutan** and a small forest belt in **western Assam**.
- In Assam, its main population is in the **Manas Biosphere Reserve** and **Chakrashila Wildlife Sanctuary**.
  - **Chakrashila** is India's **first wildlife sanctuary** with **golden langur as the primary species**.

### Threats:

- **Fragmentation of forests and selective logging** is making food scarce for the Golden Langurs.
- **Power lines** passing through langur habitat can cause electrocution when langurs come into contact with live wires.
- The golden langur's unique appearance makes it a target for **illegal trafficking**.
- In some cases, langurs are seen as pests by farmers if they raid crops. This can lead to **retaliatory killings**.

### Protection Status:

- IUCN Red List: **Endangered**; Wildlife Protection Act (2022): **Schedule I**; CITES: **Appendix I**.

### Why in news?

- A recent survey has revealed that there are an estimated 7,396 golden langurs in India.
- The entire distribution range of the golden langur covers the **Manas Biosphere Reserve** and all fragmented forests in the **western part of Assam**.

# Agriculture

## 1) Regenerative Agriculture

### About

- Regenerative agriculture is a system of farming principles and practices that seeks to **rehabilitate farm ecosystems** by focusing on **soil health, biodiversity improvement, water and air quality**.
- Regenerative agriculture **builds soil health, supports biodiversity and returns carbon and nutrients to the soil**.
- It includes practices like **use of natural inputs, minimum-till, mulching, multicropping and sowing of diverse and native varieties**.

### Principles in Regenerative Agriculture

- Regenerative agriculture adheres to the following principles:
  - **Minimize soil disturbance** through **conservation tillage**;
  - **Diversify crops** to replenish nutrients;
  - Retain **soil cover** using **cover crops**;
  - **Integrate livestock**, which adds manure to the soil and serves as a source of carbon sinks.

### Significance

- Regenerative farming can **reduce emissions** from agriculture and **convert croplands and pastures into carbon sinks**.
- It **improves crop yield** and promotes the **growth of nutrient rich crops**.
- It facilitates **soil aggregation and nutrient cycling**.
- Other benefits of regenerative agriculture include **more efficient water use and fewer pests**.

### Why in News ?

- States like Odisha have been promoting regenerative agricultural practices to promote food security and enhance resilience to climate change.

## 2) Urban Farming

### About

- Urban farming or urban agriculture refers to the **practice of growing plants and raising animals for human consumption within cities and suburbs**.
- According to the **UN Food and Agriculture Organization**, urban farming contributes to **food security, livelihood generation, poverty alleviation and increased resilience** of cities to climate change.

### Methods of Urban Farming

- **Vertical farming:** It refers to **growing crops in vertically stacked layers** to save space. They are in controlled, indoor environments where horticulturalists can maintain the ideal temperature, light, water, and nutrients.
- **Hydroponics:** It is a method of **growing plants without soil**, in a **water-based nutrient solution**. It allows for faster growth and higher yields than traditional soil-based growing systems.
- **Aquaponics:** It is a **combination of both Aquaculture** (raising aquatic animals such as fish, crayfish, snails or prawns in tanks) and **Hydroponics** (cultivating plants in water). Here, fish waste provides organic food for plants, which naturally filters the water, which is used to replenish the fish tank.
- **Aeroponics:** It is a method of **growing plants without soil**, where roots are suspended in air

and irrigated with a nutrient-dense mist.

- **Container farming:** It is the process of growing plants in shipping containers instead of planting them in the ground. This type of gardening allows for easier monitoring of moisture, temperature, and sunlight.
- **Rooftop Gardening:** It is essentially cultivating food on the rooftop of a building, residential complex, commercial space, etc.

### Concerns

- Farming in cramped urban spaces marred by **water scarcity** and **pollution** may not be viable.

- Studies show that **excessive use of chemical fertilizers** and **pesticides** in urban farms can **lower produce** and **affect soil quality**.
- There are **food safety concerns** regarding the **use of wastewater** in urban agriculture.
- Urban farming can be **more expensive** due to the high cost of land and other resources.
- There also exists the **threat of diseases** and **lowered yields**.

## Economy

### 1) RBI widens door for foreign participation in green bonds

#### What are Sovereign Green Bonds?

- Green bonds are bonds **issued by any sovereign entity, inter-governmental groups or alliances and corporates** with the aim that the **proceeds of the bonds are utilised for projects classified as environmentally sustainable.**
- When these bonds carry **guarantees related to the repayment of principal and payment of interest by the sovereign or the government**, they are called **sovereign green bonds (SGrB).**

#### How are the projects for green bonds selected?

- According to the framework for SgrBs issued by the Government of India, a project is classified “green” on the basis of **four key principles.**
- These include:
  - encouraging energy efficiency in resource utilisation,
  - reducing carbon emissions and greenhouse gases,
  - promoting climate resilience and/or
  - improving natural ecosystems and biodiversity, especially in accordance with SDG (Sustainable Development Goals).

#### How are they different from conventional government bonds?

- Government bonds or government securities (G-Secs) are normally categorised into two — **Treasury Bills** and **dated or long-term securities.**
- Treasury Bills have a **maturity of less than one year** and they **do not carry coupon rates.** These are

**issued at a discount**, while **redeemed at face value.**

- At the same time, dated or long-term securities are issued for a **period above 1 year and up to 40 years.** These bonds carry **coupon rates** and are **tradable in the securities market.**
- **SGrB is one form of dated security.** It will have a **tenor and interest rate.**
- Money raised through SGrB is **part of overall government borrowing.**

#### Why are these bonds important?

- Over the last few years, Green Bonds have emerged as an important financial instrument to **deal with the threats of climate change and related challenges.**
- Climate change threatens communities and economies, and it poses risks for agriculture, food, and water supplies.
- A lot of financing is needed to address these challenges. It's **critical to connect environmental projects with capital markets and investors and channel capital towards sustainable development** – and Green Bonds are a way to make that connection.

#### Where will the proceeds go?

- The government will use the proceeds raised from SGrBs to **finance or refinance expenditure (in parts or whole) for various green projects**, including in renewable energy, clean transportation, energy efficiency, climate change adaptation, sustainable water and waste management, pollution and prevention control and green buildings.



- In renewable energy, investments will be made in solar, wind, biomass and hydropower energy projects.

### Why in News?

- The Reserve Bank of India (RBI) has decided to facilitate wider non-resident participation in the Sovereign Green Bonds by **permitting eligible foreign investors in the International Financial Services Centre (IFSC) to invest** in such bonds.
  - At present, **GIFT IFSC** is the maiden international financial services centre in India.
    - *Refer Pulse Digest July 2023 edition for details about GIFT IFSC.*
- This decision unlocks a new avenue for financing eco-friendly projects in the country.

## 2) WTO's 13th Ministerial Conference

### About WTO

- The World Trade Organization (WTO) is an intergovernmental organization that is concerned with the regulation of international trade between nations.
- The WTO officially commenced on **1 January 1995** under the **Marrakesh Agreement**, replacing the **General Agreement on Tariffs and Trade (GATT)**, which commenced in 1948.
- It is the largest international economic organization in the world.
- The WTO deals with **regulation of trade in goods, services and intellectual property** between participating countries by providing a framework for negotiating trade agreements and a dispute resolution process aimed at enforcing participants' adherence

to WTO agreements, which are signed by representatives of member governments ratified by their parliaments.

- **All decisions are taken through consensus and any member can exercise a veto.**

### Objectives

- The primary purpose of the WTO is to **open trade for the benefit of all.**
- The WTO is essentially an **alternative dispute or mediation entity** that upholds the international rules of trade among nations. The organization provides a platform that allows member governments to negotiate and resolve trade issues with other members.
- The WTO **prohibits discrimination between trading partners**, but provides exceptions for environmental protection, national security, and other important goals.
- At present, the WTO has over 160 members representing 98 per cent of world trade.
- **India** has been a WTO member since 1 January 1995 and a member of GATT since 8 July 1948.

### WTO Structure

#### Ministerial Conference

- The topmost decision-making body of the WTO is the Ministerial Conference, which usually meets **every two years.**
- It brings together all members of the WTO, all of which are countries or customs unions.
- The Ministerial Conference can take decisions on all matters under any of the multilateral trade agreements.

#### General Council

- The General Council comprises the **representatives of all member countries** and acts as the representative of the Ministerial

Conference when it comes to daily operations.

- Its job is to **carry out the implementation and monitoring function of the WTO.**

#### Dispute Settlement Body

- The Dispute Settlement Body (DSB) is a **part of the General Council** and is responsible for settling trade disputes between member states.
- According to the procedure established by the WTO, the **first step** to resolve a trade dispute is engaging in the **consultation process.**
- If two trading partners having a dispute could not resolve at that level, one of them can ask for a settlement of **DSB** for hearing. The General Council of the WTO convenes as the DSB.
- The DSB's ruling can be challenged at the **appellate body**, the highest court for global trade disputes.

#### Appellate Body

- The Appellate Body is a standing committee of **seven members** that presides over appeals against judgments passed in trade-related disputes brought by WTO members.
- Members of the Appellate Body have **four-year terms.** In the selection process, WTO members follow the **consensus principle**, which means that the nomination of the Appellate Body members can only proceed smoothly with the agreement of all the members of WTO.
- The Appellate Body **must have at least three sitting members** to hear an appeal.

#### Why in News?

- The 13th Ministerial Conference (MC13) of the World Trade Organization was recently concluded in **Abu Dhabi.**

#### Outcomes of MC13

#### No Consensus

- Despite intense negotiations over five days, the talks at the WTO's ministerial conference ended with **no decision on issues such as finding a permanent solution to public food stockpile and on curbing fisheries subsidies.**
- The member nations agreed to **maintain the current practice of not imposing customs duties on electronic transmissions** until the next ministerial conference or March 31, 2026, whichever is earlier, contrary to India's push for ending the moratorium.
  - India had sought an end to the customs duties exemption citing the adverse impact on countries' revenues.

#### Issue of Public Stockholding

- The Indian team led by Commerce and Industry Minister Piyush Goyal, in cooperation with the **G-33 grouping** (*Refer Pulse Digest February 2024 edition*), was pressing for a permanent solution to the **issue of public stockholding (PSH)** of grains for food security programmes.
  - PSH programme is a policy tool under which the Government procures crops like rice and wheat from farmers at a minimum support price (MSP), stores and distributes foodgrains to the poor.
- India has asked for **amendments in the formula to calculate the price support subsidies** given to farmers for government procurement. Currently, it is calculated as the **reference price for 1986-88.** This, the developing countries, said, is a **flawed calculation.**

- However, MC13 concluded without a decision on a permanent solution for public stockholding of food.

#### Dispute settlement system

- MC13 ended with countries deciding to have a **fully and well-functioning dispute settlement system accessible to all members by the end of 2024**.
  - In 2019, the **Appellate Body became dysfunctional** after the US' continuous blockage of the appointment of new Appellate Body members left only one member on the bench.
  - Given the impasse, many WTO members have opted to include a mechanism for resolving trade disputes. This mechanism, known as the **Multi-Party Interim Appeal (MPIA) arrangement**, has emerged as a stop-gap solution since 2020.
  - However, it has gained **limited acceptance** as only the European Union and 22 other countries have accepted this mechanism.

