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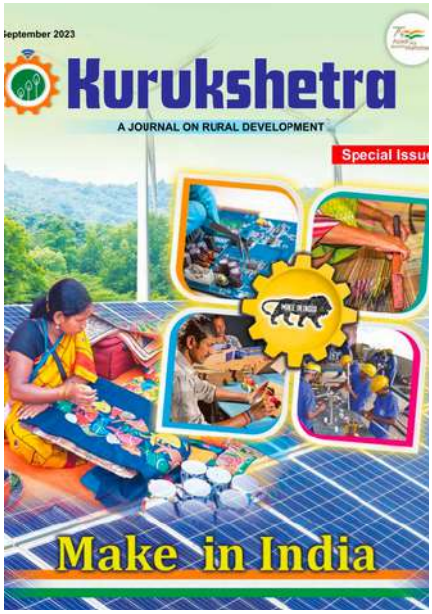

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Schemes

1) PM Vishwakarma scheme

About	• PM Vishwakarma is a **Central Sector Scheme** launched recently to **provide end-to-end support to artisans and craftspeople who work with their hands and tools.**
Aim	• To improve the **quality** as well as the **reach of products and services** of artisans and craftspeople and to ensure that they are **integrated with the domestic and global value chains.**
Nodal Ministry	• **Ministry of Micro, Small & Medium Enterprise**
Features	• It is a new scheme with an outlay of **Rs 13,000 crore** and is **fully funded by the Central government.** • The scheme will provide support to artisans and craftspeople of **rural and urban areas** across India. • **Eighteen traditional crafts** will be covered under PM Vishwakarma. These include (i) Carpenter; (ii) Boat Maker; (iii) Armourer; (iv) Blacksmith ; (v) Hammer and Tool Kit Maker; (vi) Locksmith; (vii) Goldsmith; (viii) Potter; (ix) Sculptor, Stone breaker; (x) Cobbler (Shoesmith/ Footwear artisan); (xi) Mason (Rajmistri); (xii) Basket/Mat/Broom Maker/Coir Weaver; (xiii) Doll & Toy Maker (Traditional); (xiv) Barber; (xv) Garland maker; (xvi) Washerman; (xvii) Tailor; and (xviii) Fishing Net Maker.
Benefits	• The Scheme envisages provisioning of the following benefits to the artisans and craftspersons: ○ **(i) Recognition:** Recognition of artisans and craftspeople through PM Vishwakarma certificate and ID card. ○ **(ii) Skill Upgradation:** Basic Training and Advanced Training, with a stipend of Rs. 500 per day; ○ **(iii) Toolkit Incentive:** A toolkit incentive of upto Rs. 15,000 in the form of e-vouchers at the beginning of Basic Skill Training. ○ **(iv) Credit Support:** Collateral free 'Enterprise Development Loans' of upto Rs. 3 lakh at a concessional rate of interest. ○ **(v) Incentive for Digital Transaction:** An amount of Re. 1 per digital transaction, upto maximum 100 transactions monthly for each digital pay-out or receipt. ○ **(vi) Marketing Support:** Marketing support in the form of quality certification, branding, onboarding on e-commerce

	platforms, advertising, publicity, etc.
Why in the news?	• The Government of India has launched Pradhan Mantri Vishwakarma Yojana (PMVY) to **equip craftspeople with the technology to augment their skills for the modern market.**

