

OFFICERS IAS ACADEMY™

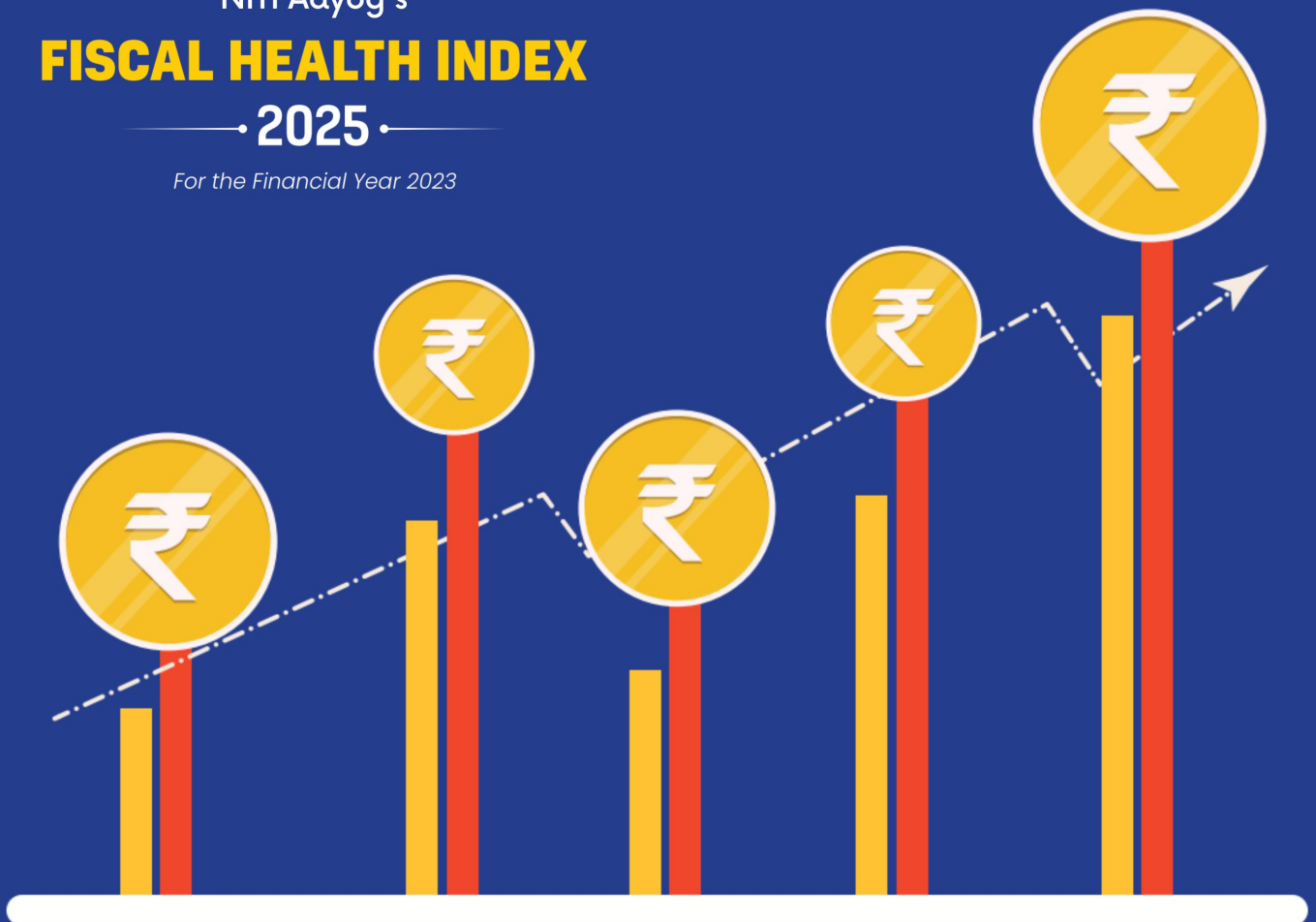
OFFICERS' PULSE

NITI Aayog's

FISCAL HEALTH INDEX

· 2025 ·

For the Financial Year 2023



January 2025 (Digest)

**CURRENT AFFAIRS
MONTHLY**

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Foreword

Officers Pulse Digest is a comprehensive monthly current affairs magazine that serves as a complete resource for UPSC CSE Prelims. It includes significant topics from sources like **The Hindu, Indian Express, Business Standard, Yojana, Kurukshetra, Down to Earth**, and more.

Note:

Sentences highlighted in orange are statements from previous year questions.

Sample:

ENVIRONMENT

1) PULICAT LAKE

About Pulicat Lake

- Pulicat Lake is located on the **Coromandel Coast**, between the states of **Tamil Nadu and Andhra Pradesh**, with the major part of the lake located in Andhra Pradesh.
- It is the **second largest brackish water lagoon** (after **Chilika Lake** in Odisha) in India.
 - *A lagoon is a shallow body of water separated from a larger body of water by a narrow landform, such as reefs, barrier islands.*
- The lake is separated from the **Bay of Bengal** by **Sriharikota island**, home to the Satish Dhawan Space Centre.
- It is a unique **Ecotone** that supports rich biodiversity, from aquatic life such as **mudskippers, seagrass beds**, and **oyster reefs** to more than 200 avian species (birds), including migratory birds such as **Eurasian curlews, bar-tailed godwits, sand plovers**, and **flamingos**.
 - *An ecotone is a transitional area between two Ecosystems.*
- **Pulicat Lake Bird Sanctuary** is located within the lake and hosts a rich biodiversity of birds and aquatic life.

Although “Officers Pulse- Digest” is primarily oriented towards Prelims, reading “Officers Pulse- In depth” along with it is crucial for effectively tackling the Prelims examination.

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SCHEMES

1) PRADHAN MANTRI JAN VIKAS KARYAKRAM

About PMJVK

- Pradhan Mantri Jan Vikas Karyakram (PMJVK) is a **Centrally Sponsored Scheme** which aims to **address development gaps in identified Minority Concentration Areas** by **building socio-economic infrastructure and providing essential amenities**.
- Originally launched as the **Multi-sectoral Development Programme (MsDP)**, the scheme was restructured as PMJVK in **2018** and implemented in 1300 identified blocks, towns, and district headquarters across the country.
- In **2022-23**, the scheme was revised to **expand its implementation to all districts across the country**, with the **condition** that projects under PMJVK can be proposed in areas where the **minority population is 25% or more** in the catchment area of 15 KM radius.
- The **Ministry of Minority Affairs** monitors the status of implementation of projects sanctioned under PMJVK.
 - Under PMJVK, **80% of the resources** would be utilized for projects related to **education, health and skill development** of which **at least 33-40%** will be earmarked for creation of assets/facilities for **women/girls**.

Why in News?

- The Ministry of Minority Affairs held a national review meeting on the status of the ongoing projects under PMJVK.

Minority Communities notified by the Central Government:

- At present **6 communities** namely **Muslims, Sikhs, Christians, Buddhists, Zoroastrians (Parsis) and Jains** have been notified as Minority Communities under the National Commission for Minorities Act, 1992
- As per the **Census 2011**, the percentage of minorities in the country is about **19.3%** of the total population of the country. The population of Muslims is 14.2%; Christians 2.3%; Sikhs 1.7%, Buddhists 0.7%, Jain 0.4% and Parsis 0.006%.

2) UJALA SCHEME

About

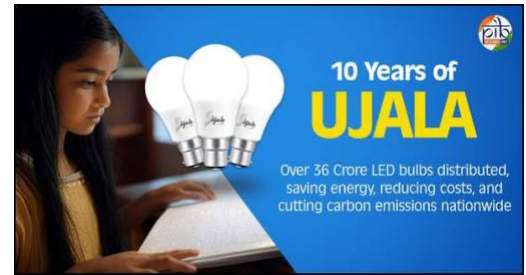
- The Unnat Jyoti by Affordable LEDs for All (UJALA) scheme was launched in **2015** to **provide energy efficient LED bulbs to domestic consumers at an affordable price**.
- The program aims to **lower energy consumption in the lighting sector** and **encourage the adoption of LED-based efficient lighting solutions**.
- It also seeks to **increase consumer awareness** about the financial and environmental advantages of using energy-efficient appliances, thereby fostering a market for such products.
- **Energy Efficiency Services Limited (EESL)**, a government company under the **administrative control** of **Ministry of Power**, has been designated as the **implementing agency** for this programme.



- A 7W LED bulb provides the same amount of light as a 14W Compact Fluorescent Lamp (CFL) and a 60W Incandescent Lamp (ICL), thereby **saving nearly 90% energy compared to ICLs and 50% in the case of CFLs**.

Why in News?

- The UJALA scheme has marked its 10th anniversary as a groundbreaking initiative in energy efficiency.
- Over the past decade, UJALA has grown into the **world's largest zero-subsidy domestic lighting program**, distributing over 36 crore LED bulbs nationwide.
- This initiative has made **energy-saving technologies accessible to households** while **tackling challenges** such as **high electrification costs** and **carbon emissions**.



- The UJALA program's success is due to its **bulk procurement strategy**, which allowed for purchasing large amounts of LED bulbs at lower prices.
- EESL achieved the **subsidy-free model** by aggregating demand and purchasing high-quality LED bulbs in bulk at an affordable price, through its own balance sheet.

3) OTHER NOTABLE TOPICS

3.1 PM YASASVI SCHEME

About

- The PM Young Achievers Scholarship Award Scheme for Vibrant India (YASASVI) Scheme was launched in 2021-22 to **empower students from Other Backward Class (OBC), Economically Backward Class (EBC) and Nomadic and Semi-Nomadic Tribes De-notified Tribe (DNT) communities educationally, socially, and economically**.
- It was launched by the **Ministry of Social Justice and Empowerment (MSJ&E)**.

Benefits of PM YASASVI Scheme

- The overarching goal of the scheme is to **promote educational empowerment** among these vulnerable groups, helping them overcome financial barriers and complete their education.
- The benefits provided under the scheme include:
 1. **Pre-Matric Scholarship:** Annual scholarship of ₹1.25 lakh for students from classes 9 to 12.
 2. **Post-Matric Scholarship:** Financial assistance worth ₹12.75 crore for college-level education.
 3. **Top-Class School and College Education:** Special support for high-quality education.
 4. **Hostel Construction for OBC Students:** Providing better residential facilities for students.

Eligibility

- Open to OBC, EBC, and DNT students with a **total annual family income of up to ₹2.50 lakhs**.

3.2 NAMASTE SCHEME

About

- The NAMASTE (National Action for Mechanised Sanitation Ecosystem) scheme was launched in **2023** to **ensure safety and dignity of sanitation workers**.
- The focus is on **prevention of hazardous cleaning** and **promotion of safe cleaning practices** through trained and certified sanitation workers.

- The objective of the scheme is to **formalize and rehabilitate** the persons engaged in hazardous cleaning of sewer and septic tanks.
- The scheme is jointly being implemented by the **Ministry of Social Justice and Empowerment (MoSJE)** and the **Ministry of Housing and Urban Affairs (MoHUA)**.
- The **National Safai Karamcharis Finance Development Corporation (NSKFDC)** under the MoSJE is the implementing agency of 'NAMASTE'.

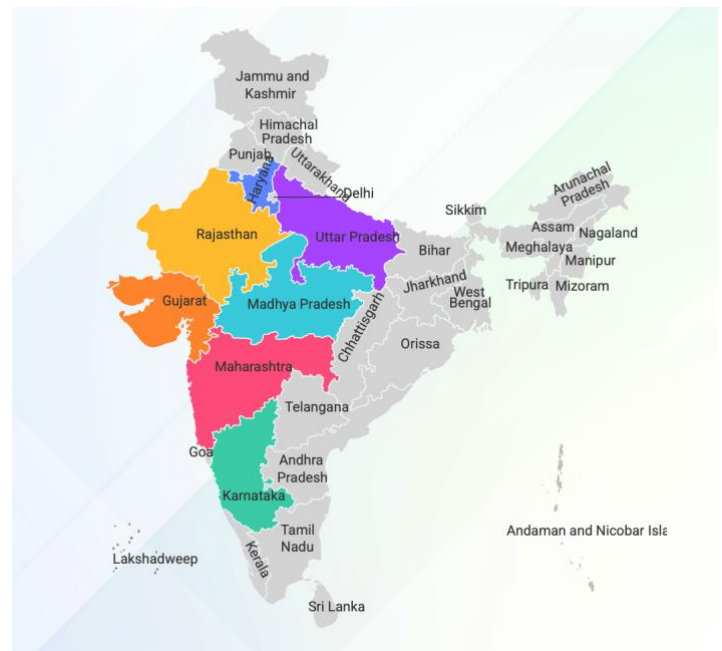
National Safai Karamcharis Finance & Development Corporation:

- NSKFDC is a **wholly owned Govt. of India Undertaking** under the **Ministry of Social Justice & Empowerment** set up in 1997.
- NSKFDC is the **apex corporation** for the **all-round socio-economic upliftment of the Safai Karamcharis, Scavengers and their dependents** throughout India.