#### New members

- **Comoros and Timor-Leste** have officially become members of WTO during the WTO's ministerial meeting.

### 3) GST Appellate Tribunal

#### About GST Appellate Tribunal

- The GST Appellate Tribunal represents a specialised authority formed to **resolve GST-related disputes at the appellate level**.
- It will be the **forum of second appeal** under GST laws and is the **first common forum of dispute resolution between the Centre and the states**.

- It is a common forum to ensure **uniformity in dispute redressals and quicker resolution** of cases.

#### Objectives

- Introduced on July 1, 2017, the GST framework included provisions to constitute Appellate Tribunal as the **second appellate authority** for hearing **appeals against the orders passed by the Appellate Authority** under the Central and State GST laws.
- However, in their absence, taxpayers have been compelled to seek **relief from the High Courts**, with the number of appeals under central GST laws having risen to about 15,000.
- The Central GST law was amended last year to enable the creation of appellate tribunals, and the Finance Ministry notified the setting up of a **Principal Bench (New Delhi) and 31 State Benches of the GSTAT**, and the process for appointment of judicial and technical members is already in progress.
- The Tribunal will **ensure swift, fair, judicious and effective resolution to GST disputes, besides significantly reducing the burden on higher courts**.
- The establishment of the GSTAT would further enhance the effectiveness of the GST system in India and foster a more transparent and efficient tax environment in the country.

#### GST Appellate Tribunal Rules, Powers and Duties

- The Tribunal is **not bound by the Code of Civil Procedure, 1908**, but follows the **principles of natural justice** and has the authority to regulate its own procedure.
- The Tribunal possesses **powers similar to a civil court** under the Code of Civil Procedure, 1908, for matters such as summoning

individuals, demanding document production, and receiving evidence on affidavits.

- The Tribunal can **requisition public records, issue commissions for witness examination, and dismiss or decide representations for default.**
- Orders issued by the Tribunal can be **enforced as if they were court decrees**, with the Tribunal having the authority to seek execution within the local jurisdiction.
- All proceedings before the Tribunal are **considered judicial proceedings**, and the Tribunal is **deemed a civil court** for specific legal purposes.

#### **GST Appellate Tribunal Members**

- The government will select members for the GST Appellate Tribunal, including **Judicial Members and Technical Members.**
- The **National Bench**, led by the **President**, focuses on issues related to the place of supply, while regional and state benches handle appeals within specific regions.
- The distribution of responsibilities among members is decided by the President and state President.

#### **Why in News?**

- Paving the way for operationalising the GST Appellate Tribunal (GSTAT) to resolve disputes, Finance Minister Nirmala Sitharaman administered the oath of integrity and sincerity to the **tribunal's first President**, Justice (Retd.) Sanjaya Kumar Mishra.
- A former Chief Justice of the Jharkhand High Court, the GSTAT's first president has been selected by a **Search-cum-Selection Committee headed by the Chief Justice of India.**

- A person who has been the **Judge of the Supreme Court or has been the Chief Justice of a High Court** can be appointed as the President of the GST Appellate Tribunal.

#### **4) Enforcement Directorate Context**

- The Enforcement Directorate (ED) is often in the news.

#### **About ED**

- It was constituted in **1956** for **handling Exchange Control Laws violations** under the **Foreign Exchange Regulation Act (FERA).**
- At present, the **administrative control** of the Enforcement Directorate is with the **Department of Revenue, Ministry of Finance.**
- The ED today is a multi-disciplinary organization mandated with **investigation of the offence of money laundering and violations of foreign exchange laws.**

#### **Statutory Functions**

- The statutory functions of the Directorate include **enforcement of following Acts:**

##### **1. The Prevention of Money Laundering Act, 2002 (PMLA):**

- It is a criminal law enacted to **prevent money laundering** and to provide for **confiscation of property** derived from, or involved in, money-laundering and for matters connected therewith or incidental thereto.
- ED has been given the **responsibility to enforce the provisions of the PMLA** by conducting investigation to trace the assets derived from proceeds of crime, to provisionally attach the property and to ensure prosecution of the offenders and confiscation of the property by the Special court.

## 2. The Foreign Exchange Management Act, 1999 (FEMA):

- It is a civil law enacted to consolidate and amend the laws relating to **facilitate external trade and payments** and to promote the **orderly development and maintenance of foreign exchange market in India**.
- ED has been given the responsibility to conduct **investigation into suspected contraventions** of foreign exchange laws and regulations, to **adjudicate** and **impose penalties** on those adjudged to have contravened the law.

## 3. The Fugitive Economic Offenders Act, 2018 (FEOA):

- This law was enacted to **deter economic offenders** from evading the process of Indian law by **remaining outside the jurisdiction of Indian courts**.
- It is a law whereby the Directorate is mandated to **attach the properties of the fugitive economic offenders** who have escaped from India warranting arrest and provide for the confiscation of their properties to the Central Government.

## 4. Sponsoring agency under COFEPOSA:

- Under the Conservation of Foreign Exchange and Prevention of Smuggling Activities Act, 1974 (COFEPOSA), the Directorate is empowered to **sponsor cases of preventive detention** with regard to contraventions of FEMA.
  - COFEPOSA was enacted to provide for **preventive detention** in certain cases for the purposes of **conservation and augmentation of foreign exchange and prevention of smuggling activities**.

## 5) Foreign Contribution Regulation Act

### About Foreign Contribution (Regulation) Act, (FCRA), 2010

- The FCRA 2010 **regulates the acceptance and utilisation of foreign contribution by individuals, associations and companies**.
  - Foreign contribution is the donation or transfer of any currency, security or article (of beyond a specified value) by a foreign source.
- The objective is to **prevent** use of foreign contribution or foreign hospitality for **any activity detrimental to the national interest**.
- **All societies, companies, associations and NGOs** have to register themselves under the FCRA and fulfil definite criteria to be eligible for foreign funds.
- The registration is initially **valid for five years** and it can be renewed subsequently if they comply with all norms.
- Registered associations can receive foreign contributions for **social, educational, religious, economic and cultural purposes**.
- **Filing of annual returns**, on the lines of Income Tax, is **compulsory**.

### Who cannot receive foreign donations?

- **Members of the legislature and political parties, government officials, judges and media persons** are prohibited from receiving any foreign contribution.
- However, in 2017 the Ministry of Home Affairs (MHA), amended the FCRA law paving the way for **political parties to receive funds** from the Indian subsidiary of a foreign company or a foreign company in which an Indian holds 50% or more shares.

### FCRA Amendment Act, 2020

- In 2020, the Parliament passed the Foreign Contribution (Regulation) Amendment Act, 2020 which amends the Foreign Contribution (Regulation) Act, 2010.

### Highlights of the 2020 Act

#### Prohibition to accept foreign contribution

- The amendment adds **public servants** to the list of persons who are prohibited to accept any foreign contribution.
- Public servant includes any person who is in service or pay of the government, or remunerated by the government for the performance of any public duty.

#### Transfer of foreign contribution

- The amendment act **prohibits the transfer of grants** received under FCRA to any other person or organisation.

#### Aadhaar for registration

- Any person seeking prior permission, registration or renewal of registration must provide the **Aadhaar number of all its office bearers, directors or key functionaries, as an identification document.**
- In case of a foreigner, they must provide a copy of the passport or the Overseas Citizen of India card for identification.

#### FCRA account

- Organisations can receive the foreign funds in a bank account designated as the 'FCRA account' **only in branches of the State Bank of India, New Delhi**, as notified by the central government.

#### Reduction in use of foreign contribution for administrative purposes

- Under the 2010 Act, a person who receives foreign contribution must use it only for the purpose for which the contribution is received. Further, they must not use more

than 50% of the contribution for meeting administrative expenses.

- The amendment act **reduces this limit to 20%.**

#### Suspension of registration

- Under the 2010 Act, the government may suspend the registration of a person for a period not exceeding 180 days.
- The latest amendment adds that such **suspension may be extended up to an additional 180 days.**

#### Why in News?

- The Union Home Ministry has cancelled the registration of five non-governmental organisations (NGOs) under the Foreign Contribution (Regulation) Act (FCRA) for alleged violation of various provisions.

## 6) North Eastern Development Finance Corporation

### About

- North Eastern Development Finance Corporation Ltd (NEDFi) is a **Public Limited Company** registered under the **Companies Act 1956** in **1995** with its Registered Office at **Guwahati, Assam.**
- The shareholders of the Corporation are IDBI, SBI, LICI, SIDBI, ICICI, IFCI, SUUTI, GIC and its subsidiaries.
- NEDFi provides **financial assistance** to micro, small, medium, and large enterprises for setting up industrial, infrastructure, and agri-allied projects in the **North Eastern Region.**
- Besides financing, the Corporation offers **Consultancy & Advisory services** to the state Governments, private sectors and other agencies.

### Why in News?

- North Eastern Development Finance Corporation Ltd (NEDFi) has assisted around 5,338 projects

in diverse sectors - education & training food processing, handlooms & handicrafts, healthcare, hotels & tourism, microfinance etc. between 1st January, 2023 - 30th November, 2023.

## 7) Real Estate (Regulation & Development) Act, 2016

### About the Act

- The real estate (regulation and development) Act 2016 was enacted with the main purpose to establish the **state level regulatory authorities** called **Real Estate Regulatory Authority** for **regulation and promotion of the real estate sector**.
- The Act has the following objectives:
  - To protect the **interest of the allottees (buyers)** and ensure their responsibility;
  - To maintain **transparency** and reduce the chances of fraud;
  - To implement **Pan-India standardization** and bring about professionalism;
  - To enhance the **flow of correct information** between the home buyers and the sellers;
  - To impose **greater responsibilities** on both the builders and the investors;
  - To enhance the **reliability** of the sector and thereby increase **confidence** amongst the investors.
- **Residential real estate projects**, with some exceptions, need to be **registered with RERAs**. Promoters cannot book or offer these projects for sale without registering them. **Real estate agents** dealing in these projects also need to **register with RERAs**.

- On registration, the promoter must upload details of the project on the **website** of the RERA. These include the site and layout plan, and schedule for completion of the real estate project.
- **70% of the amount** collected from buyers for a project must be maintained in a separate bank account (*escrow account*) and must only be used for construction of that project.
- As per RERA, a promoter is responsible for **rectification of a structural defect or any other defect** in workmanship, quality or provision of services in the project for **five years** from the date of handing over possession, without further charge.
- The Act establishes state level tribunals called **Real Estate Appellate Tribunals**. Decisions of RERAs can be appealed in these tribunals.

### Why in News?

- Eight years after Parliament passed the Real Estate (Regulation and Development) Act, 2016, the Union Ministry of Housing and Urban Affairs is in the process of reviewing the functioning of the Act.