2) RoDTEP scheme

About	• The government introduced the **Remission of Duties and Taxes on Exported Products (RoDTEP) scheme in 2021.**
Aim	• To **neutralize the taxes and duties suffered on exported goods** which are otherwise not refunded in any manner.
Nodal Ministry	• **Ministry of Commerce and Industry**
Features	• RoDTEP is a **World Trade Organization (WTO) compliant Scheme** and follows the global principle that the taxes/duties should not be exported, they should be either exempted or remitted to exporters, to make the goods competitive in the global market. • This scheme **reimburses currently un-refunded Central, State, and Local taxes and duties** incurred in the process of manufacture and distribution of exported products. • Major components of taxes covered are **electricity duty, value-added tax (VAT) on fuels used in transportation/ distribution, mandi tax, stamp duty, etc.** • The rebate is issued as a **transferable electronic scrip** by the **Central Board of Indirect Taxes & Customs (CBIC)** in an end to end IT environment. • Rebates under the Scheme are not available in respect of duties and taxes already exempted or remitted or credited.
Why in the news?	• Exporters have sought more benefits for value-added goods under the government's flagship Remission of Duties and Taxes on Exported Products (RoDTEP) scheme.

3) Extension of Pradhan Mantri Ujjwala Yojana

About PMUY

- The **Ministry of Petroleum & Natural Gas** launched PMUY in 2016 to **provide clean cooking fuel to poor households.**
- It aimed at providing **8 crore deposit free LPG connections to poor households.** The connections are issued in the **name of women** of the households.
- The scheme increases the usage of LPG and helps in **reducing health disorders, air pollution and deforestation**.
- Initially, the beneficiaries were identified through Socio Economic Caste Census (SECC), 2011 data. The **scope of PMUY has now been expanded to cover all the poor families in the country** subject to fulfilling the terms and conditions.
- Under the scheme, **cash assistance of Rs. 1600** is given to the beneficiaries to get a deposit-free new connection. Further, **interest free loans** are provided to purchase a stove and refill by Oil Marketing Companies.

PMUY 2.0

- In 2021, the Government of India launched the second phase of Pradhan Mantri Ujjwala Yojana - Ujjwala 2.0.
- Under Ujjwala 2.0, **a provision for an additional 1.6 crore LPG connection** was announced to provide **deposit-free LPG connections to those low-income families who could not be covered under the earlier phase of the scheme.**
- Along with a deposit free LPG connection, Ujjwala 2.0 **provides first refill and hotplate free of cost to the beneficiaries.** A **targeted subsidy of Rs.200** per 14.2 kg LPG cylinder for upto 12 refills per year is also provided to PMUY consumers.

Why in News?

- The Union Cabinet has approved the extension of Pradhan Mantri Ujjwala Yojana for release of **75 lakh additional LPG connections** over three years from Financial Year 2023-24 to 2025-26.
- The government has also raised the subsidy amount for PMUJ beneficiaries from ₹200 to **₹300 per LPG cylinder.**

Impacts of the Scheme

- According to the **World Health Organization (WHO),** approximately one-third of the global population rely on open fires or inefficient stoves fuelled by kerosene, biomass and coal for cooking.
- This leads to harmful household air pollution, contributing to an **estimated 3.2 million deaths annually.** Non-renewable wood fuels for cooking cause a gigaton of CO2 emissions, and burning residential solid fuels comprise **58 percent of black carbon emissions.** They are also a **significant contributor to household air pollution (HAP)** due to incomplete combustion of solid biomass.
- Research also indicates that this is a **gender problem:** girls and women face increased exposure to solid fuels.
- The PMUY scheme has **empowered women economically and socially.** With easier access to LPG, women are no longer burdened with the task of collecting firewood or other traditional fuels, which often required long and laborious journeys.
- This allows them to participate more actively in community life

and take up other income-generating opportunities.

Initiatives to expand LPG coverage

- **PAHAL (Pratyaksh Hastantarit Labh):** Instead of providing LPG cylinders at subsidized price, those were sold at market price, and applicable subsidy was **directly transferred to individual's bank account electronically.** This **reduced "ghost" accounts and illegal use of household cylinders** for commercial purposes, ensuring that only the intended beneficiaries receive the benefits.
- **GIVE IT UP campaign:** Instead of removing subsidies forcefully, **people were encouraged to voluntarily surrender their subsidies.** Through extensive promotion, millions of people willingly gave up the subsidies, which helped redirect the funds to those who genuinely needed assistance in acquiring LPG cylinders.