3.3 ATAL BHUJAL YOJANA

About the Scheme

- Atal Bhujal Yojana (Atal Jal) is a **Central Sector Scheme** with focus on **community participation** and **demand side interventions** for **sustainable groundwater management**.
- The scheme is implemented in **identified water stressed areas of seven States** in the country viz. **Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh**.
- The scheme, partly funded by the **World Bank**, is being implemented from **2020** for a period of 5 years.
- It envisages **people's participation** through the formation of water budgeting, preparation & implementation of Gram-panchayat-wise water security plans, etc.
- It also aims at bringing about **behavioural change at the community level** through awareness programs and capacity building for fostering sustainable groundwater management.
- It is being implemented by the **Ministry of Jal Shakti**.



INITIATIVES

1) NATIONAL BROADBAND MISSION 2.0

What's in the news?

- The **Department of Telecommunications (DoT)** under the **Ministry of Communications** has launched the vision document for the **National Broadband Mission (NBM) 2.0**, a follow-up to the previous NBM released in 2019.
- NBM 2.0 aims to position India strongly in the new era of digital transformation through **high-speed broadband and meaningful connectivity for all**.

Highlights of the Mission

- The Mission aims to **expand operational optical fibre cable (OFC) connectivity to 2.7 lakh villages by 2030**, from 50,000 now.
- **90% of “anchor institutions”** like schools, anganwadis, public health centres, and panchayat offices **should be connected through fiber by then as well**.
- The **share of rural Indians who are subscribers should also grow** from 45% to 60% by then.
- Other goals include **providing 100 Mbps download speed nationwide, reducing the Right of Way (RoW) application average disposal time to 30 days** by 2030 versus 60 days now, and a target of **powering 30% of mobile towers with sustainable energy** by 2030.
 - *The average disposal time for RoW applications refers to the typical duration it takes for authorities to process and approve applications for permissions to install or maintain telecommunication infrastructure on public or private land.*



Sanchar Saathi Mobile App

- DoT has also unveiled the Sanchar Saathi mobile app, designed to **streamline the reporting of suspected fraudulent communications**.
- Launched in 2023, the Sanchar Saathi portal has been instrumental in **combating fraud calls and enhancing mobile security**.
- The new mobile app builds on this foundation, offering users a secure platform to manage and safeguard their mobile connections.

2) NATIONAL CRITICAL MINERAL MISSION

What's in the news?

- The Government of India has approved the National Critical Mineral Mission (NCMM) with an aim to **achieve self-reliance and accelerate** India's journey towards **green energy transition**.

Critical Minerals:

- There is no global definition of critical minerals, but essentially, they are **mineral deposits with high economic vulnerability and high global supply chain risk**.
- Globally, there is a gap between projected supply and projected demand for many critical minerals by the end of this decade, especially in **cobalt and lithium**.
- They are used for making **EV batteries** and are also critical for making **semiconductors and high-end electronics manufacturing**.
- These minerals are also used in **manufacturing fighter jets, drones, radio sets and other critical equipment, hence it is critical for aerospace, communications and defence industries**.

Highlights of NCMM

- The NCMM will encompass **all stages of the value chain**, including mineral exploration, mining, beneficiation, processing, and recovery from end-of-life products.
- The mission will **intensify the exploration of critical minerals within the country and in offshore areas**.
- It aims to create a **fast-track regulatory approval process** for critical mineral mining projects.
- Additionally, the mission will offer **financial incentives** for critical mineral exploration and promote the recovery of these resources.
- The mission aims to **encourage Indian public sector enterprises and private sector companies to acquire critical mineral assets abroad and enhance trade with resource-rich countries**.
- It also proposes development of a **stockpile of critical minerals** within the country.
- The mission includes provisions for setting up of **mineral processing parks and supporting the recycling of critical minerals**.
- It will also promote **research in critical mineral technologies** and proposes setting up **Centre of Excellence on Critical Minerals**.

3) STARTUP INDIA INITIATIVE

About the Initiative

- The Startup India initiative of the Government of India envisages **building a robust Start-up ecosystem** in the country for nurturing innovation and providing opportunities to budding entrepreneurs.
- Since the launch of the initiative in **2016**, Startup India has rolled out several programs with the objective of supporting entrepreneurs, and **transforming India into a country of job creators instead of job seekers**.

Why in News?

- Startup India has completed nine years of implementation.
- With more than 1.59 lakh startups recognised by the Department for Promotion of Industry and Internal Trade (DPIIT), India has firmly established itself as the **third-largest startup ecosystem in the world**.

What is a DPIIT-recognized startup?

- An entity shall be considered a "Startup" –
 1. If it's incorporated as **either Private Limited Company or Registered Partnership Firm or Limited Liability Partnership**. A sole proprietorship or a public limited company is not eligible as startup.
 2. If it is **up to 10 years** from the date of its incorporation/registration.
 3. If its **turnover** for any of the financial years has **not exceeded INR 100 crore**

4. If it is **working towards** innovation, development or improvement of products or processes or services, or if it is a scalable business model with a high potential of employment generation or wealth creation.
5. **Should not have been formed by splitting up or reconstruction** of a business already in existence.

4) PRAVASI BHARTIYA DIVAS

About PBD

- Pravasi Bharatiya Divas (PBD) Convention is the flagship event of the **Ministry of External Affairs** to mark the contribution of the Overseas Indian community in the development of India.
- It is **celebrated on January 9 once every two years** to **strengthen the engagement of the overseas Indian community** with the Government of India and reconnect them with their roots.
- The day commemorates the **return of Mahatma Gandhi from South Africa to Mumbai** on 9 January 1915.
- The first Pravasi Bharatiya Divas was organized in **2003**.

Pravasi Bharatiya Samman Award

- The Pravasi Bharatiya Samman Award (PBSA) is the **highest honour conferred on overseas Indians**.
- The award is to commemorate the contribution of the Indian diaspora to create a better understanding of India abroad, support India's causes and work for the welfare of the local Indian community.
- PBSA is conferred by the **President of India** as a part of the Pravasi Bharatiya Divas Conventions.

Why in News?

- President of India Droupadi Murmu participated in the 18th Pravasi Bharatiya Divas Convention and presented Pravasi Bharatiya Samman Awards at Bhubaneswar, Odisha.
- The theme of the 18th PBD Convention 2025 was "**Diaspora's Contribution to a Viksit Bharat**".

5) NATIONAL HEALTH MISSION

About NHM

- The National Health Mission (NHM) is a **Centrally Sponsored Scheme** launched by the Government of India in **2013**.
 - NHM encompasses **two Sub-Missions**, the **National Rural Health Mission (NRHM)** and the **National Urban Health Mission (NUHM)**.
- The main programmatic components include **Health system strengthening in rural and urban areas, Reproductive- Maternal-Neonatal-Child and Adolescent Health (RMNCH+A) and Communicable and Non- Communicable Diseases**.
- Under NHM, the **Ministry of Health and Family Welfare** provides **technical and financial support** to the States/UTs to strengthen the public healthcare system towards the objective of providing **accessible, affordable and quality healthcare to all** those who access public health facilities.

Why in News?

- The Union Cabinet has approved continuation of the National Health Mission for another five years till 2030.

6) OTHER NOTABLE TOPICS

6.1 BHASHINI

About

- BHASHINI (BHASHa INterface for India) is an initiative aimed at **democratizing access to digital content and services across India's linguistic spectrum**.
- Launched in **2022**, its goal is to provide **technology translation services in 22 scheduled Indian languages** and **increase the amount of content available in Indian languages**.
- BHASHINI uses **cutting-edge artificial intelligence (AI) and natural language processing (NLP) technologies** to enable users to access content and services in their preferred language.
- BHASHINI is implemented by the **Digital India Corporation**, a **Section 8 Company** of the **Ministry of Electronics and Information Technology**.
 - *A company is referred to as a "Section 8" company when it is registered as a **non-profit organization (NPO)**, i.e., when it has the motive of promoting arts, commerce, education, charity, protection of the environment, sports, science, etc.*



ENVIRONMENT

1) BIENNIAL UPDATE REPORT

What's in the news?

- India has submitted its **4th Biennial Update Report (BUR-4)** to the **United Nations Framework Convention on Climate Change (UNFCCC)**.

Background:

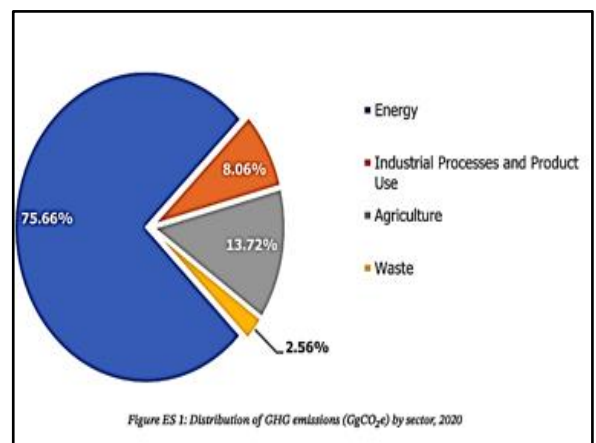
- The UNFCCC effective from March 21, 1994, aims to **stabilize greenhouse gas concentrations** and **promote global cooperation** on climate change and long-term climate finance.
- The **21st session of the UNFCCC's Conference of the Parties (COP21)** took place in **Paris** in 2015, where 195 countries adopted the **Paris Agreement**.
- The agreement aims to **limit the global average temperature increase above pre-industrial levels to well below 2°C**, and to **pursue efforts to limit the increase to 1.5°C** and peak greenhouse gas emissions as soon as possible.
- It entered into force in **2016**, requiring countries to submit **Nationally Determined Contributions (NDCs)** outlining their climate targets.
 - Refer Pulse November 2024 Digest edition - 'UN CLIMATE CHANGE CONFERENCE (COP 29)' Topic for details about India's NDCs.

About BURs

- India submits Biennial Update Reports to the UNFCCC **every two years to track progress**.
- These reports update the national GHG inventories, detail mitigation actions, and highlight the support received, including efforts to reduce emissions.

Highlights of BUR-4

- The report indicates that the **total GHG emissions in the country decreased by 7.93%** in 2020 compared to 2019.
- Excluding Land Use, Land-Use Change, and Forestry (LULUCF), **India's emissions were 2,959 million tonnes of CO₂e** (carbon dioxide equivalent, a way to measure the impact of GHG).
 - Including LULUCF, net emissions were **2,437 million tonnes of CO₂e**.
- Top five emission intensive sectors** were **energy (75.66%)**, **agriculture (13.72%)**, **industrial process and product use (8.06%)**; and **waste (2.56%)**.
- The **share of non-fossil sources** in the installed electricity generation capacity was **46.52%** by October 2024.
- India's historical share of cumulative global GHG emissions is annual 4%**, despite having around 17% of the world's population between 1850 and 2019.
- India's annual primary energy consumption per capita in 2019 was 28.7 gigajoules (GJ)**, considerably lower than both developed and developing countries.



2) INDORE AND UDAIPUR JOIN THE LIST OF WETLAND ACCREDITED CITIES

What's in the news?

- **Indore** (Madhya Pradesh) and **Udaipur** (Rajasthan) have become the **first two Indian cities** that made it to the **global list of accredited wetland cities under the Ramsar Convention**, an intergovernmental treaty that provides a framework for the conservation and wise use of wetlands and their resources.
 - Refer Pulse Digest August 2024 edition for details about Ramsar Convention.

- An **independent Advisory Committee** on Wetland City Accreditation of the Convention in its latest round accredited 31 new cities, including two from India, making the **global list of such cities to reach 74**.

Significance

- Accreditation is an **international recognition** for the **cities that value their natural and human-made wetlands**.
- Accreditation is granted to only those cities which **satisfy all the six international criteria** including adopting measures for conservation of wetlands and their ecosystem services.
 - The Accreditation is **valid for 6 years**, after which it must be renewed.
- The accreditation scheme aims to **promote conservation and wise use of urban and peri-urban wetlands** as well as **sustainable socio-economic benefits** for local populations.
- The global list of 74 accredited wetland cities comprises the **highest 22 from China** followed by nine from **France**.

- **Indore**, known for its cleanliness and innovative policies, is home to **Sirpur Lake**, a **Ramsar site** that attracts a large number of water birds.
- **Udaipur**, renowned for its picturesque lakes, has **five major wetlands: Pichola, Fateh Sagar, Rang Sagar, Swaroop Sagar, and Doodh Talai**.
 - These lakes are vital not only for the city's heritage but also for ensuring climate stability and protecting the region from extreme weather conditions.