## 8) Other Notable Topics

### 8.1. Non-Banking Financial Companies

#### About

- An Non-Banking Financial Company (NBFC) is a company registered under the **Companies Act, 1956** which **provides banking services without meeting the legal definition of a bank**.
- They engage in the **business of loans and advances, acquisition**

of shares, bonds, etc. issued by Government or local authority.

- They also deal in other marketable securities of a like nature, leasing, hire-purchase, insurance business, chit business but **does not include any institution whose principal business is that of agriculture activity, industrial activity, purchase or sale of any goods (other than securities) or providing any services and sale/purchase/construction of immovable property.**

#### What is the difference between banks & NBFCs?

- NBFCs lend and make investments and hence their activities are similar to that of banks; however there are a few differences:
  1. NBFC **cannot accept demand deposits;**
  2. NBFCs **cannot issue cheques drawn on itself;**
  3. **Deposit insurance facility** of Deposit Insurance and Credit Guarantee Corporation (DICGC) is **not available** to depositors of NBFCs, unlike in the case of banks.

#### Examples of NBFCs

- Housing Finance Companies, Merchant Banking Companies, Stock Exchanges, Companies engaged in the business of stock-broking/sub-broking, Venture Capital Fund Companies, Nidhi Companies, Insurance companies and Chit Fund Companies are examples of NBFCs.

#### Does the Reserve Bank regulate all financial companies?

- **No.**
- Housing Finance Companies are regulated by **National Housing**

**Bank, Merchant Banker/Venture Capital Fund Company/stock-exchanges/stock brokers/sub-brokers are regulated by Securities and Exchange Board of India, and Insurance companies are regulated by Insurance Regulatory and Development Authority.**

- Similarly, Chit Fund Companies are regulated by the respective **State Governments** and Nidhi Companies are regulated by the **Ministry of Corporate Affairs.**

## 8.2. National Company Law Appellate Tribunal

### About NCLAT

- The National Company Law Appellate Tribunal (NCLAT) was constituted under the **Companies Act, 2013** for **hearing appeals against the orders passed by the National Company Law Tribunal under the Insolvency and Bankruptcy Code, 2016 (IBC).**
- NCLAT is also the **Appellate Tribunal** for hearing appeals against the orders passed by **Insolvency and Bankruptcy Board of India (IBBI)** and the **Competition Commission of India.**
- NCLAT is also the Appellate Tribunal to hear and dispose of appeals against the orders of the **National Financial Reporting Authority.**
- NCLAT decisions can be **challenged in the Supreme Court** on a point of law.
- NCLAT is functioning from the **Principal Bench in New Delhi.**



# Organisations

## 1) International Seabed Authority

### About ISA

- The International Seabed Authority (ISA) is an **autonomous international organization** established under the **1982 United Nations Convention on the Law of the Sea (UNCLOS)**.
- ISA is the organization through which States Parties to UNCLOS **organize and control all mineral-resources-related activities** in the Area for the benefit of humankind as a whole.
- In so doing, ISA has the **mandate to ensure the effective protection of the marine environment** from harmful effects that may arise from deep-seabed-related activities.
- ISA, which has its headquarters in **Kingston, Jamaica**, came into existence in **1994**, upon the entry into force of UNCLOS.
- **All States Parties to UNCLOS are ipso facto members of ISA**. ISA has more than **160 Members** (including **India**).

### Why in News?

- India has applied to the International Seabed Authority for **rights to explore two vast tracts in the Indian Ocean seabed**.
- New Delhi is exploring obtaining rights to mine a **metal-rich region**, the **Carlsberg Ridge**, located away from India's western shores, and a **cobalt-rich ferromanganese crusts** in deep seabed region, **Afanasy-Nikitin Seamount (ANS)**, located away from the eastern shores, both in the vast Indian Ocean.
- For any actual extraction to happen, interested explorers must apply first for an **exploration licence to the ISBA**.

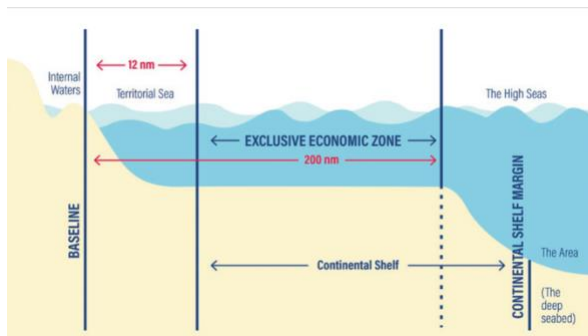
### Regulations

- At present, the **maritime borders** of any coastal country extends to **200 nautical miles beyond its coast**.
- All other waters are considered **international maritime waters** on which **no country can stake territory, or claim air, water, or sea bed resources**.
- As a result, **exploration and mining in these regions requires permission from ISA**.

### Related Information

#### About UNCLOS

- The United Nations Convention on the Law of the Sea (UNCLOS), also known as the **Law of the Sea Treaty**, is an international treaty which was adopted and signed in 1982. The Convention was formed to ensure freedom of shipping navigation at the sea.
- The Convention has created three new institutions on the international scene :
  - **the International Tribunal for the Law of the Sea,**
  - **the International Seabed Authority,**
  - **the Commission on the Limits of the Continental Shelf.**
- **India** is a party to UNCLOS.
- UNCLOS classifies marine areas into five zones. They are:
  - Territorial sea
  - Contiguous zone
  - Exclusive economic zone
  - Continental shelf
  - High Sea



### Territorial sea

- According to UNCLOS, the territorial sea can be defined as the area which extends up to **12 nautical miles** from the baseline of a country's coastal state. The territorial sea is under the jurisdiction of that particular country; however, foreign ships (both merchant and military) ships are allowed passage through it.
- This type of passage of territorial passage of foreign ships is known as an **innocent passage**. However, the right to the innocent passage can be suspended if there is a threat to the security of the coastal state.

### Contiguous Zone

- The contiguous zone can be defined as the belt which **extends 12 nautical miles beyond the territorial sea limit**.
- A coastal state's control on this area is limited to prevention of actions which can infringe its customs, fiscal, and immigration laws. It can also act if any activity in the contiguous zone threatens regulations in the territorial sea.

### Exclusive economic zone

- The exclusive economic zone can be defined as a belt of water which **extends up to 200 nautical miles** from the baseline of the coastal state. Thus it **includes both territorial sea and contiguous zone**.
- The exclusive economic zone provides the coastal state **control over all economic resources** such

as fishing, mining, oil exploration, and marine research.

- The coastal state also has jurisdiction regarding protection and preservation of natural resources and marine environment.

### Continental Shelf

- The continental shelf can be defined as the area whose outer limit **shall not exceed 350 nautical miles from the baseline or shall not exceed 100 nautical miles from the 2500 meters isobath**.
  - *Isobath is a line connecting points of equal underwater depth.*
- The coastal state has exclusive rights for exploring and exploiting its natural resources in this area. The state also has the exclusive rights to authorize and regulate drilling on the shelf for all purposes.

### High Seas

- High seas can be defined as the part of the sea that is **not included** in the exclusive economic zone, in the territorial sea, or in the internal waters of a coastal state or archipelagic waters of an archipelagic state.
- High seas are **open to all states** for freedom of navigation, freedom of overflight, freedom to construct artificial islands installation, freedom of fishing, and freedom of scientific research.

## 2) Other Notable Topics

### 2.1. TRAI

#### About TRAI

- The Telecom Regulatory Authority of India (TRAI) was established in 1997 by an **Act of Parliament**, called the **Telecom Regulatory Authority of India Act, 1997**, to **regulate telecom services, including fixation/revision of tariffs for telecom services** which

were earlier vested in the Central Government.

- TRAI's mission is to **create and nurture conditions for growth of telecommunications** in the country in a manner and at a pace which will enable India to play a leading role in emerging global information society.
- One of the main objectives of TRAI is to **provide a fair and transparent policy environment which promotes a level playing field and facilitates fair competition.**
- The TRAI Act was amended by an ordinance in 2000, establishing a **Telecommunications Dispute Settlement and Appellate Tribunal (TDSAT)** to take over the adjudicatory and disputes functions from TRAI.
  - TDSAT was set up to adjudicate any dispute between a licensor and a licensee, between two or more service providers, between a service provider and a group of consumers, and to hear and dispose of appeals against any direction, decision or order of TRAI.

## 2.2. National Film Development Corporation of India

### About NFDC

- National Film Development Corporation of India (NFDC) is the **central agency** established to **encourage the good cinema movement in the country.**
- It functions under the **Ministry of Information and Broadcasting.**
- The primary goal of the NFDC is to plan, promote and organize an integrated and efficient development of the Indian film industry and foster excellence in cinema.

- The NFDC (and its predecessor the Film Finance Corporation) has so far **funded / produced over 300 films.**
- **Objectives:**
  - To develop talent and to facilitate the growth of Indian cinema in all languages through productions and co-productions, script development and need based workshops.
  - To promote Indian culture through cinema in India and overseas.
  - To build a lean and flexible organisation responsive to the needs of the Indian film industry.

## 2.3. National Testing Agency

### About NTA

- National Testing Agency (NTA) has been established as a **premier, specialist, autonomous and self-sustained testing organization** to conduct **entrance examinations for admission/fellowship in higher educational institutions.**
- NTA was established by the **Ministry of Education** following the Union Cabinet's approval in **2017.**
- NTA is a **registered society** under the Societies Registration Act, 1860.

### Objectives

- To conduct **efficient, transparent and international standards tests** in order to assess the competency of candidates for admission, and recruitment purposes.
- To **undertake research** on educational, professional and testing systems to identify gaps in the knowledge systems and take steps for bridging them.
- To identify experts and institutions in **setting examination questions.**

- To **produce and disseminate information and research** on education and professional development standards.

## 2.4. Central Water Commission

### About

- Central Water Commission (CWC) is a **premier Technical Organization** of India in the field of Water Resources and is presently functioning as an attached office of the **Ministry of Jal Shakti**.
- CWC came into existence in **1945**.
- The Commission is charged with the general responsibilities of initiating, coordinating and furthering, in consultation with the State Governments concerned, **schemes for control, conservation and utilization of water resources** throughout the country, for purpose of Flood Control, Irrigation, Navigation, Drinking Water Supply and Water Power Development.
- CWC is headed by a **Chairman**, with the status of Ex-Officio Secretary to the Government of India.
- The work of the Commission is divided among **3 wings** namely, Designs and Research (D&R) Wing, River Management (RM) Wing and Water Planning and Projects (WP&P) Wing.
- Altogether there are nineteen organizations located at headquarters in **New Delhi** and thirteen organizations spread over various locations in India.

## 2.5. UNHRC

### About UNHRC

- The UN Human Rights Council (UNHRC) is the **principal**

**intergovernmental body within the United Nations system** responsible for strengthening the promotion and protection of human rights around the globe, and for addressing and taking action on human rights violations around the globe.