Initiatives

1) PM MITRA Parks

About	• The Government of India is setting up PM Mega Integrated Textile Region and Apparel (PM MITRA) Parks to **boost the textiles sector.** • The Parks will come up in Tamil Nadu, Telangana, Gujarat, Karnataka, Madhya Pradesh, Uttar Pradesh and Maharashtra.
Nodal Ministry	• **Ministry of Textiles**
Implementation	• **Special purpose vehicles,** with a **51% equity shareholding of the State government and 49% of the Centre**, will be formed for each park. • The **State governments** will provide the land, be part of the SPV, and give the required clearances. • The **Central government** will disburse **Development Capital Fund of ₹500 crore** in two tranches for each of the seven facilities. This is for the creation of core and support infrastructure. • It will also give a **Competitive Incentive Support of ₹300 crore per park** to be provided to the manufacturing units.
Benefits/ Significance	• PM MITRA would provide an opportunity to develop an **integrated textiles value chain at one place**, starting with spinning, weaving, processing/dyeing, printing, and garment manufacture. • It would lead to the **creation of 20 lakh jobs**. • The Central government's budget outlay for the scheme, which is ₹4,445 crore, is to be spent till **2027-28.**
Why in the news?	• Foundation stones of 2 PM-MITRA mega textile parks were recently laid in Maharashtra and Gujarat.

2) Ayushman Bharat Digital Mission

About	• The Ayushman Bharat Digital Mission (ABDM) was launched by the Government of India in 2020 for **promoting digitization of healthcare** and creating an **open interoperable digital health ecosystem** for the country.
Nodal Ministry	• **Ministry of Health and Family Welfare**
Features	• ABDM will create certain core building blocks or modules such as registries of individuals/citizens/patients (**Health ID registry**), registry of healthcare professionals (**Healthcare Professionals Registry**) and registry of healthcare facilities including hospitals, laboratories, pharmacies, etc (**Health Facility Registry**). In these registries, each of these entities is provided with a **unique identifier** across the ecosystem.
Eligible beneficiaries	• **Any individual can enroll** in ABDM to generate a Health ID (https://healthid.ndhm.gov.in/). **Healthcare professionals** recognized by Indian authorities can register on the Healthcare Professionals Registry (HPR) (https://hpr.ndhm.gov.in/en). **Health facilities** can register themselves on the Health Facility Registry (HFR) (https://facility.ndhm.gov.in/). • Participation in ABDM is **voluntary** including for citizens. Participation of a healthcare facility or an institution is also **voluntary** and shall be taken by the respective management (government or private management).
Implementation	• The **National Health Authority (NHA)** has been given the mandate by the government to design, build, roll-out and implement the ABDM in the country. ○ *NHA is an attached office of the Ministry of Health and Family Welfare with full functional autonomy.*
Benefits	• Patients will be able to **securely store and access their medical records** and share them with health care providers to ensure appropriate treatment and follow-up. • Further, they will have the **option to access health services remotely** through **tele-consultation and e-pharmacy.** • ABDM will empower individuals with accurate information to enable informed decision making and **increase accountability of healthcare providers.** • Similarly, health care professionals across disciplines will have

	better access to a patient's medical history (with the necessary informed consent) for prescribing more appropriate and effective health interventions. • It will bridge the existing gap amongst different stakeholders of the healthcare ecosystem through **digital highways.**
Why in the news?	• Uttar Pradesh has created over 4.7 crore Ayushman Bharat Health Accounts (ABHA) under the Ayushman Bharat Digital Mission.