3) CGWB REPORT ON NITRATE CONTAMINATION

About CGWB

- The Central Ground Water Board (CGWB) is the **apex organization** of the **Ministry of Jal Shakti dealing with groundwater and related issues**.
- Established in **1970**, CGWB's mandate is to develop and disseminate technologies, and monitor and implement national policies for the **scientific and sustainable development and management of India's ground water resources**.
- CGWB has its headquarters in **Faridabad, Haryana**.

Why in News?

- A recent assessment of India's groundwater by CGWB has revealed that several states are facing significant challenges due to **excessive nitrate contamination of groundwater**.

Nitrate Contamination:

- Nitrate (NO_3^-) is a chemical compound that **naturally occurs in the environment**.
- It is **highly soluble in water**, making it easy to infiltrate and contaminate water sources.
- **Sources** of Nitrate pollution include **excessive use of fertilisers, effluents from industries, improper disposal of human and animal waste**, etc.
- High nitrate levels in drinking water can pose **serious health risks**, such as **Methemoglobinemia, cancer, reproductive issues, thyroid**, etc.
 - *Methemoglobinemia, also known as **Blue Baby Syndrome**, is a condition that occurs when the blood cannot carry enough oxygen to the body's tissues.*

- In India, the **Bureau of Indian Standards (BIS)** has set the **permissible limit for nitrates in drinking water at 45 mg/L.**

Findings of the Report

- The number of districts with **excessive nitrate in groundwater** increased from 359 in 2017 to **440** in 2023.
- States with notable levels of contamination include Maharashtra (35.74%), Telangana (27.48%) and Andhra Pradesh (23.5%).

4) BIOCHAR

About

- Biochar is a **charcoal-like substance** that's made by **burning organic material** from agricultural and forestry wastes (also called biomass) in a controlled process called **pyrolysis**.
 - *Pyrolysis is the heating of an organic material, such as biomass, in the absence of oxygen.*
- Its **highly porous structure** provides a **large surface area** that **helps retain water, nutrients, and beneficial microorganisms in the soil.**



Applications of Biochar

- **Carbon Sequestration:** Helps mitigate climate change by locking carbon in a stable form that doesn't quickly return to the atmosphere.
- **Soil Health:** Enhances soil fertility and microbial activity, leading to increased crop yields.
- **Water Retention:** Improves the soil's ability to retain water, which is especially beneficial in arid regions.
- **Waste Management:** Converts organic waste into a useful product, reducing the need for landfills.
- **Reduced Greenhouse Gas Emissions:** When added to soil, biochar can help reduce the release of nitrous oxide and methane.
- **Vertical Farming:** Biochar can be used as part of the **growing medium in vertical farming to promote the growth of nitrogen-fixing microorganisms and retain water for a longer period.**

Why in News?

- Scientists have developed a new method to **manage ecological risks from the toxin such as DDT by binding biochar with soil.**
 - DDT, or dichlorodiphenyltrichloroethane, is a **man-made, toxic chemical** that was originally developed as an **insecticide**.
 - Although it was found to be effective against a wide range of pests, it also **degraded the soil and rendered it infertile** after prolonged usage.
 - DDT is a **persistent organic pollutant (POP)** that is **very stable** and can **last a long time** in the environment.
- **Biochar** has been found to bind DDT efficiently, **preventing its uptake by soil organisms** when mixed into the soil.

5) COPERNICUS CLIMATE CHANGE SERVICE

About

- Copernicus Climate Change Service (C3S) is one of six thematic information services provided by the **Copernicus Earth Observation Programme** launched by the **European Union in 2014.**

- The Copernicus programme **collects and transforms data from multiple sources** into operational services to provide information about the earth's land, oceans and atmosphere, and to monitor climate change.
- C3S supports society by providing authoritative information about the past, present and future climate in Europe and the rest of the World.

Why in News?

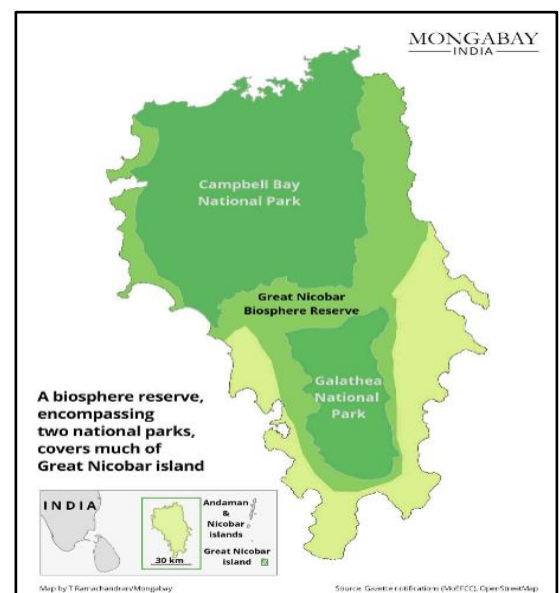
- According to the Copernicus Climate Change Service (C3S), **2024 has surpassed 2023 as the warmest year on record globally.**
- It is also the first calendar year that the **average global temperature exceeded 1.5°C above its pre-industrial level.**
- Limiting sustained global warming to 1.5°C is a key target of the **Paris Agreement**, the 2015 international treaty which aims to mitigate climate change.

6) OTHER NOTABLE TOPICS

6.1 GALATHEA NATIONAL PARK

About

- It is located on **Great Nicobar Island**, the southernmost island of the Andaman and Nicobar archipelago.
- It forms part of the **Great Nicobar Biosphere Reserve** along with **Campbell Bay National Park**.
- The vegetation comprises **tropical evergreen forests and mangroves.**
- The park is home to diverse flora and fauna, including several endemic and endangered species such as the **Nicobar pigeon, saltwater crocodiles, and giant leatherback turtles.**
- It is home to **indigenous tribal communities** such as the **Shompen** and Nicobarese tribes.



6.2 NAGARHOLE TIGER RESERVE

About

- **Location:** It is located in **Karnataka** and is a part of **Nilgiri Biosphere Reserve**, a **UNESCO World Heritage Site.**
- **Wildlife:** Tiger, Leopard, Asiatic wild dog, Sloth bear, Asiatic Elephant, Gaur, South-western langur, etc.
- **Vegetation:** **Moist deciduous forest trees** such as Teak and Sandalwood are the major trees.
- **Major Rivers:** It is drained by **Nagerhole River, Kabini and Taraka reservoirs.**

Significance

- Nagarhole is **contiguous with Wayanad wildlife sanctuary** (Kerala) to the south and **Bandipur Tiger Reserve** to its south eastern parts.
- The tiger reserve forms a **critical connecting habitat for tigers and elephants** to other areas of **Western Ghats** through **Brahmagiri wildlife sanctuary** and to the **Eastern Ghats** through **Bandipur Tiger Reserve.**

6.3 SOOT

About

- **Soot**, sometimes called **lampblack** or **carbon black**, is a fine black or brown powder that is a product of **incomplete combustion** of **fossil fuels**.
- At the elemental level, soot majorly contains **black carbon** in addition to **hydrogen, oxygen and sulfur**.
- **Soot present in the ambient atmosphere** may also contain various **heavy metals**, such as **arsenic, cadmium, and chromium**.
- Soot can come from a **wide variety of sources** such as **burning of fossil fuels** by coal-fired power plants, **industrial facilities**, and **combustion engines**. It is also emitted by **wildfires** and **volcanic eruptions**.
- Soot **absorbs solar radiation**, which **warms the atmosphere**.
- Soot can **penetrate deep into the lungs**, where it can cause a variety of health problems, including **respiratory infections, heart disease, and cancer**.

FLORA & FAUNA

1) VULTURES & NIMESULIDE

About

- Vultures are large, social raptors that **live on every continent except Antarctica and Australia.**
- By cleaning up carcasses and other organic waste in the environment, they provide **critically important ecosystem services** that also directly benefit humans.
- **India has 9 vulture species in the country.**
- Four of India's vulture species are under severe threat.
 - **Indian Vulture (*Gyps indicus*)- Critically Endangered**
 - **Indian White-rumped Vulture (*Gyps bengalensis*)- Critically Endangered**
 - **Red-headed Vulture (*Sarcogyps calvus*)- Critically Endangered**
 - **Slender-billed Vulture (*Gyps tenuirostris*)- Critically Endangered**



- Other Species of Vultures found in India include Egyptian Vulture (*Neophron percnopterus*), Cinceros Vulture (*Aegyptius monachus*), Bearded Vulture (*Gypaetus barbatus*), Griffon Vulture (*Gyps fulvus*) and Himalayan Vulture (*Gyps himalayansis*).
- Most of their populations are declining. Their decline is associated with **use of Diclofenac, a common anti-inflammatory drug administered to livestock**, which then ends up in their digestive system making them vulnerable to kidney failure and poisoning.
- Though the **drug was banned in 2006, it is reportedly still available for use.**

Why in News?

- The Union Government has **banned the manufacture, sale and distribution of all formulations of Nimesulide**, a painkiller administered to animals, after studies confirming its **toxicity to vultures.**
- This is the **fourth non-steroidal anti-inflammatory drug** to be prohibited in the country since 2006, following **Diclofenac, Aceclofenac, and Ketoprofen.**

AGRICULTURE

1) OPERATION GREENS

About

- The **Ministry of Food Processing Industries** has been implementing “**Operation Greens**” under **Pradhan Mantri Kisan SAMPADA Yojana (PMKSY)** since 2018-19.
 - *Refer Pulse Digest September 2024 edition for details about PMKSY.*
- It is a **Central Sector Scheme** with the objective of **enhancing the value realisation of farmers and minimizing post-harvest losses.**
- Initially the scheme covered **Tomato, Onion and Potato (TOP)** only. Later the government expanded the scope of the scheme to **22 perishable crops.**

Objectives of the Scheme

- **Enhance the value realization** of farmers by targeted interventions to strengthen production clusters and Farmer Producer Organisations (FPOs) and link the farmers with the market.
- **Reduction of post-harvest losses** by creating farm gate infrastructure, development of suitable agro-logistics, and creation of appropriate storage capacity linking consumption centers.
- **Development of food processing capacities and value addition** in the value chain with firm linkages of production clusters.

ECONOMY

1) FOREIGN TRADE POLICY 2023

About

- The Indian government introduced the Foreign Trade Policy 2023 (FTP 2023) in 2023 with the objective of **boosting India's exports to USD 2 trillion by 2030**.
- It focuses on **emerging areas of export**, such as high-tech manufacturing, pharmaceuticals, and e-commerce.

What is the significance of FTPs?

- Under the **Foreign Trade Development and Regulation Act, 1992**, the government is required to formulate, implement and monitor **trade policies** to boost exports, facilitate imports and maintain a favourable balance of payments.
- The **first five-year export-import (EXIM) policy of 1992** and the second in 1997-2002 aimed to remove many of the post-independence trade protectionist measures and promote India's integration with the global economy.
- In 2004, the **EXIM Policy was renamed FTP** to adopt a comprehensive approach to India's foreign trade. Later, FTPs were issued for 2009-14 and 2015-20.

What is the duration of FTP 2023?

- The government has **broken away from the conventional practice of setting a five-year cycle**.
- The new policy is intended to be responsive to changing circumstances and will be **modified as and when required**.

What are its key thrust areas?

- It has **four pillars**. These are:
 - **replacing the incentive-based system** of promoting exports with **remission and entitlement-based regimes**;
 - **facilitating enhanced collaboration** among exporters, states, districts and Indian missions;
 - **reducing transaction costs** and introducing **e-initiatives** for ease in business operations; and
 - developing **additional export hubs**.

What are the goals and targets?

- The government aims to **increase India's overall exports to \$2 trillion by 2030**, with **equal contributions from the merchandise and services sectors**.
- The policy will **prioritize enhancing the ease of doing business** and **targets emerging sectors, such as e-commerce and export hubs**.
- Under FTP 2023, the towns of **Faridabad, Moradabad, Mirzapur, and Varanasi** have been newly designated as **Towns of Export Excellence (TEE)** for apparel, handicrafts, handmade carpets and dari, and handloom and handicraft products, respectively. These additions expand the TEE list to **43 towns**.
- The new FTP aims to **boost the internationalization of trade in rupees** by allowing international trade settlement in India's currency.

Why in News?

- The **Directorate General of Foreign Trade (DGFT)** has introduced amendments to FTP 2023, making it **mandatory to consult stakeholders**—including importers, exporters, and industry experts—**for their views on draft policies**.

Directorate General of Foreign Trade:

- DGFT is an **attached office of the Ministry of Commerce and Industry** with headquarters at **New Delhi**.
- DGFT is **responsible for formulating and implementing the Foreign Trade Policy** with the main objective of promoting India's exports.

- Additionally, it establishes a **mechanism to provide reasons for not accepting** views, suggestions, comments or feedback concerning the formulation or amendment of FTP 2023.
- This aims to encourage active participation from all stakeholders in the decision-making process before implementing or modifying policies.