- It responds to human rights emergencies and makes recommendations on how to better implement human rights on the ground.
- The Council can also convene urgent meetings on short notice to respond to emerging human rights crises.
- The Council was created by the **United Nations General Assembly** in **2006**. It replaced the former **United Nations Commission on Human Rights**.
- The headquarters of UNHRC is in **Geneva, Switzerland**.

### Membership

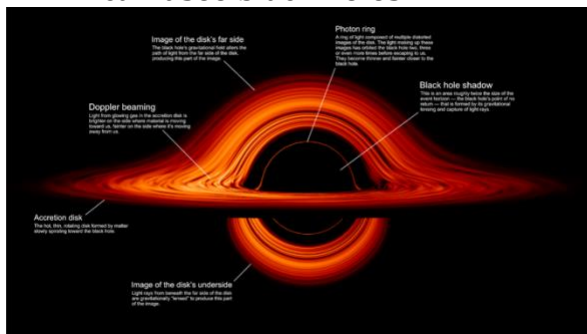
- The Council is made of **47 Member States**, which are elected by the majority of members of the General Assembly of the United Nations through **direct and secret ballot**.
- The Council's Membership is based on **equitable geographical distribution**.
- Members of the Council serve for a period of **three years** and are **not eligible for immediate re-election after serving two consecutive terms**.

# Science and Technology

## 1) Sagittarius A\*

### Blackhole

- A black hole is a place in **space where gravity pulls so much that even light can not get out.** The gravity is so strong because matter has been squeezed into a tiny space. This can happen **when a star is dying.**
- Because no light can get out, **people can't see black holes.**



- A black hole's "surface," called its **event horizon**, is the **boundary defining the region of space around a black hole from which nothing (not even light) can escape.** In other words, the escape velocity for an object within the event horizon exceeds the speed of light.
- **Albert Einstein** first predicted the existence of black holes in 1916, with his **general theory of relativity.** The term "black hole" was coined many years later in 1967 by American astronomer John Wheeler.
- In **2019**, astronomers using the **Event Horizon Telescope (EHT)** — an international collaboration that networked eight ground-based radio telescopes into a single Earth-size dish — **captured an image of a black hole for the first time.**
- It appears as a dark circle silhouetted by an orbiting disk of hot, glowing matter. The **supermassive black hole** is

located at the heart of a galaxy called **M87**, located about 55 million light-years away, and weighs more than 6 billion solar masses.



### How big are black holes?

- Black holes can be **big or small.** Scientists think the smallest black holes are as small as just one atom. These black holes are very tiny but have the mass of a large mountain. Mass is the amount of matter, or "stuff," in an object.
- Another kind of black hole is called "**stellar.**" Its mass can be up to 20 times more than the mass of the sun. There may be many, many stellar mass black holes in Earth's galaxy. Earth's galaxy is called the Milky Way.
- The largest black holes are called "**supermassive.**" These black holes have masses that are more than 1 million suns together. Scientists have found proof that every large galaxy contains a supermassive black hole at its center.
- The supermassive black hole at the center of the Milky Way galaxy is called **Sagittarius A\* (aka Sgr A\*, pronounced Sagittarius A-star).** It has a mass equal to about 4 million suns and would fit inside a very large ball that could hold a few million Earths.

### How do black holes form?

- Scientists think the smallest black holes **formed when the universe began.**

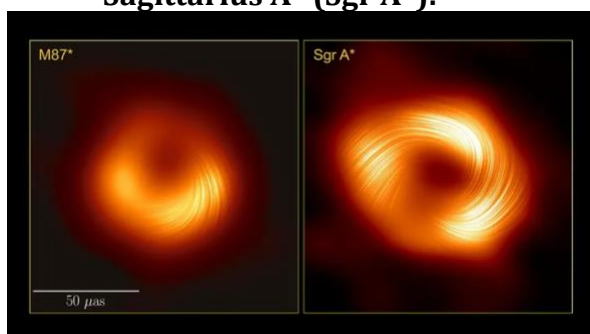
- Stellar black holes are made when the center of a very big star falls in upon itself, or collapses. When this happens, it causes a **supernova**. A supernova is an exploding star that blasts part of the star into space.
- Scientists think supermassive black holes were made at the same time as the galaxy they are in.

### How do we identify blackholes?

- A way in which the universe showcases a black hole is when the **black hole interacts with its surroundings**.
- When the **dust particles and matter from the surroundings fall onto a supermassive black hole**, it engulfs a part of the surroundings but some of the **matter is converted into energy and emitted as electromagnetic radiation** that makes the black hole appear **very luminous**.
- This **luminosity can be detected** on earth thus, giving more insights into these occurrences.

### Why in News?

- Scientists have unveiled a **new image of supermassive black hole Sagittarius A\* (Sgr A\*)**.



- The observation made with the Event Horizon Telescope (EHT) has revealed that Sgr A\* is encircled by **highly-ordered magnetic structures**. The features are **similar to ones previously seen surrounding the galaxy M87's supermassive black hole**.
- This is surprising given that Sgr A\* has a mass of around 4.3 million

times that of the sun, but M87\* is much more monstrous, with a mass equivalent to around 6.5 billion suns.

- The new EHT observation of Sgr A\*, therefore, suggests that **strong and well-organized magnetic fields could be common to all black holes**.

## 2) Higgs Boson

### What's in the news?

- Nobel prize-winning physicist **Peter Higgs**, responsible for one of the greatest scientific discoveries in the last century, died at the age of 94.
- Peter Higgs's ground-breaking work helped explain **how everything in the universe attains mass**.

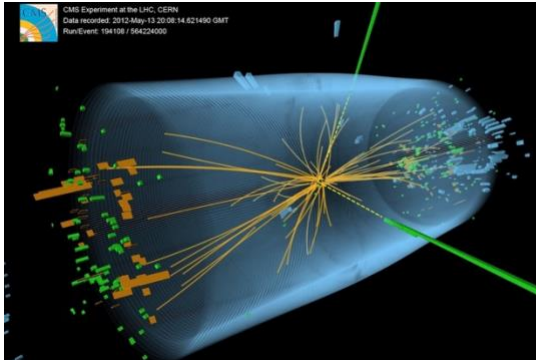
### Contribution

- In 1964, he theorised the **existence of the Higgs Boson** (popularly known as the "**the God Particle**"), a fundamental force-carrying particle associated with the **Higgs field**.
- The Higgs field is a **quantum field** that gives mass to particles and **exists throughout the universe**. In the Higgs field, the **Higgs boson acts as a wave and helps give mass to other fundamental particles** through its interaction in terms of its vibration (oscillation).
- His theory was proved 50 years later when researchers at the **Large Hadron Collider**, the most powerful particle accelerator in the world, discovered the particle in 2012. Mr Higgs was awarded the **Nobel prize** a year later.

### What is Higgs Boson?

- **Particles make up everything in the universe** but they **did not have any mass when the universe began**.
- They all sped around at the **speed of light**.
- **Everything we see -- planets, stars and life -- emerged after particles**

gained their mass from a fundamental field associated with the particle known as the **Higgs boson**.



- The particle has a mass of **125 billion electron volts** making it **130 times bigger** than a proton.

### Related Information

#### Large Hadron Collider

- The Large Hadron Collider (LHC) is a **giant, complex machine built to study particles that are the smallest known building blocks of all things**.
- Built by the **European Organisation for Nuclear Research (CERN)**, LHC is the **world's largest and most powerful particle accelerator**.
- Structurally, it is a **27-km-long track-loop buried 100 metres underground on the Swiss-French border**.
- In its operational state, it **fires two beams of 'protons' almost at the speed of light in opposite directions inside a ring of superconducting electromagnets**.
  - *Protons are made up of quarks and gluons, which in turn are the building blocks of protons and neutrons.*
- The magnetic field created by the superconducting electromagnets keeps the protons in a tight beam and guides them along the way as they travel through beam pipes and **finally collide**.



- Just prior to collision, **another type of magnet** is used to **'squeeze' the particles closer together** to increase the chances of collisions. The particles are **so tiny** that the task of making them collide is akin to firing two needles 10 km apart with such precision that they meet halfway.
- Since the LHC's powerful electromagnets **carry almost as much current as a bolt of lightning**, they must be **kept chilled**. The LHC uses a **distribution system of liquid helium** to keep its critical components ultracold at **minus 271.3 degrees Celsius**, which is colder than interstellar space.
- Given these requirements, it is not easy to warm up or cool down the gigantic machine.
- In 2012, scientists at CERN announced the **discovery of the Higgs boson** during the LHC's first run. The discovery concluded the decades-long quest for the **'force-carrying' subatomic particle**, and proved the **existence of the Higgs mechanism**, a theory put forth in the mid-sixties.

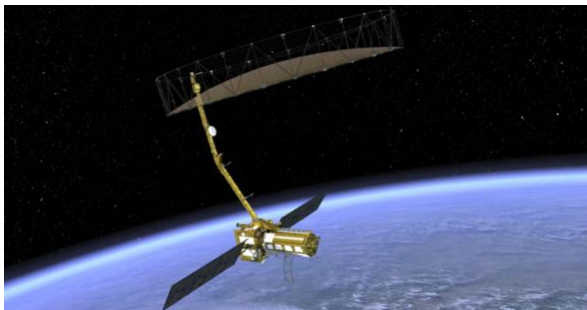
### 3) NISAR

#### What is NISAR?

- NISAR (NASA-ISRO Synthetic Aperture Radar) is an **Earth-observation satellite jointly**

**developed by U.S. space agency NASA and ISRO** under a partnership agreement signed in 2014.

- The 2,800 kilograms satellite consists of both L-band and S-band synthetic aperture radar (SAR) instruments, which makes it a **dual-frequency imaging radar satellite**.
- While NASA has provided the L-band radar, GPS, a high-capacity solid-state recorder to store data, and a payload data subsystem, ISRO has provided the S-band radar, the GSLV launch system and spacecraft.
- Another important component of the satellite is its large **39-foot stationary antenna reflector**. Made of a gold-plated wire mesh, the reflector will be used to focus the radar signals emitted and received by the upward-facing feed on the instrument structure.



#### What is the mission?

- Once launched into space, NISAR will **observe subtle changes in Earth's surfaces**, helping researchers better understand the **causes and consequences** of such phenomena.
- Designed as a **low earth orbit (LEO) observatory**, NISAR will map the entire globe in **12 days** and provide **spatially and temporally consistent data** for understanding changes in Earth's ecosystems, ice mass, vegetation biomass, sea level rise, groundwater and natural

hazards, including earthquakes, tsunamis, volcanoes and landslides.

- Synthetic Aperture Radar refers to a **technique for producing high-resolution images**. Because of the precision, the radar can penetrate clouds and darkness, which means that it **can collect data day and night in any weather**.

#### Why in News?

- The ambitious NISAR mission has encountered a slight delay, pushing back the launch to the second half of the year.
- The mission will be launched from **Sriharikota's Satish Dhawan Space Centre**, onboard ISRO's **Geosynchronous Satellite Launch Vehicle Mark 2**.