Environment

1) Biological Diversity (Amendment) Bill, 2021

About Biological Diversity Act, 2002

- The Biological Diversity Act (BDA) aims at the **conservation of biological resources, managing its sustainable use and enabling fair and equitable sharing benefits** arising out of the use and knowledge of biological resources with the local communities.
- The Act was enacted to meet the obligations under **Convention on Biological Diversity (CBD)**, to which **India is a party.**

Salient features of the Act

- The Act provides for setting up of a **National Biodiversity Authority (NBA)**, **State Biodiversity Boards (SBBs)** and **Biodiversity Management Committees (BMCs)** in local bodies.
- The NBA deals with all matters relating to **requests for access by foreign individuals, institutions or companies**, and transfer of results of research to any foreigner. Its **approval will be required** before obtaining any intellectual property right on an invention based on a biological resource from India, or on its traditional knowledge.
- The State Biodiversity Boards (SBBs) constituted by the State Governments deal with all matters relating to **access by Indians for commercial purposes.**
- The Act provides for **sharing of benefits with conservers of biodiversity and holders and creators of associated knowledge.**
- Benefits may be shared in various forms such as:
  (i) monetary compensation,
  (ii) sharing of intellectual property rights, or
  (iii) technology transfer.
- Any offence under this Act is **non-bailable and cognizable.**

Why in News?

- The Parliament has passed the **Biological Diversity (Amendment) Bill, 2021** which **amends the Biological Diversity Act, 2002**.
- The Bill aims to **simplify compliance requirements for domestic companies** and **encourage Indian systems of medicine.**

Need for amendments

- Over the years, several stakeholders, like those representing the Indian system of medicine, the seed sector, pharmaceutical and other industries, and the research community, have pointed out that some of the provisions of the 2002 law **restricted their activities**, and thus needed to be modified.
- Over the last few years, the government too has been trying to **encourage traditional systems of medicine**, all of which rely on these biological resources.

Highlights of the Bill

- The Bill amends the **Biological Diversity Act, 2002** to **simplify compliance requirements for domestic companies.**
- **Users of codified traditional knowledge and AYUSH practitioners** will be **exempted from sharing benefits with local communities.**
- The 2002 Act provides that the **terms for benefit sharing** should be in accordance with the mutually agreed terms and conditions

between the **applicant, local bodies concerned, and the benefit claimers.** Benefit claimers are conservers of biodiversity, or creators or holders of associated traditional knowledge.
- The Bill instead provides that the terms should be in accordance with the mutually agreed terms between the **applicant** and the **Biodiversity Management Committee (BMC) represented by NBA.**
- The Bill **removes research and bio-survey activities from the purview of benefit sharing requirements.**
- The Bill **decriminalises offences** under the Act and makes offences punishable with a **penalty between one lakh rupees and Rs 50 lakh.** Continuing contravention may attract an **additional penalty of up to one crore rupees.**

Key Issues and Analysis

- The **term codified traditional knowledge has not been defined**. A broad interpretation might exempt all local traditional knowledge from benefit sharing requirements.
- The Bill **removes the direct role of local communities and benefit claimers** in determining benefit sharing provisions.
- Further, there is **no provision** for a mechanism for obtaining **prior informed consent of the local and indigenous communities.**
- The Bill decriminalises offences under the Act and instead provides for a **wide range of penalties.** Further, the Bill **empowers government officials** to hold inquiries and determine penalties. It may be **questioned whether it is appropriate to confer such discretion** to government officials.

2) Gujarat bans Invasive species

Invasive Alien species

- Any **non-native species** that significantly **modifies** or **disrupts** the ecosystems it colonizes is referred to as **invasive** in nature.
- **Not all non-native species are invasive.** For example, most of the food crops grown in India, including onion, potato and tomatoes are not native to the region. Species are described as 'invasive' if they are **ecologically and/or economically harmful.**
- Common characteristics of invasive species include:
    - **Rapid reproduction** and growth,
    - High **dispersal ability**,
    - **Phenotypic plasticity** (ability to adapt physiologically to new conditions), and
    - **Ability to survive** in a wide range of environmental conditions.
- Some of the most serious invasive species in India are **Alternanthera philoxeroides, Cassia uniflora, Chromolaena odorata, Eichhornia crassipes, Lantana camara, Parthenium hysterophorus and Prosopis juliflora, Senna Sepctabilis,** etc.