2) PURCHASING MANAGERS' INDEX

What is PMI?

- Purchasing Managers' Index is an economic indicator which indicates the business activity & economic health of both the **manufacturing and service sectors**.
- PMI of India is compiled by **S&P Global**, a financial information and analytics business company.
- PMI is an **investor sentiment tracking index** and is more dynamic in nature. It is a **survey-based measure** that asks the respondents about changes in their perception of some key business variables from the month before.
- Variables used for calculating the PMI are: Output, New Orders, Employment, Input Costs, Output Prices, Backlogs of Work, Export Orders, Quantity of Purchases, Suppliers' Delivery Times, Stocks of Purchases and Stocks of Finished Goods.

How to read PMI?

- While **PMI >50 implies an expansion of business and economic activity**, **PMI <50 means contraction**.

Why in News?

- India's Manufacturing Purchasing Managers' Index (PMI) rose from December's 56.4 to **57.7** in January, indicating an expansion in the sector's activity.

3) MORE STOCKS TO HAVE T+0 SETTLEMENT

What is meant by trade settlement?

- '**Settlement**' is a **two-way process that involves the transfer of funds and securities on the settlement date**. As of now, there is a **lag between trade and settlement** — the settlement date is different from the trade date.
- A trade settlement is said to be **complete** once **purchased securities of a listed company are delivered to the buyer, and the seller gets the money**.
- The current cycle of '**T+1**' in India means trade-related settlements happen **within a day, or within 24 hours of the actual transaction**.
 - The migration to the T+1 cycle came into effect in **2023**.

Why in News?

- In March 2024, capital markets regulator Securities and Exchange Board of India (SEBI) introduced the beta version of **T+0 (same day) settlement cycle** on an optional basis in addition to the existing T+1 settlement cycle.
 - **T+0 settlement** means that the funds and securities for a transaction will be **settled on the day the trade was entered into**.
- Recently, to increase the efficiency of the optional same-day settlement cycle, **SEBI has enhanced its scope** by making top 500 stocks available for the T+0 cycle.



- India became the **second country** to start the T+1 settlement cycle in top listed securities after **China**, bringing operational efficiency, faster fund remittances, share delivery, and ease for stock market participants.

What will change for investors with T+0?

- Under the current T+1 settlement cycle, if an investor sells securities, the **money gets credited into her account the following day.**
- Under the T+0 settlement cycle, if investors sell shares, they will **get the money in their account instantaneously, and the buyers will get the shares in their demat accounts the same day.**
- A shortened settlement cycle will bring **cost and time efficiency, transparency in charges** to investors, and **strengthen risk management** at clearing corporations and the overall securities market ecosystem.

4) GOVT SETS A TARGET OF 10000 GI TAGS BY 2030

About GI Tag

- A geographical indication (GI) is a **sign** used on products that have a **specific geographical origin** and possess qualities or a reputation that are due to that origin.
- It is used for **agricultural, natural and manufactured goods.**
- The registration of GI is valid for **10 years** after which it needs to be renewed.
- It should be noted that registration of a product is **not compulsory.**
 - Registration affords **better legal protection** to facilitate an action for infringement;
 - The registered proprietor and authorised users can **initiate infringement actions;**
 - The authorised users can exercise the **exclusive right to use the geographical indication.**



Legislations

- In India, GI is given under the **Geographical Indications of Goods (Registration and Protection) Act, 1999.**
- The Act is administered by the **Controller General of Patents, Designs & TradeMarks, GI (CGPDTM-India)** under the Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry.
- India enacted its GI legislation to comply with India's obligations under the **Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement.**
- GI is a **collective intellectual property right** and is thus owned by all the producers within the defined GI territory unlike intellectual properties like patent and trademark which are owned by an individual or a business entity.



- In **2004, Darjeeling tea** became the first product in India to receive a GI tag.

Why in News?

- The Government of India has set a target of reaching 10,000 GI Tags by 2030.
- The number of GI tags till date stands at 605.

5) OTHER NOTABLE TOPICS

5.1 FIU-IND

About

- The Financial Intelligence Unit India (FIU IND) was set by the Government of India in **2004** as the **central national agency** responsible for **receiving, processing, analyzing and disseminating information relating to suspect financial transactions.**
- Headed by a **Director**, FIU-IND is also responsible for coordinating and strengthening efforts of national and international intelligence, investigation and enforcement agencies in pursuing the **global efforts against money laundering and financing of terrorism.**
- FIU-IND is an **independent body reporting directly to the Economic Intelligence Council (EIC) headed by the Finance Minister.**



Economic Intelligence Council:

- EIC is an apex body set up for **mitigation of Economic Offences by Multi-Agency coordination.**
- It is **chaired by the Finance Minister.**
- EIC is tasked with developing strategies for the collection, collation, and dissemination of intelligence related to economic security while ensuring its effective utilization by relevant agencies.
- Through its mandate, the EIC fosters inter-agency coordination and dynamic responses to evolving economic threats.

INTERNATIONAL RELATIONS

1) INDONESIA JOINS BRICS GROUP

What's in the news?

- **Indonesia** has been admitted as a **full member of the BRICS** bloc of developing economies, making it the **first nation from Southeast Asia** to join the grouping.
- BRICS was formed by **Brazil, Russia, India and China** in 2009, and added **South Africa** in 2010.
- Last year, the alliance expanded to embrace **Iran, Egypt, Ethiopia and the United Arab Emirates**.
 - **Saudia Arabia** has been invited to join, but has not yet done so.
- **Turkey, Azerbaijan and Malaysia** have formally applied to become members, and a few others have expressed interest.
 - *Refer Pulse Digest October 2024 edition for more details about BRICS.*



2) ECONOMIC COMMUNITY OF WEST AFRICAN STATES

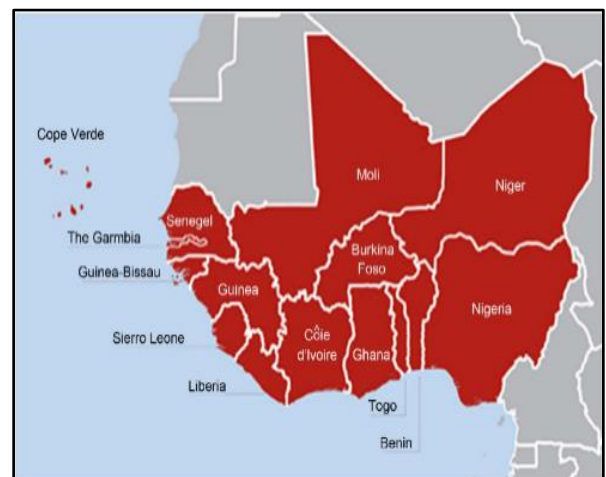
About

- The Economic Community of West African States (ECOWAS) is a **regional group of fifteen African countries**, founded in **1975** through the **Treaty of Lagos**.
- The aim of the Community is to **promote economic integration** in all fields of activity of the constituting countries.
- ECOWAS was set up to foster the **ideal of collective self-sufficiency** for its member states. It is also meant to create a **single, large trading bloc** through economic cooperation.
- The headquarters of ECOWAS is in **Abuja, Nigeria**.
- **Members:** Benin, Burkina Faso, Cote d'Ivoire, The Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Sierra Leone, Senegal and Togo.



Why in News?

- Three countries under military rule - **Mali, Niger and Burkina Faso** - have officially left ECOWAS, after more than a year of diplomatic tensions.



3) NET ZERO BANKING ALLIANCE

About

- The Net Zero Banking Alliance (NZBA) is a **'bank-led, UN-convened' group of leading banks from around the world** committed to aligning their lending, investment and capital market activities with **Net Zero greenhouse gas emissions by 2050**.
- Launched in **2021**, under the **United Nations Environment Programme Finance Initiative (UNEP FI)**, the alliance boasts 136 members across 44 countries (**India is not a member**).
- The Net Zero plan is meant to cover both the **banks' own emissions** and those of the **entities they finance**.

UNEP FI:

- The United Nations Environment Programme Finance Initiative (UNEP FI) is a **partnership between UNEP and the global financial sector to mobilize private sector finance for sustainable development**.

Why in News?

- Six of the largest American banks have formally exited the UN-backed Net Zero Banking Alliance.

4) DAVOS SUMMIT

About World Economic Forum

- The World Economic Forum is the **International Organization for Public-Private Cooperation**.
- The Forum engages the foremost political, business, cultural and other leaders of society to shape global, regional and industry agendas.
- It was established in **1971** as a **not-for-profit foundation** and is headquartered in **Geneva, Switzerland**.
- The foundation is **mostly funded by its 1,000 member companies** - typically global enterprises with more than \$5 billion in turnover - as well as **public subsidies**.

Why in News?

- The World Economic Forum (WEF) held its annual meeting in **Davos, Switzerland**.

About Davos Summit

- **Davos, Switzerland, is where the World Economic Forum holds its annual meeting.**
- Delegates from many sectors converge for several days of talks and meetings to address urgent global issues.
- Its salience goes far beyond discussions on economic issues. In the past, it has been used as a location for **pivotal international diplomacy**.

ORGANISATIONS

1) NATIONAL TURMERIC BOARD

What's in the news?

- Union Minister of Commerce & Industry Piyush Goyal has inaugurated the National Turmeric Board (NTB) to be headquartered in **Nizamabad, Telangana**.

About Turmeric:

- Turmeric (*Curcuma longa*) is **native to Southeast Asia** and is grown commercially in the region, primarily in India.
- Turmeric, also known as **Golden spice of India**, can be grown in **diverse tropical conditions from sea level to 1500 m above sea level**, at a **temperature range of 20-35°C** with an **annual rainfall of 1500 mm or more**, under rainfed or irrigated conditions.
- Though it can be grown on different types of soils, it **thrives best in well-drained sandy or clay loam soils with a pH range of 4.5-7.5 with good organic status**.

Turmeric in India:

- **India is the largest producer, consumer and exporter of turmeric in the world**. More than 30 varieties of Turmeric are grown in India and it is grown in over 20 states in the country.
- The **largest producing states** of Turmeric are **Maharashtra, Telangana, Karnataka and Tamil Nadu**.
- **India** accounts for over **70% of the world's turmeric production** and holds more than **60% share in global turmeric trade**.
- The **leading export markets** for Indian Turmeric are **Bangladesh, UAE, USA and Malaysia**. With the focused activities of the Board, it is expected that turmeric exports will reach **USD 1 Billion by 2030** (from 227 million USD in 2023-24).

About the Board

- The National Turmeric Board will focus on the **development and growth of turmeric and turmeric products in the country**.
- It will especially focus on **capacity building and skill development** of turmeric growers for harnessing greater benefits out of value addition.
- The Board will also promote **quality and food safety standards and adherence** to such standards.
- The Board shall have a **Chairperson** to be appointed by the Central Government, **members** from various Departments of the Union Government and State Government representatives.

2) CENTRAL CONSUMER PROTECTION AUTHORITY

About CCPA

- The Central Consumer Protection Authority (CCPA) is a **statutory body** constituted under the **Consumer Protection Act, 2019**.
 - *Refer Pulse Digest September 2024 edition for details about Consumer Protection Act, 2019.*
- The CCPA **aims to protect the rights of the consumer** by cracking down on unfair trade practices, and false and misleading advertisements that are detrimental to the interests of the public and consumers.
- The CCPA is **empowered to conduct investigations** into violation of consumer rights and institute complaints/prosecution, **order recall** of unsafe goods and services, **order**

discontinuation of unfair trade practices and misleading advertisements, **impose penalties** on manufacturers/endorsers/publishers of misleading advertisements.

- It functions under the **Ministry of Consumer Affairs**.

Why in News?

- The CCPA has issued 325 notices for violation of consumer rights, misleading advertisements and unfair trade practices and also imposed total penalties amounting to Rs. 1.19 cr. so far.

3) PM-STIAC

About

- The **Prime Minister's Science, Technology, and Innovation Advisory Council (PM-STIAC)** serves as an **overarching council** to assess the status of various science and technology-related matters, comprehend challenges, formulate interventions, develop a futuristic roadmap, and **advise the Prime Minister accordingly**.
- Established in **2018**, the council is chaired by the **Principal Scientific Adviser to the Government of India**.
- The council also **oversees the implementation of these interventions** by concerned S&T departments, agencies, and other government ministries.

Why in News?

- The 27th meeting of PM-STIAC was held recently in New Delhi.

4) WORLD BANK

About

- The World Bank is an **international development organization owned by 187 countries**.
- Its role is to **reduce poverty by lending money** to the governments of its poorer members to improve their economies and to improve the standard of living of their people.
- The World Bank was established in **1944 to help rebuild Europe and Japan after World War II**. Its official name was the **International Bank for Reconstruction and Development (IBRD)**.
- When it first began operations in 1946, it had 38 members. Today, most of the countries in the world are members.
 - **India** is one of the founder members of the world bank.
- The World Bank has created new organizations within itself that specialize in different activities. **All these organizations together are called the World Bank Group**. It consists of:
 - **IBRD** lends to low- and middle-income countries;
 - **International Development Association (IDA)** lends to low-income countries;
 - **International Finance Corporation (IFC)** lends to the private sector;
 - **Multilateral Investment Guarantee Agency (MIGA)** encourages private companies to invest in foreign countries; and
 - **International Centre for Settlement of Investment Disputes (ICSID)** helps private investors and foreign countries work out differences when they don't agree.