#### 4) SPACE inaugurated in Kerala

##### News:

- A state-of-the-art **Submersible Platform for Acoustic Characterisation and Evaluation (SPACE)** was inaugurated at Underwater Acoustic Research Facility, Kulamavu in Idukki, Kerala.
- The SPACE, set up by the **Naval Physical & Oceanographic Laboratory of DRDO**, has been designed as a **premier testing and evaluation hub for sonar systems** destined for the Indian Navy onboard various platforms including ships, submarines and helicopters.
- The SPACE will mainly be utilised for evaluation of complete sonar system, allowing for quick deployment and easy recovery of scientific packages such as sensors and transducers.
- It will be suitable for survey, sampling, and data collection of air, surface, mid-water, and reservoir floor parameters using modern scientific instrumentation.



## 5) Risk of vaping

### What's in the news?

- A large US study has revealed that **vaping** (use of an e-cigarette to heat liquids that produce a vapour, which is then inhaled) **at any point in life** has been linked to a **19 per cent increase in the risk of heart failure**.
- While **India** is one of the few countries to have **banned manufacture, import and sale of e-cigarettes**, the products continue to be available in the grey market.
  - Possession of e-cigarettes and similar devices in any form, quantity or manner is in violation of the **Prohibition of Electronic Cigarette Act (PECA) 2019**.

### What is vaping?

- Vapes or e-cigarettes **electronically heat up a solution of glycerine, flavours and nicotine**, the addictive substance in the cigarettes.
- While people use cigarettes for the nicotine hit, it is the **tar** from smoking that kills. This is the reason e-cigarettes were pushed as aid for smoking cessation.
- There is, however, **not enough data** to show that the use of e-cigarettes actually helps someone quit smoking and users end up using both cigarettes and vapes.

### What does the recent study say?

- The study, which scanned 1.7 lakh people, showed that those who used e-cigarettes at any point were **19 per cent more likely to develop heart failure compared to non-users**.
- The researchers also found that **vaping increased the odds of a particular type of heart failure called heart failure with preserved ejection fraction (HFpEF)** — a condition in which the

heart muscles become stiff and the heart does not properly fill between contractions.

### What are the other health impacts of vaping?

- The nicotine in e-cigarettes may become a **source of addiction** instead of an aid in quitting regular cigarettes.
- **Accidental exposure** to the liquid could also cause **acute nicotine poisoning**.
- With no standardisation of the liquid used, many vapes release chemicals that cause **lung diseases** and contain **cancer-causing compounds and heavy metals**.

## 6) Hanle Dark Sky Reserve

### About

- The Hanle Dark Sky Reserve (**HDSR**) is **India's first Dark Sky Reserve** situated in **Eastern Ladakh**.
  - *A Dark Sky Reserve is public or private land with a **distinguished nocturnal environment and starry nights** that has been **developed responsibly to prevent light pollution**.*
- HDSR aims to control man-made light pollution in the area in order to preserve the pristine dark skies for **astronomical research**.



- The Reserve is promoted as a **tourist destination** for enjoying the night sky, and also helps in **socio-**

- economic development** of the local villages.
- The site is also home to the **Indian Astronomical Observatory (IAO)** and hosts many professional telescopes due to its dark skies and dry weather.
    - Situated at 14,000 ft above sea level, IAO is laid out on the mountain called **Digpa-Ratsa Ri, aka Mt Saraswati**.
    - IAO houses the **Major Atmospheric Cherenkov Experiment Telescope (MACE)** built by a consortium of the Bhabha Atomic Research Centre, the Tata Institute of Fundamental Research, the Electronics Corporation of India Ltd. and the Indian Institute of Astrophysics (IIA).
      - Its goal is to **detect Cherenkov radiation** from space. This is a special kind of light from **gamma rays**, or the most energetic sources of radiation, that can **result from dying stars or several galactic events**.
      - The IAO provides **multiple vantage points to observe a range of cosmic phenomena and investigate the mysteries of the universe**.

# Polity

## 1) Right against climate change part of right to life, equality

### What's in the news?

- In a significant ruling, the Supreme Court has expanded the **scope of Articles 14 and 21** to include the “**right against the adverse effects of climate change**”.
- **Article 14** indicates that all persons shall have equality before law and the equal protection of laws while **Article 21** recognises the right to life and personal liberty.
- The court held that these Articles are **important sources of the right to a clean environment** and the **right against the adverse effects of climate change**.
- The apex court added that the **inability of underserved communities** to adapt to climate change or cope with its effects **violates the right to life (Article 21)** as well as the **right to equality (Article 14)**.
- The judgment came on a petition to protect the Great Indian Bustard (GIB) from losing its habitat due to power transmission lines.
  - *Refer Pulse Digest March 2024 edition for details about GIB.*

## 2) Citizenship (Amendment) Rules, 2024

### How is citizenship acquired in India?

- In India, citizenship is regulated by the **Citizenship Act, 1955**.
- The Act specifies that citizenship may be acquired in India through **five methods** – by birth in India, by descent, through registration, by naturalisation (extended residence in India), and by incorporation of territory into India.

## Can illegal migrants acquire citizenship?

- An illegal migrant is prohibited from acquiring Indian citizenship.
- An illegal migrant is a foreigner who:
  - (i) enters the country without valid travel documents, like a passport and visa, or
  - (ii) enters with valid documents, but stays beyond the permitted time period.
- Illegal migrants may be imprisoned or deported under the **Foreigners Act, 1946** and the **Passport (Entry into India) Act, 1920**.

### Citizenship (Amendment) Act 2019

- The Citizenship (Amendment) Act 2019 makes it clear that immigrants belonging to **Hindu, Sikh, Christian, Buddhist, Jain and Parsi communities** from **Pakistan, Bangladesh and Afghanistan** will not be treated as illegal. They will be eligible to get **naturalised citizenship**.
- One of the requirements for citizenship by **naturalization** under the 1955 Act is that the applicant must have **resided in India during the last 12 months, and for 11 of the previous 14 years**.
- The amendment act **relaxes this 11-year requirement to five years** for persons belonging to these six religions from these three countries.
- They will also **no longer be deported or jailed** under the Foreigners Act of 1946 and the Passport (Entry into India) Act of 1920.
- The cut-off date for citizenship is **December 31, 2014** which means

the applicant should have entered India on or before that date.

### Rationale of the Law

- The Statement of Objects and Reasons in the amendment Act (SoR) states that India has had historic migration of people from Afghanistan, Pakistan and Bangladesh, and these countries have a **state religion**, which has resulted in **religious persecution** of minority groups.

### Are the provisions of the Act applicable across the country?

- The Act clarifies that the amendments will not apply to certain areas. These are:
  - the tribal areas of Assam, Meghalaya, Mizoram, and Tripura, as included in the **Sixth Schedule to the Constitution**.
  - the **states regulated by the “Inner Line” permit** under the Bengal Eastern Frontier Regulation 1873.

### How does the Act change the regulations for Overseas Citizens of India?

- The Act also amends the provisions on registration of Overseas Citizens of India (OCI).
- OCI cardholders are **foreigners who are persons of Indian origin**. The government may cancel a person’s OCI registration on various grounds specified in the 1955 Act.
- The 2019 amendment **adds another ground for cancelling OCI registration** — violation of any law notified by the central government.

### Why in News?

- The Government of India has notified the **Citizenship (Amendment) Rules, 2024** which will enable minorities persecuted on religious grounds in Pakistan, Bangladesh and Afghanistan who entered India before December 31, 2014, to acquire citizenship in India.

- Under the CAA Rules, immigrants from these countries are **supposed to prove** the country of their origin, their religion, the date of their entry into India, and the knowledge of an Indian language specified in the Eighth Schedule to apply for Indian citizenship.
- Despite its enactment four years ago, the Citizenship (Amendment) Act could not be implemented because the rules were not notified.

### Related Information

#### Inner Line Permit

- The Inner Line Permit (ILP) is an official travel document that allows Indian citizens to stay in an area under the ILP system.
- The document is currently required by visitors to **Arunachal Pradesh, Manipur, Nagaland and Mizoram**.
- The ILP is issued by the **concerned state government**. The permits issued are mostly of different kinds, provided separately for tourists, tenants and for other purposes.
- The main objective of the ILP system is to prevent settlement of other Indian nationals in the notified states in order to **protect the indigenous population**. It also offers protection for the locals with regards to lands, jobs and other facilities.

#### History of ILP

- Under the **Bengal Eastern Frontier Regulation Act, 1873**, the British framed regulations restricting the entry and regulating the stay of outsiders in designated areas.
- This was to protect the Crown’s own commercial interests by preventing “British subjects” (Indians) from trading within these regions.
- In 1950, the Indian government replaced “British subjects” with “Citizen of India”. This was to address local concerns about protecting the interests of the

indigenous people from outsiders belonging to other Indian states.

### 3) Law on disclosure of assets

#### What is the law related to disclosure?

- The requirement that prospective candidates will have to **disclose their criminal antecedents**, if any, their **educational qualifications** and their **assets and liabilities**, including those of their **spouses and dependants**, arose from a **landmark Supreme Court judgment** (*Union of India v Association for Democratic reforms and another*) in 2002.
- The court ruled that the **voters' right to information in a democracy is part of the citizens' right to express their opinion through their vote.**
- The ECI issued the rules and the format for disclosure based on the judgment.

#### 'Corrupt practices' under the RPA, 1951

- **Section 123 of the Representation of People's Act, 1951** defines 'corrupt practices' to include bribery, undue influence, false information, and promotion or attempted promotion of feelings of enmity or hatred between different classes of the citizens of India on grounds of religion, race, caste, community, or language by a candidate for the furtherance of his prospects in the election.
- **Section 123 (4)** extends the ambit of "corrupt practices" to the **intentional publication of false statements** which can prejudice the outcome of the candidate's election.
- Under the provisions of the Act, an elected representative can be **disqualified** if convicted of certain offences; on grounds of corrupt practices; for failing to declare election expenses; and for interests in government contracts or works.

#### Why in News?

- The Supreme Court recently held that an **election candidate has a right to privacy from voters** and need not lay out every detail of his or her personal life and possessions.
- The court held that a candidate's choice to retain his privacy on matters which were of **no concern to the voters or were irrelevant to his candidature for public office did not amount to a 'corrupt practice'** under Section 123 of the Representation of People Act, 1951.

### 4) Eighth Schedule of Indian Constitution

#### Constitutional provisions relating to Eighth Schedule

- The Constitutional provisions relating to the Eighth Schedule occur in **Article 344(1) and 351** of the Constitution.
  - **Article 344(1)** provides for the constitution of a **Commission by the President** on expiration of **five years** from the commencement of the Constitution and thereafter at the expiration of **ten years** from such commencement, which shall consist of a Chairman and such other members representing the different languages specified in the Eighth Schedule to make recommendations to the President for the **progressive use of Hindi for official purposes of the Union.**
  - **Article 351** of the Constitution provides that it shall be the **duty of the Union to promote the spread of the Hindi language** to develop it so

that it may serve as a medium of expression for all the elements of the composite culture of India and to secure its enrichment by assimilating without interfering with its genius, the forms, style and expressions used in Hindustani and in the other languages of India specified in the Eighth Schedule, and by drawing, wherever necessary or desirable, for its vocabulary, primarily, on Sanskrit and secondarily on other languages.