Why in News?

- The World Bank, in its **Global Economic Prospects (GEP) report**, has projected 6.7 per cent growth for India, surpassing global growth of 2.7 per cent.



- To become a **member of the World Bank Group**, a country must first join the **International Monetary Fund (IMF)**.
- Collectively, these two organizations are known as the **"Bretton Woods twins."**

5) ISLAND DEVELOPMENT AGENCY

About IDA

- The Island Development Agency (IDA) was set up in **2017** following the Prime Minister's review meeting for the development of islands.
- IDA focuses on **holistic development of Islands**.
- IDA is chaired by the **Union Home Minister**.

Why in News?

- Union Home Minister chaired the 7th meeting of the Island Development Agency in New Delhi.

6) OTHER NOTABLE TOPICS

6.1 NATIONAL TESTING AGENCY

About NTA

- National Testing Agency (NTA) has been established as an **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.

6.2 ANIMAL WELFARE BOARD OF INDIA

About AWBI

- The Animal Welfare Board of India (AWBI) is a **statutory advisory body** on Animal Welfare Laws and promotes animal welfare in the country.
- **Established in 1962 under the Prevention of Cruelty to Animals Act, 1960**, AWBI was started under the stewardship of **Rukmini Devi Arundale**, well known humanitarian.
- AWBI functions under the aegis of the **Ministry of Fisheries, Animal Husbandry and Dairying (MoFAH&D)**.
- AWBI's mandate is to **prevent the infliction of unnecessary pain or suffering on animals**, in terms of the provision of the Prevention of Cruelty to Animals Act, 1960.
- The AWBI **recognizes** animal welfare organizations (AWOs)/societies and provides **grants-in-aid** under various Central schemes.
- The Board consists of **28 Members** (including 6 Members of Parliament). The term of office of Members is for a **period of 3 years**.

6.3 BUREAU OF INDIAN STANDARDS

About BIS

- Bureau of Indian Standards (BIS) is the **National Standard Body of India**. It is a **statutory organization** established under the **BIS Act, 1986** (later amended by **BIS Act, 2016**) in 1987.

- BIS is responsible for the **harmonious development of the activities of standardization, marking and quality certification of goods.**
- BIS is involved in various activities like standard formulation, certification of products, hallmarking, testing and calibration scheme, etc.
- BIS works under the aegis of the **Ministry of Consumer Affairs, Food and Public Distribution.**

BIS Certification

- BIS Product Certification Scheme is one of the largest in the world, with over 26500 licensees covering more than 900 products.
- BIS Certification allows the licensees to use the popular **ISI mark** on their product, which is synonymous with quality products.
- BIS also operates **Foreign Manufacturers Certification Scheme** under which overseas manufacturers can be granted a licence to use the BIS Standard Mark.

Products that Require Mandatory BIS Certificate

- BIS certification scheme is basically **voluntary in nature.** However, for a number of products compliance to Indian Standards is **made compulsory** by the Central Government under various considerations viz. public interest, protection of human, animal or plant health, safety of environment, prevention of unfair trade practices and national security.
- The following are products that require mandatory BIS License or Certification.
 - Cement
 - Household electrical goods
 - Food and related products
 - Diesel engines
 - Oil pressure stoves
 - **Automotive tyres and tubes**
 - Cylinders, Valves and Regulators
 - Medical Equipment
 - Steel Products
 - Electrical Transformers.

SCIENCE & TECHNOLOGY

1) ISRO SUCCESSFULLY EXECUTES SPADEX DOCKING EXPERIMENT

What's in the news?

- The Indian Space Research Organisation (ISRO) has successfully executed the **Space Docking Experiment (SpaDeX)** marking India's entry into the elite group of nations capable of **executing space docking operations**.
- This makes **India the fourth country** in the world (after the United States, Russia, and China) to have this capability.
- The SpaDeX mission involved two small satellites, **SDX01(Chaser)** and **SDX02 (Target)** launched using **PSLV-C60**, from the Satish Dhawan Space Centre, Sriharikota.



About the Mission

- SpaDeX mission is a cost-effective **technology demonstrator mission** for the demonstration of **in-space docking using two small spacecraft**.
 - Docking allows spacefaring components to be **launched separately and assembled in space** to form a larger module.
- In-space docking technology is crucial for **planning interplanetary missions** involving spacecraft that exceed the launch capacity of the heaviest rockets and require **multiple rocket launches** to achieve their collective mission goals.
- This technology is **essential for India's space ambitions** such as lunar missions, sample return from the Moon, etc.

2) HUMAN METAPNEUMOVIRUS

What's in the news?

- **China** is currently experiencing a sharp increase in cases of the flu-like human metapneumovirus (hMPV), sparking concerns about the potential for another pandemic similar to Covid-19.

About hMPV

- hMPV is one of the viruses that **causes the common cold** (upper respiratory infection).
- It usually makes people only **mildly sick**, but it can make some people very sick.
- The virus belongs to the ***Pneumoviridae* family of viruses**. It was **first identified in 2001** and has been spreading among people for many decades.
- It **spreads like other common cold viruses** do, through **infectious respiratory particles** that spread through the air from a sick person to others.
- **Common symptoms** include cough, fever, nasal congestion and shortness of breath.
- **Currently, there is no approved antiviral medicine** for hMPV.
 - As hMPV is a cold virus, people can **treat their symptoms with over-the-counter medicines** to treat pain, fever, stuffy nose and cough.

3) CABINET APPROVES THE ESTABLISHMENT OF "THIRD LAUNCH PAD"

What's in the news?

- The Union Cabinet has approved the establishment of the **Third Launch Pad (TLP)** at **Satish Dhawan Space Centre of ISRO** at **Sriharikota, Andhra Pradesh**.
- The Third Launch Pad project envisages the establishment of the launch infrastructure for the **Next Generation Launch Vehicles of ISRO** and also to **support as standby launch pad** for the Second Launch Pad at Sriharikota.

- This will also enhance the launch capacity for **future Indian human spaceflight missions**.
- As on today, Indian Space Transportation Systems are completely reliant on **two launch pads viz. First Launch Pad (FLP) & Second Launch Pad (SLP)**.
 - FLP was realized **30 years ago for Polar Satellite Launch Vehicle (PSLV)** and continues to provide launch support for PSLV & Small Satellite Launch Vehicle (SSLV).
 - SLP was established **primarily for Geosynchronous Satellite Launch Vehicle & Launch Vehicle Mark-3** and also functions as **standby for PSLV**.
 - SLP has been operational for **almost 20 years** and has enhanced the launch capacity towards enabling some **commercial missions** of PSLV/LVM3 along with the **national missions** including the Chandrayaan-3 mission.
 - *Refer Pulse Digest August 2024 edition for details about Launch Vehicles of ISRO.*

4) LOWER SODIUM SALT SUBSTITUTES

What's in the news?

- The World Health Organization (WHO) has released **new guidelines recommending the use of lower-sodium salt substitutes that contain potassium chloride (KCl)** instead of regular table salt (sodium chloride, NaCl).
- This is **aimed at reducing sodium intake to less than 2 g/day**, except for individuals with kidney impairments or conditions that affect potassium excretion.

Health Impact of Salt Consumption

- Sodium and water travel together in the body, and excess salt intake leads to water retention, **increasing blood pressure**.
- This, in turn, **raises the risk of cardiovascular diseases (CVDs), strokes, and chronic kidney disease (CKD)**.
- Reducing sodium intake significantly improves cardiovascular health and lowers the risk of gastric cancer and other noncommunicable diseases (NCDs).

Key Recommendations

- The WHO guidelines provide **evidence-based recommendations** on using **lower-sodium salt substitutes**, where **sodium chloride (NaCl)** is partially replaced with **potassium chloride (KCl)**.
 - These substitutes are recommended for **household use** but **not for packaged foods or foods consumed outside the home**.
- Policymakers and health professionals should advocate for population-wide sodium reduction strategies.
- Regular salt should still be available for those who require a low-potassium diet due to kidney disease.



- Globally, each year, eight million deaths are associated with poor diets, and of these, **1.9 million are attributable to high sodium intake**.

5) GUILLAIN-BARRÉ SYNDROME

About

- Guillain-Barre syndrome (GBS) is a **rare neurological disorder** in which a **person's immune system mistakenly attacks part of their peripheral nervous system**—the network of nerves that carries signals from the brain and spinal cord to the rest of the body.
- It can cause **weakness, numbness or paralysis**.
- The condition may be triggered by an **acute bacterial or viral infection**, or a **vaccine** where a person's immune system attacks peripheral nerves.
- Guillain-Barre syndrome is **rare**, and the **exact cause is not known**.

Treatment

- Currently, there is **no cure for GBS**.
- Special blood treatments, such as **plasma exchange** (where the liquid portion of the blood, or plasma, is removed and separated from blood cells, stimulating the body to produce new plasma to replace what was lost) and **immunoglobulin therapy** (which involves injecting healthy antibodies from blood donors directly into the bloodstream), can help alleviate symptoms.

Why in News?

- Pune has been witnessing a spike in the number of Guillain-Barré syndrome cases.

6) OTHER NOTABLE TOPICS

6.1 INTEGRATED DISEASE SURVEILLANCE PROGRAMME

About

- The Integrated Disease Surveillance Program (IDSP) was launched by the **Union Ministry of Health & Family Welfare** in assistance with the **World Bank** in **2004**.
- IDSP aimed to **strengthen disease surveillance for infectious diseases to detect and respond to outbreaks immediately**.
- The IDSP constitutes **State Surveillance Units (SSU)** at all state/UT headquarters, **District Surveillance Units (DSU)** at the districts and **Central Surveillance Unit (CSU)** in Delhi.
 - The CSU at the National Centre for Disease Control (NCDC), receives disease outbreak reports from the States/UTs on a weekly basis.

Objective:

- To **strengthen/maintain decentralized laboratory-based IT enabled disease surveillance systems** for epidemic-prone diseases to monitor disease trends and to detect and respond to outbreaks in the early rising phase.

Programme Components:

- **Integration and decentralization of surveillance activities** through the establishment of surveillance units at Centre, State and District level.
- **Human Resource Development** – Training of State Surveillance Officers, District Surveillance Officers, Rapid Response Team and other Medical and Paramedical staff on principles of disease surveillance.
- **Use of Information Communication Technology** for collection, collation, compilation, analysis and dissemination of data.
- **Strengthening of public health laboratories.**
- **Inter sectoral Co-ordination** for zoonotic disease.

6.2 OBESITY

About

- Obesity is a **chronic, complex disease** defined by **excessive fat accumulation** that harms health, **increasing the risk of various diseases** including diabetes, hypertension, heart disease, and affects bone health.
- **Causes: Lack of physical activity, high-calorie diets** (fast foods, fizzy drinks, sugary items), and **genetic factors**.
- **Incidence:** As per the World Health Organization, **one in eight persons in the world is obese**, and one in three is overweight.
- **Body Mass Index (BMI)** [weight in kg/(height)² in m²] is the standard measure for diagnosing obesity, with overweight classified as a BMI over 25 kg/m² and **obesity over 30 kg/m²**.
 - For the **Asia-Pacific region**, WHO suggests a **lower threshold** of 23-24.9 kg/m² for overweight and over 25 kg/m² for obesity.

- **India ranks second** in the world in terms of being home to the **highest number of obese children**.
- The **Indian incidence of obesity is around 13%**, which is much higher than in other middle-income countries.

6.3 GENE SILENCING

About

- Gene silencing is a modern therapeutic technique that **makes use of the body's natural processes to control disease by suppressing or 'silencing' specific genes that are associated with certain diseases**.
- In this context, '**silencing**' means **temporarily blocking a specific gene's message** that would otherwise trigger an unwanted effect.

How Does Gene Silencing Work?

- A **gene** normally sends **instructions** via **messenger RNA (mRNA) to produce proteins**.
- **Gene silencing blocks this message**, preventing the production of disease-causing proteins.
- The most **common method for gene silencing is RNA interference (RNAi)**, where small interfering RNA (siRNA) or microRNA (miRNA) neutralize specific mRNA molecules.
 - *RNAi is a biological process where RNA molecules inhibit gene expression by neutralizing mRNA before it is translated into proteins.*

Applications of RNAi technology

- **Medicine & Disease Treatment:** Used to develop therapies for **viral infections (HIV, hepatitis), and genetic disorders**.
- **Cancer therapy:** RNAi offers potential for treating cancers by **targeting and suppressing mutated genes responsible for the disease**.
- **Agricultural Biotechnology:** Used to enhance crop resistance to **pests and diseases**.
- **Functional Genomics:** Helps study **gene function by selectively silencing genes** in model organisms.