#### List of languages in the Eighth Schedule

- The Eighth Schedule to the Constitution consists of the following **22 languages**:-
  - (1) Assamese, (2) Bengali, (3) Gujarati, (4) Hindi, (5) Kannada, (6) Kashmiri, (7) Konkani, (8) Malayalam, (9) Manipuri, (10) Marathi, (11) Nepali, (12) Oriya, (13) Punjabi, (14) Sanskrit, (15) Sindhi, (16) Tamil, (17) Telugu, (18) Urdu (19) Bodo, (20) Santhali, (21) Maithili and (22) Dogri.
- Of these languages, **14 were initially included in the Constitution. Sindhi** language was added in 1967. Thereafter three more languages viz., **Konkani, Manipuri and Nepali** were included in 1992. Subsequently **Bodo, Dogri, Maithili and Santhali** were added in 2004.

#### Demands of languages for inclusion in the Eighth Schedule

- At present, there are demands for inclusion of **38 more languages** in the Eighth Schedule to the Constitution.

#### Advantages

- The inclusion of a particular language in the Eighth Schedule will help **preserve, promote, propagate that language and culture associated with it.**
- If a language is included in the Eighth Schedule, the language can be the **medium of instruction** in schools and colleges. It can become the **language of the legislature.**
- When included in the Eighth Schedule, **Sahitya Academy** will start recognizing the language and the books of the language will be translated into other languages recognized in India.
- Candidates could write **all-India competitive examinations** like the Civil Services exam in Eighth Schedule languages.

#### Why in News?

- Speakers of Bhojpuri are calling for official recognition of their language by adding it to the Eighth Schedule of the Constitution.

### 5) Other Notable Topics

#### 5.1. Transplantation of Human Organs and Tissues Act, 1994

##### About

- The Transplantation of Human Organs and Tissues Act, 1994, and Rules, 2014 governs the **transplantation of human organs and tissues in India**, including the donation of organs after death.
- It lays down **regulations** governing healthcare providers and hospitals, and stipulates **penalties** for violations.
- A transplant can be either from a **pool of organs of deceased persons** donated by their relatives or from a **living person who is known to the recipient.**
- In most cases, the Act allows living **donations from close relatives**

such as parents, siblings, children, spouses, grandparents, and grandchildren.

**Altruistic donations** from distant relatives, in-laws, or long-time friends are allowed after additional scrutiny to ensure there is **no financial exchange**.

- **Living donations from close relatives** involving Indians or foreigners must be accompanied by **documents establishing their identities, family trees, and pictures** that prove the donor-recipient relationship. Donors and recipients are also **interviewed**.
- Donations from **unrelated persons** require documents and photographic evidence to prove their **long-term association or friendship** with the recipient. These are examined by an **external committee** to **prevent illegal dealings**.
- **Offering to pay** for organs or supplying them for payment;

initiating, negotiating, or advertising such arrangements; looking for persons to supply organs; and abetting in preparing false documents can attract a **jail term up to 10 years and a fine up to Rs 1 crore**.

- The **Authorisation Committee** plays a critical role in the transplantation process.

#### **What is the Authorisation Committee?**

- The Authorisation Committee **oversees and approves** organ transplant procedures involving donors and recipients who are not near relatives.
- This approval is crucial, especially in cases where organs are donated for reasons of affection, attachment, or other special circumstances, to ensure **ethical compliance** and **prevent illegal practices**.

# International Relations

## 1) Carbon Border Adjustment Mechanism (CBAM)

### About CBAM

- The European Union (EU) has decided to impose a new tax called 'Carbon Border Adjustment Mechanism' (CBAM) on the **import of carbon-intensive goods in the region.**
  - *Refer Pulse Digest June 2023 edition for details about EU.*
- The new tax regime, which is scheduled to come into effect from **January 1, 2026**, will be initially applicable to **steel, aluminium, cement, fertiliser, hydrogen and electricity, and proposed to be expanded to all imports** into the EU in due course.
- CBAM was legislated as part of the **European Green Deal.**
  - *The European Green Deal, approved in 2020, is a set of policy initiatives by the European Commission with the overarching aim of making the European Union climate neutral in 2050. The CBAM is part of the package planned to achieve this.*

### Why in News?

- India has said that it is concerned by the CBAM tax imposition of the European Union and will take up the issue within the rules of the World Trade Organisation (WTO).
- Production in India may implicitly face **tariffs to the tune of 10.5 per cent** value-added tax (VAT) if CBAM comes into effect.

## 2) India-Mauritius DTAA Amendment

### What's in the news?

- India has signed a protocol amending the **Double Taxation Avoidance Agreement (DTAA) with Mauritius to plug treaty abuse for tax evasion or avoidance.**
- The amended pact has included what is called the **Principal Purpose Test (PPT)**, which essentially lays out the condition that the **tax benefits** under the treaty **will not be applicable if it is established that obtaining that duty benefit was the principal purpose of any transaction or arrangement.**

### Rationale of the move

- India and Mauritius entered into the **Double Taxation Avoidance Agreement (DTAA) in 1982** so non-residents investors can **avoid paying double taxes.**
- The DTAA was a major reason for a large number of FPIs and foreign entities to **route their investments in India through Mauritius**, as there was **no capital gains tax on sale/transfer of shares until 2016.**
  - **Mauritius** remains **India's fourth largest source of FPI investments**, after the **US, Singapore, and Luxembourg.**
  - FPI investment from Mauritius stood at **Rs 4.19 lakh crore** at the end of March 2024, which is **6 per cent of the total FPI investment** of **Rs 69.54 lakh crore** in India.
- In **2016**, India and Mauritius signed a **revised tax agreement**, which gave India the **right to tax capital gains** in India on transactions in shares routed through the island nation beginning April 1, 2017.



- However, the government at that time had **grandfathered**, or in other words, **exempted investments made until March 31, 2017 from such taxation.**
- With the latest DTAA amendment in place, entities with their headquarters in Mauritius will now need to **comply with the Principal Purpose Test mandate**, which means they will need to provide evidence that the Mauritian corporation is a fully operational, staffed business and **not just a shell company.**
  - *“Shell Company” refers to a company without active business operation or significant assets, which in some cases are used for illegal purposes such as tax evasion, money laundering, obscuring ownership, benami properties etc.*

### 3) Nuclear Suppliers Group

#### About NSG

- Established in 1975, the Nuclear Suppliers Group (NSG) comprises **48 states** that have **voluntarily agreed to coordinate their export controls to non-nuclear-weapon states.**
- The NSG governs the **transfers of civilian nuclear material and nuclear-related equipment and technology.**
- India has been trying to join the NSG since 2008, which would give it **access to more sophisticated nuclear technology.**
- However, its application has been **denied** following a joint decision by the member countries as **India is not a signatory to the Nuclear Non-Proliferation Treaty (NPT).**
- It should be noted that members are admitted to NSG only by **consensus.**

#### Why in News?

- The U.S. has reaffirmed its support for India’s membership in the Nuclear Suppliers Group (NSG) and reiterated its commitment to continue engagement with like minded partners to advance this goal.

#### Related Information

#### About Nuclear Non-Proliferation Treaty (NPT)

- The Treaty on the Non-Proliferation of Nuclear Weapons aims to **prevent the spread of nuclear weapons and weapons technology, to foster the peaceful uses of nuclear energy, and to further the goal of disarmament.**
- It entered into force in **1970.**
- Its states-parties are classified into two categories: **nuclear-weapon states (NWS)**—consisting of the United States, Russia, China, France, and the United Kingdom—and **non-nuclear-weapon states (NNWS).**
- Under the treaty, the five NWS commit to pursue general and complete disarmament, while the NNWS agree to forgo developing or acquiring nuclear weapons.
- The NPT has 191 members; **India, Israel, Pakistan, and South Sudan** have not joined, and **North Korea** announced its withdrawal from the treaty in 2002.

#### Why didn't India join?

- The Treaty defines **nuclear weapon states as those that had manufactured and detonated a nuclear explosive device prior to 1 January 1967.**
- Thus, the spirit of the NPT creates a divide between countries that did develop nuclear power before 1967 and those that didn't develop nuclear power before 1967.
- Being a signatory to NPT means that the party state will cease all development of nuclear weapons

and will open doors for inspection of its nuclear facilities by the **International Atomic Energy Agency (IAEA)**.

- The NPT, in India's opinion, doesn't explain the need for this distinction and loss of national sovereignty.

#### Other Related Groups

##### Wassenaar Arrangement

- The Wassenaar Arrangement is an elite club of countries which subscribe to **arms export controls**.
- The body came into being in **1996** to succeed the Cold War-era **Coordinating Committee for Multilateral Export Controls (COCOM)**.
- The WA has **42 members**. India joined the Arrangement in **2017**.

##### Australia Group

- Australia Group (AG) is an informal group of countries established in 1985 to help member countries to identify those exports which need to be controlled so as **not to contribute to the spread of chemical and biological weapons**.
- AG has **43 members**. India became a member of AG in **2018**.

##### Missile Technology Control Regime

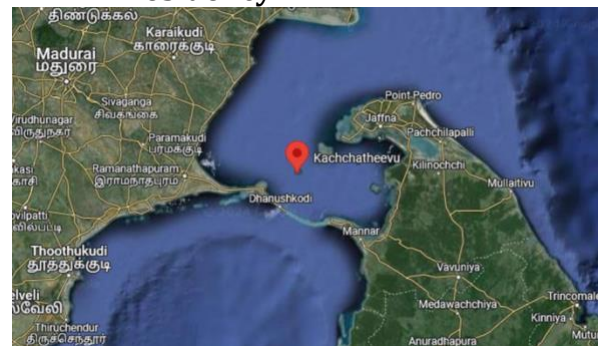
- The Missile Technology Control Regime (MTCR) is an informal political understanding among states that seek to **limit the proliferation of missiles and missile technology**.
- The regime was formed in 1987 by the **G-7 industrialized countries** (Canada, France, Germany, Italy, Japan, the UK, and the United States).
- There are currently 35 countries that are members of the MTCR including **India**.

## 4) Other Notable Topics

### 4.1. Katchatheevu Dispute

#### About

- Katchatheevu Island, a 285-acre stretch, is located about **33 kilometres from the Indian coast**, in the **Palk Strait** between Rameswaram in India and Sri Lanka.
- Fishermen from both countries used the Katchatheevu Island, which was initially part of the **Madras Presidency**.