POLITY

1) LOKPAL

About

- The **Lokpal and Lokayukta Act, 2013** provided for the establishment of **Lokpal for the Union and Lokayukta for States**.
- These institutions are **independent statutory bodies** without any constitutional status. They perform the function of an **"ombudsman"** and inquire into **allegations of corruption against certain public functionaries** and for related matters.

Members

- Lokpal is a **multi-member body** that consists of **one chairperson and a maximum of 8 members**.
- **Chairperson** of the Lokpal should be either the **former Chief Justice of India or the former Judge of Supreme Court or an eminent person** with impeccable integrity and outstanding ability, having special knowledge and expertise of minimum 25 years in the matters relating to anti-corruption policy, public administration, vigilance, finance including insurance and banking, law and management.
- Out of the maximum eight members, **half will be judicial members and minimum 50% of the Members will be from SC/ ST/ OBC/ Minorities and women**.
- The **judicial member** of the Lokpal shall either be a **former Judge of the Supreme Court or a former Chief Justice of a High Court**.
- The term of office for Lokpal Chairman and Members is **5 years or till the age of 70 years**.
- The members are appointed by the **President** on the recommendation of a **Selection Committee**.
 - The **five-member Lokpal selection committee** includes the **Prime Minister, the Speaker and the Chief Justice of India**, along with the **Leader of Opposition** and an **eminent jurist** selected by other members.

Jurisdiction

- The Lokpal has jurisdiction to inquire into allegations of corruption against anyone
 - who is or has been Prime Minister,
 - a Minister in the Union government,
 - a Member of Parliament,
 - officials of the Union government under Groups A, B, C and D,
 - chairpersons, members, officers and directors of any board, corporation, society, trust or autonomous body either established by an Act of Parliament or wholly or partly funded by the Centre,
 - any society or trust or body that receives foreign contribution above ₹10 lakh.
- It should be noted that the Lokpal **cannot inquire into any corruption charge against the Prime Minister if the allegations are related to international relations, external and internal security, public order, atomic energy and space, unless a full Bench of the Lokpal**, consisting of its chair and all members, **considers the initiation of a probe, and at least two-thirds of the members approve it**.
- Such a hearing should be held in camera, and if the complaint is dismissed, the records shall not be published or made available to anyone.

How can a complaint be made and what happens next?

- A complaint under the Lokpal Act should be in the prescribed form and must pertain to an offence under the **Prevention of Corruption Act** against a public servant.
- When a complaint is received, the Lokpal may order a **preliminary inquiry by its Inquiry Wing**, or **refer it for investigation by any agency**, including the CBI, if there is a prima facie case.

- The Lokpal, with respect to Central government servants, may refer the complaints to the **Central Vigilance Commission (CVC)**.
- Lokpal has **powers of confiscation** of assets, proceeds, receipts and benefits arisen or procured by means of corruption in special circumstances.
- A complaint can be entertained **only in respect of acts committed within a period of seven years** from the date on which the offence mentioned in the complaint is alleged to have been committed.

Why in News?

- The Foundation Day of the Lokpal of India was held for the first time on 16th January.
- Last year, the Lokpal of India resolved that owing to the establishment of the Body vide Notification issued on 16.01.2014, 16th January of every year will be observed as the 'Lokpal Day'.

2) SUPREME COURT RELAXES RULES FOR HC TO APPOINT AD-HOC JUDGES

Constitutional Provisions

- **Article 224-A**, introduced by the **Constitution (Fifteenth Amendment) Act, 1963**, allows the **appointment of retired High Court Judges** as **ad hoc judges of the High Court**.
 - An ad hoc judge is a **retired judge** who is **appointed on a temporary basis for a specific vacancy or purpose** only for a limited period of time.
- Article 224A allows the **Chief Justice of a High Court to request retired HC judges** to perform the duties of a judge again.
 - Such appointments require the **consent of both the retired judge and the President of India**.
- These judges receive **allowances as determined by the President's order** and receive the **same pay and allowances as permanent High Court judges, excluding the pension**.
- Though it has rarely been invoked — **only thrice** in the past — there is a **detailed procedure** for such appointments outlined in the **1998 Memorandum of Procedure (MOP)** for the appointment of High Court judges, prepared following the creation of the collegium system for appointing judges.

Why in News?

- To address the growing backlog of criminal cases, the Supreme Court has **allowed High Courts to appoint retired judges on an ad-hoc basis**, provided they **hear only criminal appeals** as part of a Bench led by a sitting judge.
- The court **relaxed a rule** set in *Lok Prahari Through Its General Secretary S.N. Shukla IAS (Retd.) v. Union of India (2021)*, which had **limited such appointments to High Courts where judicial vacancies exceeded 20% of the sanctioned strength**.
- The court also held that each HC should keep the appointment to **two to five ad-hoc judges** and **not exceed 10% of the total sanctioned strength**.



- As of January 2025, there are 1.82 million criminal cases and over 44,000 civil cases pending before the high courts.

3) OTHER NOTABLE TOPIC

3.1 FOREST RIGHTS ACT, 2006

About the Act

- The **Scheduled Tribes and Other Forest Dwellers (Recognition of Forest Rights) Act, 2006** is a people-centric law for forests, which **recognises the rights of forest-dwelling communities to use and manage forest resources.**

Rights under FRA

- **Title rights** – Ownership to land that is being farmed by tribals or forest dwellers subject to a **maximum of 4 hectares**; ownership is only for land that is actually being cultivated by the concerned family, meaning that no new lands are granted.
- **Use rights** – to minor forest produce (also including ownership), to grazing areas, to pastoralist routes, etc.
- **Relief and development rights** – to rehabilitation in case of illegal eviction or forced displacement; and basic amenities, subject to restrictions for forest protection.
- **Forest management rights** – to protect forests and wildlife.

Objective of the Act

- To **undo the historical injustice** occurred to the forest dwelling communities;
- To **ensure land tenure, livelihood and food security** of the forest dwelling Scheduled Tribes and other traditional forest dwellers;
- To **strengthen the conservation regime of the forests** by including the responsibilities and authority of Forest Rights holders for sustainable use, conservation of biodiversity and maintenance of ecological balance.

Eligibility

- To qualify as **Other Traditional Forest Dweller (OTFD)** and be eligible for recognition of rights under FRA, **two conditions** need to be fulfilled:
 - **Primarily resided** in forest or forests land for **three generations (75 years)** prior to 13-12-2005, and
 - **Depend** on the forest or forest land for **bonafide livelihood needs.**
- To qualify as a **Forest Dwelling Scheduled Tribe (FDST)** and be eligible for recognition of rights under FRA, **three conditions** must be satisfied by the applicant/s, who could be **“members or community”**:
 - Must be a **Scheduled Tribe** in the area where the right is claimed; and
 - **Primarily resided** in forest or forests land prior to 13-12-2005; and
 - **Depend** on the forest or forest land for **bonafide livelihood needs.**
- The FRA provides that a forest right conferred under the Act shall be **heritable but not alienable or transferable**, and shall be registered jointly in the name of both the spouses in case of married persons and in the name of the single head in the case of a household headed by a single person.

Process of recognition of rights

- The Act provides that the **gram sabha, or village assembly, will initially pass a resolution** recommending whose rights to which resources should be recognised.
- This resolution is then screened and approved at the **level of the sub-division** (or taluka) and subsequently at the **district level.**
- The **screening committees** consist of three government officials (Forest, Revenue and Tribal Welfare departments) and three elected members of the local body at that level. These committees also hear appeals.

- The Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Rules, 2008 provide for **constitution of Forest Rights Committee** by the **Gram Sabha** for assisting it in its functions to –
 - prepare a list of claimants on forest rights;
 - verify claims as provided in the rules;
 - present their findings on the nature and extent of the claim before the Gram Sabha for its consideration;
 - prepare the claims on behalf of Gram Sabha for community forest rights in the prescribed form.

ART & CULTURE

1) IRON AGE

About

- The Iron Age was a period in human history that started between **1200 B.C. and 600 B.C.**, depending on the region, and **followed the Stone Age and Bronze Age.**
- During the Iron Age, people across much of **Europe, Asia and parts of Africa** began making **tools and weapons from iron and steel.**
- It is said that the **Hittites**, who lived in **Anatolia** (modern-day Turkey), **were the first to smelt iron around 1500 BCE.**
- In **India**, the Iron age was characterised by the **use of advanced smelting techniques, use of iron ploughs and sickles in agriculture, etc.**

Why in News?

- Recent archaeological excavation from **Sivagalai** in Thoothukudi district, **Tamil Nadu**, indicates that the **Iron Age in this region may have commenced around 3345 BCE**, predating the globally recognized Hittite Empire's use of iron.
- These new dates establish **Tamil Nadu as the site of the earliest known Iron Age civilization**, making it potentially the oldest in the world.
- The discovery suggests that a **contemporary Iron Age civilization existed in southern India** at the same time as the **Indus Valley Civilization in northern and northwestern India.**
- The study also indicates that, while the **regions to the north of the Vindhyas** were still in the **Copper Age**, **southern India** may have entered the **Iron Age** due to a lack of commercially exploitable copper ores.
 - This parallel development marks an important shift in understanding the timeline of ancient civilizations in the Indian subcontinent.

2) INDUS SCRIPT DECIPHERING

About the Indus Script

- It refers to the script that was widely used in the **Indus Valley Civilization**, which flourished around **2600–1900 BCE** in present-day Pakistan and northwest India.
- Despite extensive research, the **script remains undeciphered till date.**

Characteristics of the Script

- It is **logo-syllabic**, meaning it combines **logograms** (symbols representing words) and **syllabic signs** (symbols representing syllables).
- The script has been **found on various artifacts** such as seals, pots, amulets, jewellery, etc.
- Although **most inscriptions are written from right to left**, some show **boustrophedon** (alternating direction in each line).
- It has been found that **most inscriptions are typically short**, averaging 5–6 symbols, with the **longest containing 26 symbols.**



Why in News?

- Recently, Tamil Nadu Chief Minister M.K. Stalin has announced a \$1 million reward for anyone who can successfully decipher the script of the Indus Valley Civilization.

3) SAHITYA AKADEMI AWARD

About

- The Sahitya Akademi award is considered as the **Government of India's second-highest literary honour**, following the **Jnanpith prize**.
- The Akademi is under the central government's **Ministry of Culture**, but works as an **autonomous institution**.
- Every year since its inception in 1954 (and first awarded in 1955), the **Sahitya Akademi Award prizes to the most outstanding books of literary merit published in any of the major Indian languages recognised by the Akademi.**
- In addition to the **22 languages listed in the Eighth Schedule of Indian Constitution**, the Sahitya Akademi has designated **English and Rajasthani** as the languages chosen.

Conditions of bestowing the award

- The author must be of **Indian origin**.
- The book/work must be an **excellent contribution to the language and literature**.
- When two or more works have similar worth, **specific factors** such as overall literary contribution and author status must be considered before awarding a prize.

Why in News?

- This year, a new system is being implemented for inviting books for the selection process of the Sahitya Akademi's prestigious annual literary awards.
- For the first time, in order to select books in 24 Indian languages, Sahitya Akademi has **invited books directly from the authors, publishers and their well-wishers**.



4) 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**.



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?

- The Central government has announced the list of recipients for the Padma Awards 2025.

5) OTHER NOTABLE TOPICS

5.1 KONARK SUN TEMPLE

About

- The Konark Sun Temple, located in **Konark, Odisha**, is a **13th-century CE temple** dedicated to the **Sun God, Surya**.
- The temple is attributed to **King Narasimhadeva I** of the **Eastern Ganga dynasty**.
- The temple follows the **Kalinga or Odisha style of architecture**, which is a subset of the **Nagara style** of Hindu temple architecture.



- **Bharat Ratna** is the highest Civilian Award in India and is awarded to a maximum of **3 people per year**.

- The temple is **shaped like a giant chariot** with 12 pairs of elaborately carved stone wheels and 7 horses, representing the chariot of Surya.
- The temple, built using **Khondalite rocks**, is also known as “**Black Pagoda**” due to its dark colour.
- The temple was declared as a **UNESCO World Heritage Site** in 1984.

Architectural Style of Sun Temple

- The temple follows the **Kalinga or Odisha style of architecture**, which is a **subset of the Nagara style** of Hindu temple architecture.
 - *The **nagara** was among the **three styles of Hindu temple architecture in India** and prevailed in northern India, while in the south, the **dravida style** predominated and in central and eastern India, it was the **vesara style**.*
- The main characteristics of the Odisha style are primarily two: the **deul or the sanctum** housing the deity covered by a shikhara, and the **jaganamohana or the assembly hall**.

Characteristics of the Temple

- The Konarak temple, **built entirely in stone**, is in the **form of a colossal chariot** with twelve pairs of lavishly-ornamented wheels, drawn by seven richly-caparisoned, galloping horses. The 12 pairs of wheels **represent the 12 months of the year**.
- Between the wheels, the plinth of the temple is entirely decorated with reliefs of lions, musicians and dancers, and erotic groups.
- The **vimana** (principal sanctuary) was surmounted by a high tower with a **shikhara** (crowning cap), which was razed in the 19th century.
- To the east, the **jahamogana** dominates the ruins with its pyramidal mass. Farther to the east, the **natmandir** (dance hall), rises on a high platform. Various subsidiary structures are still to be found within the enclosed area of the rectangular wall, which is punctuated by gates and towers.
- The early Europeans traversing this sea referred to the **Jagannatha temple** as the '**White Pagoda**' owing to its white plaster (now removed after restoration) and **Konarak** as the '**Black Pagoda**'.

Kalinga style of architecture:

- The Kalinga architectural style is a **style of Hindu architecture** which flourished in the **ancient Kalinga** previously known as **Utkal** and in present day **Odisha**.
- The style consists of **three distinct types of temple structures: Rekha Deula, Pidha Deula and Khakhara Deula**.
- The **Rekha Deula and Khakhara Deula** houses the **sanctum sanctorum** while the **Pidha Deula** constitutes **outer dancing and offering halls**.
- Examples of Kalinga architecture include **Rajarani temple** in Bhubaneswar and **Jagannath Temple** in Puri.

REPORTS & INDICES

1) FISCAL HEALTH INDEX 2025

What's in the news?

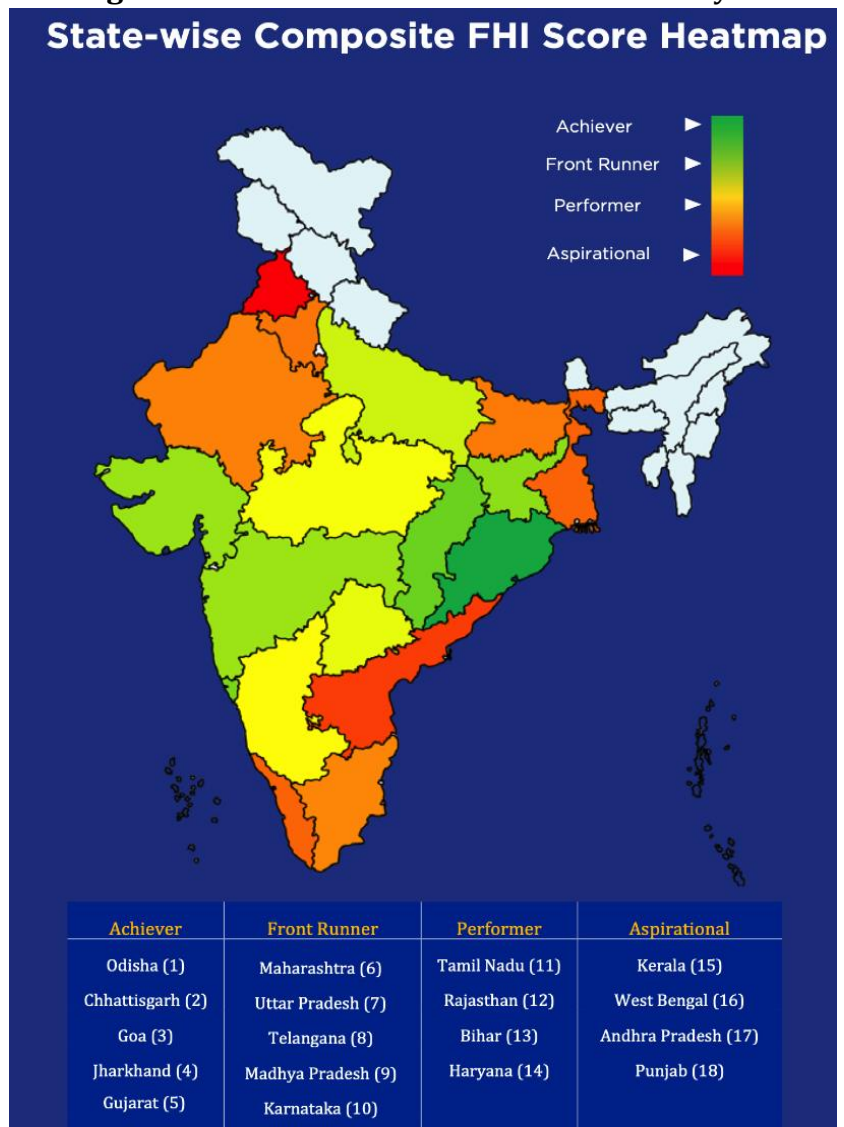
- NITI Aayog has released its first Fiscal Health Index (FHI) report titled 'Fiscal Health Index 2025'.

About the Report

- The report ranked States for 2022-23, covering 18 major States that drive the Indian economy in terms of their contribution to India's GDP, demography, total public expenditure, revenues, and overall fiscal stability.
- The Index has factored in five parameters:
 - quality of expenditure,
 - revenue mobilisation,
 - fiscal prudence,
 - debt index, and
 - debt sustainability.
- The data used to calculate the Fiscal Health Index is sourced from the Comptroller and Auditor General (CAG).
- The report aims to evolve an understanding of the fiscal health of States in the country.

Highlights of the Report

- Odisha excelled in fiscal health with the highest overall index score of 67.8.
- Odisha, Chhattisgarh, Goa, Jharkhand and Gujarat have emerged as top-performing 'achievers' among the States.
- The report has listed Maharashtra, Uttar Pradesh, Telangana, Madhya Pradesh, Karnataka under 'front-runners' category.
 - These States have higher capital outlay of up to 4% of Gross State Domestic Product (GSDP), effective mobilisation of non-tax revenue, are revenue surplus and have low interest payments, which is up to 7% of revenue receipts.
- Tamil Nadu, Bihar, Rajasthan and Haryana were classified as performers.
- Punjab, Andhra Pradesh, West Bengal, and Kerala were the worst-performing States in FHI, each facing significant fiscal challenges, and listed under the 'aspirational' category.



- The aspirational States are struggling to meet the fiscal and revenue deficit targets, have low revenue mobilisation, witnessing a growing debt burden with debt sustainability a concern in these States.
- **Odisha, Goa, Karnataka, Maharashtra and Chhattisgarh** scored the **highest average FHI score for 2014-15 to 2021-22 period.**

2) LEADS 2024

About the Report

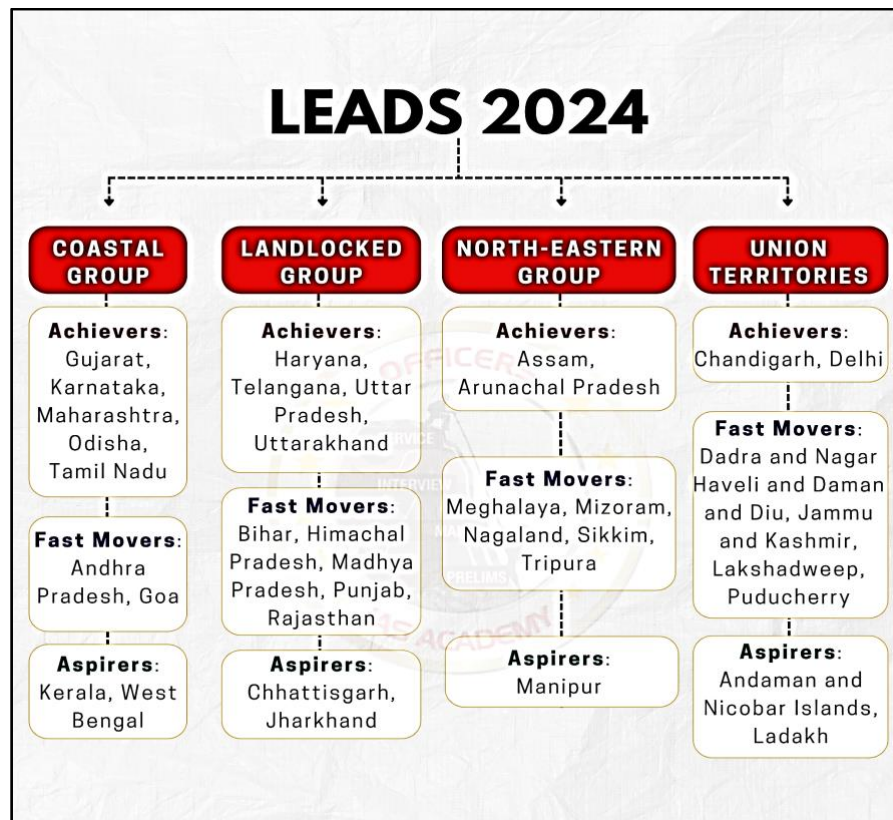
- The Logistics Ease Across Different State (LEADS) Report was launched by the **Union Ministry of Commerce & Industry** in **2018** to **assess the performance of logistics** in Indian states and Union territories.
- Conceived on the lines of the **Logistics Performance Index** of **World Bank**, the Report places states and UTs **based on their Geography** into **four Groups** namely **Coastal Group, Landlocked Group, North- East Group** and **Union Territories Group** to analyse their logistics performance.

Why in News?

- The Ministry of Commerce & Industry has released the LEADS 2024 report.
- In LEADS 2024, the report **evaluates logistics performance across four key pillars:**
 - **Logistics Infrastructure,**
 - **Logistics Services,**
 - **Operating and Regulatory Environment,** and
 - Newly introduced **Sustainable Logistics.**
- States/UTs are **classified into three performance levels – Achievers, Fast Movers and Aspirers,** based on their logistics performance.

Rankings

- As many as **13 States and Union Territories** bagged the top rank of **'achievers'** in the latest report.



3) UDISE+ REPORT

What's in the news?

- After a gap of two years, the **Ministry of Education** has released its Unified District Information System for Education Plus (UDISE+) report for 2023-24.

About the Report

- UDISE is **India's most comprehensive database on school education**, and serves as a crucial tool for **monitoring and evaluating the quality of education** from **pre-primary to higher secondary levels**.
- This report is prepared by the **Ministry of Education** based on data fed directly by the states on parameters such as enrolment, number of teachers, and number of schools.

Highlights of the latest Report

- The **total enrolment of students in schools** has **dropped by over a crore** in 2023-24 as compared to the previous years.
 - A total of 24.8 crore students enrolled in the academic year 2023-24. Over the last four years, the enrolment data was around 26 crore.
 - However, officials have said that the latest report is **not strictly comparable** to previous years reports because of **revised data collection methods** that eliminated duplicate entries.
- While over **90 per cent of schools are equipped with basic amenities** such as electricity and gender-specific toilets, **advanced facilities** like functional desktop, Internet access, and ramps with handrails **remain limited**.
 - Only 57.2 per cent of schools have functional computers, 53.9 per cent have Internet, and 52.3 per cent are equipped with ramps.

DEFENCE

1) BRAHMOS SUPERSONIC CRUISE MISSILE

About

- BrahMos is the **supersonic cruise missile** jointly developed by **Defence Research and Development Organisation (DRDO)** of India and **NPOM** of **Russia**.

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 i.e. less than 1 Mach)
 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)

- 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 **crising 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.



- BrahMos is an amalgamation of the names of the rivers **Brahmaputra** of India and **Moskva** of Russia.

Missile Technology Control Regime:

- 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?

- Amid ongoing negotiations between **India and Indonesia** for the sale of BrahMos supersonic cruise missile systems, Chief of Staff of the Indonesian Navy visited the BrahMos Aerospace Private Limited in New Delhi.
- The deal for the BrahMos systems is in advanced stages of negotiations and Indonesia will become the **second export market** of the missile system after **Philippines** which has signed a deal in 2022 for three regiments of the anti-ship variant of the missile.



2) OTHER NOTABLE TOPICS

2.1 IFC-IOR

About

- The **Information Fusion Centre – Indian Ocean Region (IFC-IOR)** was inaugurated in **2018** within the premises of the **Indian Navy's Information Management and Analysis Centre (IMAC)** in Gurugram, Haryana.
- Hosted by the **Indian Navy**, IFC-IOR works towards **enhancing collaborative maritime safety and security** in the **Indian Ocean Region** in line with India's vision of **Security and Growth for All in the Region (SAGAR)**.
- IFC-IOR focuses on **enhancing maritime security both within and beyond the region**

Information Management and Analysis Centre (IMAC):

- The IMAC is the single-point centre linking all the coastal radar chains to generate a **seamless real-time picture** of the nearly 7,500-km coastline and several Indian Ocean littoral states have joined the coastal radar chain network.
- It was set up after the **26/11 Mumbai terror attacks** and operationalized in **2014**.



by building a common coherent maritime situation picture and acting as a **maritime security information sharing hub** for the region.