- Katchatheevu had been a **disputed territory** between India and Sri Lanka since the British era. A dispute broke out again after Independence **over fishing rights around the island**.
- The Central government led by **Prime Minister Indira Gandhi** agreed to cede it to the island nation under the **1974 "Indo-Sri Lankan Maritime Agreement"**.
- The island had little strategic value then, but over the last decade, geopolitical dimensions changed due to the **rising clout of China** and its growing influence over Sri Lanka, making it a **location of strategic importance for India**.

## Art & Culture

### 1) Ramakrishna Mission

#### About Ramakrishna Mission

- Ramakrishna Mission is a **spiritual and philanthropic organisation** headquartered in **Belur Math, West Bengal**.
- The mission is named after the Indian Hindu spiritual guru and mystic **Ramakrishna**.
- The mission was founded by Ramakrishna's chief disciple **Swami Vivekananda** on **1 May 1897**.
- The organisation mainly propagates the Hindu philosophy of Vedanta, ie, **Advaita Vedanta**
  - *Advaita Vedanta also known as **Non dualism**, emphasizes that **Brahman (Atman)** is the **ultimate reality**.*
- The mission bases its work on the principles of **Karma Yoga** (*the principle of selfless work done with a dedication to God*).

#### Guiding Principles

- The Ramakrishna Mission is based upon the following fundamental principles as taught by **Swami Vivekananda** based upon the **life and realisations** of **Sri Ramakrishna**. The principles include,
  - The **potential divinity** of all beings.
  - The **oneness of existence** (the solidarity of the universe).
  - Principle of **Freedom or liberation**
  - **Synthesis** of the **four yogas** — jnanayoga, bhaktiyoga, karmayoga and rajayoga.
  - **Harmony of religions**.

### 2) Mohiniyattam

#### About Mohiniyattam

- Mohiniyattam is a **classical dance form** originating from the state of **Kerala**.
- It is traditionally a **solo dance** performed by women after extensive training.
- The dance gets its name from **Mohini** – the female enchantress avatar of the Hindu deity Vishnu.



- The roots of Mohiniyattam are in the **Natya Shastra** (the **ancient Hindu Sanskrit text on performance arts**)
- It follows the **Lasya style** described in **Natya Shastra**, ie, a dance which is **delicate and feminine**.
- It comprises **delicate footsteps, undulating body movements, and subtle yet poignant facial expressions**.
- Mohiniyattam emotes a play through **dancing and singing**, where the **language** of the song texts is **Manipravala**, a mixture of **Malayalam and Sanskrit**.
- The musical instruments usually used in Mohiniyattam are **Mridangam or Madhalam** (barrel drum), **Idakka** (hourglass drum), **flute, Veena, and Kuzhitalam** (cymbals).

### 3) Padma Awards

#### About

- Padma Awards, which were instituted in **1954**, are **announced every year** on the occasion of **Republic Day** except for brief

interruption(s) during the years 1978 and 1979 and 1993 to 1997.

- The Award seeks to recognize **achievements in all fields of activities or disciplines** where an **element of public service** is involved. It is given in **three categories**, namely,
  - **Padma Vibhushan** for **exceptional and distinguished service**;
  - **Padma Bhushan** for **distinguished service of a high order**; and
  - **Padma Shri** for **distinguished service**.



Padma Vibhushan



Padma Bhushan



Padma Shri

#### Who is eligible?

- **All persons without distinction of race, occupation, position or sex** are eligible for these awards.
- However, **Government servants including those working with PSUs, except doctors and scientists, are not eligible** for these Awards.

#### Various Fields

- The Padma awards are given across various fields such as **art, social work, public affairs, science and engineering, trade and industry, medicine, literature and education, civil services, sports and others** (fields not covered above and may include propagation of Indian Culture, protection of Human Rights, Wild Life protection/conservation etc.)

#### Who decides?

- The Padma Awards are conferred on the **recommendations made by the Padma Awards Committee**, which is constituted by the **Prime Minister** every year.
- The nomination process is **open to the public**. Even **self-nomination can be made**.
- The Padma Awards Committee is headed by the **Cabinet Secretary** and includes Home Secretary, Secretary to the President and four to six eminent persons as members. The recommendations of the committee are submitted to the **Prime Minister** and the **President of India** for approval.
- Recipients of these awards receive a **medal and a certificate** signed by the President of India.

#### Maximum number of awards

- The total number of awards to be given in a year (excluding posthumous awards and to foreigners) should not be more than **120**.

#### Note:

- The award **does not amount to a title** under **Article 18(1)** of the Indian Constitution and **cannot be used as a suffix or prefix to the awardees' name**.
- The award is normally **not conferred posthumously**. However, in highly deserving cases, the Government could consider giving an award posthumously.
- A **higher category** of Padma award can be conferred on a person only where a period of **at least five years has elapsed** since conferment of the earlier Padma award. However, in highly deserving cases, a relaxation can be made by the Awards Committee.

#### Why in News?

- President of India Droupadi Murmu presented 3 Padma Vibhushan, 8

Padma Bhushan and 55 Padma Shri  
Awards for the year 2024.

# Defence

## 1) Strategic Forces Command

### About Strategic Forces Command

- The Strategic Forces Command (SFC), sometimes called **Strategic Nuclear Command**, forms part of **India's Nuclear Command Authority (NCA)**.
- SFC is responsible for the **management and administration of the country's tactical and strategic nuclear weapons stockpile**.
- It was created in **2003**.

### Why in News?

- A successful launch of the new variant of a Medium-Range Ballistic Missile was carried out under the aegis of the Strategic Forces Command.

### Related Information

#### About NCA

- The Nuclear Command Authority is the **only body with authority to order a nuclear strike**.
- It comprises a **Political Council** and an **Executive Council**.
  - The Political Council is chaired by the **Prime Minister**. It is the **sole body which can authorize the use of nuclear weapons**.
  - The Executive Council is chaired by the **National Security Advisor**. It provides inputs for decision making by the Nuclear Command Authority and executes the directives given to it by the Political Council.

## 2) BrahMos supersonic cruise missile

### About BrahMos Missile

- BrahMos is the **supersonic cruise missile** jointly developed by **Defence Research and**

### Development Organisation (DRDO) of India and NPOM of Russia.

- BrahMos is an amalgamation of the names of the rivers **Brahmaputra** of India and **Moskva** of Russia.
- BrahMos is a **two-stage missile** with solid propellant booster as first stage and liquid ramjet as the second stage.
- The missile has a **very low radar signature**, making it stealthy, and can achieve a variety of trajectories.
- Being a cruise missile it can be guided towards a **predetermined land- or sea-based target**.
- With a capability to attain **speeds 2.8 times that of sound (Mach 2.8)**, BrahMos is classified as a **supersonic cruise missile**.
- The 'fire and forget' type missile can achieve a **cruising altitude of 15 km and a terminal altitude as low as 10 m** to hit the target.
- The **range of the BrahMos was originally limited to 290 kms** as per obligations of the **Missile Technology Control Regime (MTCR)** of which Russia was a signatory. Following **India's entry into the club in 2016**, plans were announced to extend the range initially to 450 kms and subsequently to 600 kms. BrahMos with extended range upto **450 kms** has been tested several times since.
  - *Established in 1987, the voluntary MTCR aims to limit the spread of ballistic missiles and other unmanned delivery systems that could be used for chemical, biological, and nuclear attacks.*
  - *The regime includes 35 members (including **India**).*

*MTCR membership helps countries to have access to crucial missile technologies.*



- The missile is **capable of being launched from land, sea, sub-sea, and air** against surface and sea-based targets and has been long inducted by the Indian armed forces.

#### Why in News?

- India has delivered the first batch of BrahMos supersonic cruise missiles to the **Philippines**.
- In 2022, the Philippines concluded a deal with India for three batteries of the BrahMos, becoming the **first export customer** for the joint venture missile between India and Russia.

#### Related Information

#### Ballistic Missiles vs Cruise Missiles

- **Ballistic missiles** are powered by rockets initially but then they follow an unpowered, **free-falling trajectory toward their targets**. Ballistic missiles can carry conventional high explosives as well as chemical, biological, or nuclear munitions. They can be launched from aircraft, ships, and submarines in addition to land-based silos and mobile platforms.
- On the other hand, **Cruise missiles** are unmanned vehicles that are propelled by jet engines, much like an airplane. They can be launched from ground, air, or sea platforms. Cruise missiles **remain within the atmosphere for the duration of their flight** and can fly as low as a few meters off the ground.

#### Classification of Cruise Missiles

- Depending upon the **speed**, cruise missiles are classified as:
  1. Subsonic cruise missile (flies at a speed lesser than that of sound)
  2. Supersonic cruise missile (travels at a speed of around 2-3 Mach)
  3. Hypersonic cruise missile (travels at a speed of more than 5 Mach)

## Miscellaneous

### 1) Rakhigarhi

#### About

- Rakhigarhi is situated in the Hisar district of **Haryana**. It is located just 27 km from the **Ghaggar river**, in the **Ghaggar-Hakra river plain**.
- The site of Rakhigarhi is **one of the five known biggest townships of Harappan civilization** on the Indian sub-continent.
- It is considered crucial for understanding the early urbanization and socio-cultural aspects of the Harappan civilization.

#### Archaeological Findings

- The archaeological excavations revealed a **mature Harappan phase** represented by **planned township** having **mud-brick** as well as **burnt-brick houses** with **proper drainage system**.
- The **ceramic industry** was represented by **red ware**, which included dish-on-stand, vase, jar, bowl, beaker, perforated jar, goblet and handis.
- **Animal sacrificial pits** lined with **mud brick and triangular and circular fire altars** on the mud floor have also been excavated that signify the **ritual system of Harappans**.
- A **cylindrical seal** with **five Harappan characters** on one side and a **symbol of an alligator** on the other is an important find from this site.
- Other antiquities included blades; terracotta and shell bangles; beads of semi precious stones, terracotta, shell and copper objects; animal figurines, toy cart frame and wheel of terracotta; bone points; inscribed steatite seals and sealings.
- The excavations have yielded a **few extended burials**, which certainly

belong to a very late stage, maybe the medieval times.

#### Why in News?

- The National Council of Educational Research and Training (NCERT) has proposed to add findings from the DNA analysis of skeletal remains found at the archaeological site of Rakhigarhi in Haryana in school textbooks.
- Study of ancient DNA from archaeological sources in Rakhigarhi suggests that the **genetic roots of the Harappans go back to 10,000 BCE**.

#### About NCERT

- NCERT is an **autonomous organisation** set up in **1961** by the Government of India to **assist and advise the Central and State Governments** on policies and programmes for qualitative improvement in school education.
- In addition to **research, development, training, extension, publication and dissemination activities**, NCERT is an **implementation agency for bilateral cultural exchange programmes** with other countries in the field of school education.

### 2) Shompen tribes cast votes for the first time

#### About

- The Shompen are one of the least studied **Particularly Vulnerable Tribal Groups (PVTGs)** in India.
  - *Refer Pulse June 2023 Digest edition for details about PVTGs.*
- This very little known tribal community resides in the **dense tropical Rain forest of Great Nicobar Island of Andaman and Nicobar group of Islands**.



- The Shompen habitat is also an important biological hotspot and there are two National Parks and one Biosphere Reserve namely **Campbell Bay National Park, Galathea National Park and Great Nicobar Biosphere Reserve.**
- Though according to Census (2011), the estimated population of Shompen is 229, the exact population of Shompen is unknown till today.
- They are **semi-nomadic hunter-gatherers** and their main sources of

livelihood are hunting, gathering, fishing and little bit horticultural activities in a rudimentary form.

#### **Why in News?**

- For the first time in Andaman and Nicobar Islands, seven members of the Shompen tribe exercised their voting rights in the Andaman and Nicobar Lok Sabha constituency.

## Key Takeaways From Other Articles

### 1) SCORES 2.0

#### News:

- SEBI has launched the new version of **SCORES 2.0**, the new version of the **SEBI Complaint Redress System** enhancing the complaint resolution process of investors in the securities market.
- SCORES or SEBI Complaints Redress System is an online system where **investors in the securities market can lodge their complaints** through web URL and an app.
- The new version of SCORES **strengthens the investor complaint redress mechanism in the securities market** by making the process more efficient through auto-routing, auto-escalation, monitoring by the designated bodies and reduction of timelines.
- SCORES 2.0 will feature **reduced and uniform timelines** for redressal of investor complaints, which is **21 calendar days** from date of receipt of the complaint.

### 2) TN dominate export of electronic goods

#### News:

- **Tamil Nadu, India's largest exporter of electronic goods in FY23**, accounted for **more than 30% of all electronic goods exports** from India in FY24.
- The **share of the electronic goods sector in India's overall exports has more than doubled** — mostly due to the rise in Tamil Nadu's contribution — in recent years.
- At the core of this rise is the surge in **exports of smartphones**, which currently forms **close to 40% of India's electronics exports**.
- In the last two fiscal years, close to **40% of smartphones in India**

**were sent out from just one district, Kancheepuram**, located in the north-eastern part of **Tamil Nadu**.

- Most of these electronic goods, mostly dominated by mobile phones, were exported to the **United States**, followed by the **United Arab Emirates, and the Netherlands**.

### 3) Defence Exports

#### News:

- According to the Ministry of Defence, **India's defence exports crossed ₹21,000 crore, a growth of 32.5%** over the last fiscal.
- The recent figures indicated that the defence exports have **grown by 31 times in the past 10 years** as compared to FY 2013-14.
- The **private sector and the Defence Public Sector Undertakings (DPSUs)** have contributed about **60% and 40%** respectively in defence exports.
- India continued to be the **world's largest arms importer for the period 2019-23** with imports going up by 4.7% compared to the 2014-18 period.

### 4) Kodaikanal Solar Observatory

#### News:

- The 125th anniversary of the iconic Kodaikanal Solar Observatory (KSO) was celebrated recently by the **Indian Institute of Astrophysics (IIA)**.
  - *IIA is an autonomous institute of the **Department of Science and Technology (DST)**.*
- KSO is **India's oldest and one of the world's oldest solar observatories**.

- KSO houses a **digital repository of 1.2 lakh digitised solar images and thousands of other images of the Sun recorded every day since the start of the 20th century.**
- **Established in 1899** by the British, the Observatory has one of the longest continuous daily records of the Sun in the world, and this unique database has been digitised and is publicly available for astronomers from across the globe.
- Currently, KSO is operational under the **Indian Institute of Astrophysics.**

## 5) Suvidha portal

### About

- The Suvidha portal is a technological solution developed by **Election Commission of India (ECI)** to ensure a **level playing-field** upholding the democratic principles of free, fair and transparent elections.
- Accessible through the Suvidha Portal (<https://suvidha.eci.gov.in>), political parties and candidates can **seamlessly submit permission requests online from anywhere, at any time.**
- It caters to permissions for organising rallies, opening temporary party offices, door-to-door canvassing, video vans, helicopters, obtaining vehicle permits, distributing pamphlets.
- Additionally, **offline submission** options are available to ensure inclusivity and equal opportunity for all stakeholders.

## 6) GST Revenue collection

### News:

- India's Gross Goods and Services Tax (GST) collections hit a record high of **Rs 2.10 lakh crore** in April,

growing 12.4 per cent on year-on-year basis.

- GST collection in March stood at Rs 1.78 lakh crore. Previously, the highest-ever GST collection figure stood at Rs 1.87 lakh crore in April 2023.
- In April this year, the collections under **Central GST (CGST)** stood at **Rs 43,846 crore**, while **State GST (SGST)** collection reached **Rs 53,538 crore** and **Integrated GST (IGST)** **Rs 99,623 crore**, including Rs 37,826 crore collected through levies on imported goods.
- The **total cess collection** was **Rs 13,260 crore**, including Rs 1,008 crore collected on imported goods.
- State-wise data for April showed that **Maharashtra** was at the top with collection of Rs 37,671 crore, followed by **Karnataka** with collection of Rs 15,978 crore .

## 7) Plankton crash

### About

- Plankton are a collection of tiny organisms that live at and beneath the surface of lakes, rivers, ponds, and oceans across the planet.
- A plankton crash is when a **dramatic bloom of plankton** in a pond is **replaced by very few viable plankton.**
- This can be caused by a **lack of nutrients.**

## 8) Gape limitation

### About

- In ecology, '**gape limitation**' stands for the idea that a **predator can only eat things that fit in its mouth.** Imagine a **snake** trying to eat a rabbit. If the rabbit is too big to fit in the snake's mouth, gape limitation says the latter won't be able to eat it.

- Researchers pay attention to the concept because it specifies which animals can eat which other animals.
- This barrier can in turn lead to **evolutionary pressure** that selects the predator's ability to eat smaller prey or, conversely, adaptations in the predator's behaviour to overcome gape limitation.

## 9) Forever chemicals

### About

- **Per- and polyfluoroalkyl substances (PFAS)**, known as "**forever chemicals**", are a large, complex group of **synthetic chemicals** that have been used in **consumer products** (such as nonstick cookware, water-repellent clothing, stain-resistant fabrics, cosmetics, firefighting forms, etc.) around the world.
- PFAs can **migrate to the soil, water and air during their production and use**. Since most PFAs do not break down, they remain in the environment for long periods of time.
- Some of these PFAs can **build up in people and animals if they are repeatedly exposed to the chemicals**.

## 10) Bahai Minorities

### About

- The Bahai faith is a **relatively young monotheistic religion** with spiritual roots dating back to the **early 19th century in Iran**.
- The Bahais face persecution in Iran, where they are the largest non-Muslim religious minority.
- Members have repeatedly faced charges of being agents of Israel, which activists say are without any foundation.

## 11) Green steel

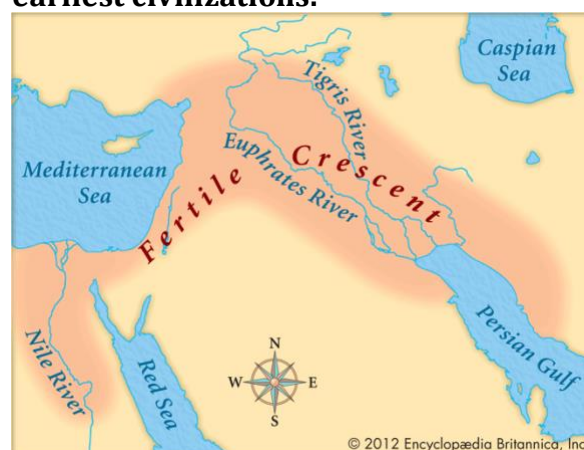
### About

- Green steel refers to **steel produced through sustainable methods**.
- The goal of green steel is to make the production of steel more environmentally friendly and reduce its impact on the climate.
- This can be achieved through various means, such as reducing the use of carbon-based fuels, moving from blast furnace process route to electric arc furnaces, converting from fossil-based fuels to hydrogen or electricity in downstream processing.

## 12) Fertile Crescent

### About

- The Fertile Crescent, often called the "**Cradle of Civilization**", is the region in the Middle East which curves, like a quarter-moon shape, from the Persian Gulf, through modern-day **southern Iraq, Syria, Lebanon, Jordan, Israel and northern Egypt**.
- The Fertile Crescent extends from the **Persian Gulf to the Nile River valley**.
- Formed by the **Tigris and Euphrates rivers** and the **Mediterranean Sea**, this region gave **rise to some of the world's earliest civilizations**.



### 13) Havana Syndrome

#### About

- Havana Syndrome refers to a **set of mental health symptoms that are said to be experienced by United States intelligence and embassy officials in various countries.**
- Here the word 'syndrome' simply means a set of symptoms. It does not mean a unique medical condition, but rather a set of symptoms that are usually experienced together whose origins may be difficult to confirm.
- The symptoms involve **hearing certain sounds without any outside noise, nausea, vertigo and headaches, memory loss and balance issues.**

### 14) Magnetic Resonance Imaging

#### About

- A Magnetic Resonance Imaging (MRI) scanner is a medical device that uses a **strong magnetic field and radio waves** to generate detailed images of the inside of the body, particularly the soft tissues like the brain, muscles, and organs.
- MRI **does not use ionizing radiation.**

#### Functioning of MRI

- The strong magnetic field created by the MRI scanner causes the **atoms in your body to align in the same direction.**
- **Radio waves** are then sent from the MRI machine and **move these atoms** out of the original position.
- As the radio waves are turned off, the **atoms return to their original position and send back radio signals.**
- These signals are received by a computer and converted into an image of the part of the body being examined.

### 15) Glycemic Index

#### About

- The glycemic index (GI) of a food refers to the **property of the food to increase the blood glucose level** and is a **measure of the 'quality' of carbohydrates.**
- **Glucose or white bread** is used as the comparator. The GI of glucose is taken as 100 and the GI of other foods is given as a percentage of this.
- Thus, the GI of foods is classified as **low GI** (less than 55), **medium GI** (56- 69) and **high GI** (over 70).
- The GI multiplied by the amount of the carbohydrate consumed, determines the glycemic load (GL).

### 16) Maputo Protocol

#### About

- Maputo Protocol, is an **international human rights instrument** established by the **African Union** that went into effect in 2005.
- The Protocol guarantees **extensive rights to African women and girls** and includes progressive provisions on:
  - Harmful traditional practices, eg child marriage and female genital mutilation (FGM)
  - Reproductive health and rights
  - Roles in political processes
  - Economic empowerment
  - Ending violence against women.

### 17) Jan Vishwas (Amendment of Provisions) Act, 2023

#### About

- The main objective of the Act is to **decriminalise minor offences** that do not involve any harm to the public interest or national security

- and replace them with civil penalties or administrative actions.
- Minor, technical, and procedural defaults no longer attract severe criminal consequences, reducing the burden on the justice system and putting adjudication of serious offences on priority.
  - Implementation of the Jan Vishwas Act essentially means that majority cases originating from 183 provisions across 42 Acts would no longer be adjudged by the courts.