- To enable better correlation, compressed information cycles and timely inputs, the Centre also **hosts International Liaison Officers (ILOs) from partner nations**.

PLACES IN NEWS

1) POINT NEMO

About

- Point Nemo is the location in the **South Pacific Ocean that is farthest from land.**
- Also known as the **Oceanic Pole of Inaccessibility**, it is the **most remote location on Earth**, situated approximately 2,688 kilometres from the nearest landmass.
- The **closest humans** to this region are **astronauts** on the **International Space Station** orbiting 400 km above the Earth.
- **Extreme remoteness and lack of nutrients** (South Pacific Gyre, a large rotating ocean current, prevents nutrient-rich waters from reaching Point Nemo) create a **challenging environment** for most marine life, resulting in **low biodiversity** at Point Nemo.
- Space agencies use this location as a **spacecraft cemetery** for decommissioned satellites and spacecraft. It is ideal for controlled re-entries because it **minimizes the risk of debris hitting land.**



Why in News?

- Two women officers of the Indian Navy aboard sailing vessel INSV Tarini crossed Point Nemo recently as a part of the ongoing mission to circumnavigate the globe.

2) GULF OF ADEN

About

- Gulf of Aden is a deepwater basin that forms a **natural sea link between the Red Sea and the Arabian Sea.**
- **Location:** The gulf is situated between the **coasts of Arabia** and the **Horn of Africa.**
- It is **bounded by**
 - **Yemen** to the north,
 - **Arabian Sea** to the east,
 - **Djibouti** to the west, and
 - **Somalia** to the south.
- The **Bab-el-Mandeb Strait** is a narrow body of water that connects the **Gulf of Aden to the Red Sea.**



Why in News?

- Defence Minister Rajnath Singh recently said that threats in the surrounding areas of Gulf of Aden might increase and the Indian Navy is striving to boost its presence and keep the sea routes safe.
- Gulf of Aden is a **critical maritime route** for global trade, serving as a **gateway between the Indian Ocean and the Mediterranean Sea via the Suez Canal.**

3) DEMOCRATIC REPUBLIC OF CONGO

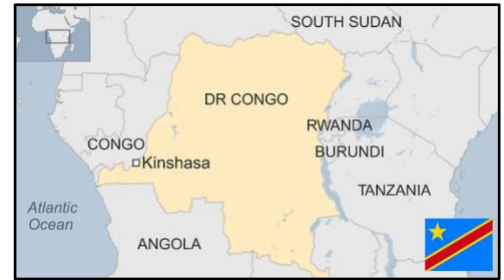
About

- Location: **Central Africa**
- Capital: **Kinshasa**

- Congo is **rich in natural resources**. It has vast deposits of industrial diamonds, cobalt, and copper.
- Major Drainage System: **Congo River**.

Why in News?

- M23, a rebel group in the Democratic Republic of Congo (DRC), has captured **Goma**, the largest city in eastern DRC.



MISCELLANEOUS

1) 8TH PAY COMMISSION

What is Pay Commission?

- A pay commission is constituted by the **Government of India** approximately **every 10 years** to **review and recommend changes to the salary structure of its employees**.
- Additionally, the commission **reviews bonuses, perks, allowances, and other benefits** provided to government employees.
- There have been **seven Pay Commissions since 1946**.
- Currently, recommendations of the **7th Pay Commission**, formed in **2014**, are being followed. Its recommendations were **implemented on January 1, 2016**.
- It should be noted that it is **not mandatory** for the government to accept the recommendations made by the Pay Commission.

Why in News?

- The Union Cabinet has approved the 8th Pay Commission to revise salaries of the central government employees.
- The central government has not revealed the percentage by which salaries of its staff will be raised. However, experts have estimated that the **"fitment factor"** could see a rise from the existing 2.57 to 2.86.

Beneficiaries of 8th Pay Commission

- **Nearly 50 lakh employees**, including **defence personnel**, are expected to benefit from its recommendations.
- Additionally, **65 lakh pensioners** – including **defence retirees** – who receive their pensions from the Centre, are also likely to benefit from the recommendations.

What is 'fitment factor'?

- It is a **key multiplier** used to calculate salaries and pensions for the government staff.
- It is determined through **factors such as inflation, employees' requirements, government's affordability, etc.**
- Therefore, with a fitment factor of 2.86, the minimum basic salary of the government employees could nearly triple, from ₹18,000 to ₹51,480 per month.

2) OTHER NOTABLE TOPICS

2.1 TUNGSTEN

About

- Tungsten, also known as **'wolfram'** is a **shiny, silvery white metal**.
- **Unique properties: Highest melting point** among all elements, **high elastic modulus, high density, high thermal conductivity, and excellent mechanical properties at elevated temperatures**.
- **In India, resources of tungsten-bearing minerals are mainly distributed in Karnataka (42%), Rajasthan (27%), Andhra Pradesh (17%) and Maharashtra (9%).**
- **China** stands as the world's leading producer of tungsten.
- **Applications:**
 - Tungsten is mainly used in the form of **ferrotungsten** in making **special and alloy steels and military applications**.
 - Tungsten is used in the manufacture of **tungsten carbide**, one of the hardest synthetic materials used in various industries like **construction, metal working, mining and oil drilling**.

- It is used widely in the **manufacture of cutting tools & devices** and in **wear-resistant materials**, particularly those that need to be operated at high temperatures.
- Tungsten is used as **filament** in incandescent light bulbs and **cathodes** for electronic tubes, cell phones, and other electrical consumer products.

2.2 RHODAMINE B

About

- Rhodamine B (RhB) is a **chemical compound commonly employed in synthetic dyes** for colouring silk, jute, leather, cotton, and wool, as well as in the cosmetics and plastics industries.
- This compound is frequently used as a **food colourant**, particularly in items like chilli powder, chilli oil, cotton candy etc.
- It is known to cause **potential health hazards**, including skin and eye irritation, respiratory issues, and debated carcinogenicity.
- Rhodamine B is considered **substandard and unsafe under the Food Safety and Standards Act, 2006**.
- Although **banned by the Food Safety and Standards Authority of India (FSSAI)**, the presence of this chemical has been found in foods including the fruits and vegetables sold in the market to the dishes served by street vendors.



- In 2024, the **Tamil Nadu** government banned cotton candy as a large number of cotton candy samples collected from the state were identified with Rhodamine B.
- Following Tamil Nadu's lead, other Indian states and territories have taken similar measures.

KEY TAKEAWAYS FROM OTHER ARTICLES

1) INDIA'S NON-FOSSIL FUEL-BASED ENERGY CAPACITY CROSSED 200 GW

News:

- India is making significant strides in solar and wind energy capacity with a commitment to achieving **500 gigawatts of non-fossil fuel-based energy capacity by 2030**.
- The country's non-fossil fuel-based energy capacity has crossed **200 gigawatts**.
- **Solar energy** remained the dominant contributor to the country's renewable energy growth, accounting for **47 percent of the total installed renewable energy capacity**.
- **Rajasthan, Gujarat, and Tamil Nadu** emerged as the top-performing states, contributing 71 percent of the country's total utility-scale solar installations.

2) DECLINE IN INDIA'S RURAL POVERTY TO 4.86%

News:

- According to the **State Bank of India's research on the consumption expenditure survey**, **India's rural poverty has declined significantly to 4.86 per cent** in the financial year 2023-24, compared to 25.7 per cent in the financial year 2011-12.
- **Urban poverty** has fallen to **4.09 percent** from 13.7 per cent over the last twelve years.
- The research also highlighted that the **gap between rural and urban monthly per capita consumption expenditure (MPCE)** has now **narrowed to 69.7 per cent**, a sharp decline from 88.2 per cent in 2009-10.

3) CRYPTOGRAPHY

About

- Cryptography is the name for techniques that **secure information** by **converting plain text into ciphertext** (encrypted data that is unreadable until it is decrypted).
- Cryptography is most often associated with scrambling plaintext (ordinary text) into ciphertext (a process called **encryption**), then back again (known as **decryption**).
- Only the sender and the receiver can understand the encrypted message and a malicious actor who interferes with the communication can't understand it.
- Cryptography is an essential **cybersecurity tool**. It ensures confidentiality, authentication and integrity of data.

4) ZOJILA PASS

About

- Zojila Pass is a high-altitude mountain pass situated in the Union Territory of **Ladakh**.
- It **connects Srinagar in Jammu & Kashmir with Leh**.
- The pass remains **closed for much of the year** due to heavy snowfall.
- **Zojila Tunnel**: It is an under construction tunnel project through the Zojila Pass at an altitude of 11,578 feet on the Srinagar-Kargil-Leh National Highway. The tunnel, said to be the **longest of its kind in Asia**, will provide an **all weather connectivity between Srinagar and Leh**.

5) CHILLAI KALAN

About

- Chillai Kalan refers to the **harshest winter spell** that **Kashmir Valley** experiences for **40 days** between December 21 and January 29 every year.

- This period is characterized by severe cold, frequent snowfall and temperatures that often plunge below freezing. The snowfall leads to the **freezing of water bodies** like the **Dal Lake** causing water supply lines to freeze, disrupting daily life.

6) PIEZOELECTRIC MATERIALS

About

- Piezoelectric materials are materials that **produce an electric current** when they are placed under **mechanical stress**.
- The piezoelectric process is **reversible**. When these voltage-generating crystals are exposed to an electric field they get lengthened or shortened (change shape).
- Thus, piezoelectric materials enable a **direct conversion between electrical and mechanical energy**.
- **Examples:**
 - **Naturally occurring crystals** such as Quartz, Topaz, Tourmaline, Rochelle salt, and cane sugar.
 - **Man-made materials** such as lithium sulfate, polarized ferroelectric ceramics such as the lead zirconate titanate (PZT), polyvinylidene fluoride (PVDF).
- **Applications:** Piezoelectric materials are used in sensors, actuators, piezoelectric igniters, microphones, micro robotics, motors, etc.

7) LAB GROWN DIAMONDS

About

- Lab-grown diamonds are **diamonds created in a laboratory environment rather than being mined from the Earth**.
- It is also known as **synthetic diamonds or cultured diamonds**.
- Both natural and lab-grown diamonds are composed of **pure carbon atoms** arranged in a **specific crystal structure**.
- Lab grown diamonds have a significantly **smaller environmental footprint** compared to mined diamonds, **more affordable** than natural diamonds of comparable size and quality as the **production cost is less** and can be **tailored to preferences** allowing for unique and personalised jewellery.



8) LA PEROUSE EXERCISE

News:

- The Navies of **nine Indo-Pacific countries, including India**, took part in **La Perouse Exercise**.
- La Perouse is a **multilateral exercise hosted by France** in the strategic **straits of Malacca, Sunda, and Lombok**, between the Indian Ocean and the Pacific Ocean.
 - **Malacca Strait:** Connects South China Sea (Pacific Ocean) to Andaman Sea (Indian Ocean)



- **Sunda Strait:** Connects Java Sea to the Indian Ocean
- **Lombok Strait:** Connects Bali Sea to the Indian Ocean.

9) PHOS-CHEK

About

- Phos-Chek is a **pink colored aerial fire suppressant** recently used by the U.S. government to combat the **California wildfire**.
- Phos-Chek is generally a **mixture of water, ammonium phosphate**—essentially fertilizer—and **iron oxide**, which is added to make the pink flame retardant visible.
- The retardant is typically sprayed around a wildfire on vegetation and land that is fire-prone to **stop the flames from spreading to that area**.
- It is generally considered safe for people, but many worry about their **potential effects on wildlife**.

10) MAHA KUMBH MELA

News:

- The Maha Kumbh Mela, the **world's largest religious gathering**, has begun in **Uttar Pradesh's Prayagraj**.
- The 2025 Maha Kumbh Mela holds special significance as it marks the **completion of 12 Kumbh Mela cycles**, which takes place **once in 144 years**.
- It is ordained by a **rare alignment of the Moon, Sun, Mercury and Jupiter**.
- The grand event is highly sacred, with **holy dip**, being its highlight.
 - *Refer Pulse Digest August 2024 edition for more details about Kumbh Mela.*

11) PRECISION MEDICINE

About

- Precision medicine, sometimes known as "**personalized medicine**", is an innovative approach that **tailors medical treatment and prevention strategies based on an individual's genetic profile, lifestyle, and environment**.
- The goal of precision medicine is to target the right treatments to the right patients at the right time.
- Unlike traditional medicine, which follows a one-size-fits-all approach, precision medicine **personalises healthcare based on individual differences**.

12) BIOBANKS

About

- A biobank is a **repository of biological samples**, such as blood, DNA, cells, tissues, and/or organs alongside their genetic data.
- These samples are collected from **consenting individuals** and **intended for use in research**.
- There are **19 registered biobanks in India** host to many biological specimens, including cancer cell lines and tissues.