Invasive Alien Species - a cause of concern

- Forest-invasive species can supplant **native plants, eliminate food and cover for wildlife** and threaten rare plant and animal species.
- The **impact of globalisation** leading to the increased movement of people, trade and deforestation have led to the introduction of invasive species in the **indigenous environment** in massive quantities.

- The spread of invasive species is alarming and is **wiping out local native species** like grasses and other herbaceous species. As a result, the **local food chain is affected** with the invasive species competing for space and light with native flora.
- Eg: The widespread prevalence of invasive species like **Lantana camara** has reduced the proportion of natural grasses for herbivorous animals forcing their movement to human habitats in search of paddy crops and other edible items.
- These species can **change the functions of ecosystems** and **increase losses in forestry and natural resource management costs** as well as being a **potential threat to livestock health.**
- The unchecked growth of invasive species affects **soil health**, which is prone to faster deterioration.

Why in News?

- The Gujarat government has banned the planting of **Conocarpus trees** in both forest and non-forest areas due to the adverse impacts posed by it on native habitats.

Conocarpus Trees

- **Conocarpus trees** are **evergreen, fast growing trees.**
- They are native to parts of **North and South America**, as well as parts of **Africa**.
- Conocarpus trees are often found growing in **saline** or **brackish coastal environments,** making them highly adaptable to various soil conditions.
- Due to their adaptability and resistance to pollutants, Conocarpus trees are often planted along urban streets, parks, and highways, contributing to **urban greenery** and **beautification.**

Threats posed by Conocarpus trees

- Conocarpus trees can rapidly **colonize natural habitats**, displacing native vegetation. This hinders the growth of native plants and disrupts the **natural ecosystem balance.**
- Conocarpus trees can **change soil composition** by altering **nutrient levels** and **acidity**, making the soil less suitable for native plants.
- These trees are known to consume significant amounts of water, potentially leading to **localized water depletion**.
- The accumulation of dry leaves and branches in Conocarpus stands can increase the **risk of wildfires.**
- **Pollen** from the trees have been found to trigger **health issues** like **cold, cough, asthma,** and **allergies.**

3) Heatwaves

About heat waves

- Qualitatively, heat wave is a condition of air temperature which becomes **fatal to human body** when exposed. Quantitatively, it is defined based on the **temperature thresholds over a region** in terms of actual temperature or its departure from normal.
- Heat Waves typically occur between **March and June**, and in some rare cases even extend **till July.**

Criteria for heat waves

- The **Indian Meteorological Department (IMD)** has given the following criteria for Heat Waves :

- Heat wave is considered if the maximum temperature of a station reaches **at least 40°C or more for Plains and at least 30°C or more for Hilly regions;**
- **Based on Departure from Normal**
  - Heat Wave: Departure from normal is 4.5°C to 6.4°C
  - Severe Heat Wave: Departure from normal is >6.4°C
- **Based on Actual Maximum Temperature**
  - Heat Wave: When actual maximum temperature ≥ 45°C
  - Severe Heat Wave: When actual maximum temperature ≥47°C
- **For coastal regions,** when maximum temperature departure is 4.5°C or more from normal, Heat Wave may be described provided the actual maximum temperature is 37°C or more.

Duration of a heatwave spell

- A heatwave spell generally lasts for a **minimum of four days** and on some occasions, it can **extend up to seven or ten days.**

Impacts

- The health impacts of Heat Waves typically involve **dehydration, heat cramps, heat exhaustion and/or heat stroke.** The extreme temperatures and resultant atmospheric conditions adversely affect people living in these regions as they cause **physiological stress, sometimes resulting in death.**
- Heatwaves can also **increase strain on water, energy and transportation** resulting in power shortages or even blackouts. **Food and livelihood security** may also be strained if people lose their crops or livestock due to extreme heat.
- Multiple areas of the economic sector experience **reduced worker productivity during heatwaves,** especially agriculture and construction.
- Heatwaves, without concomitant increases in precipitation, can lead to **water shortages and increased stress for plants,** particularly in arid regions. This has the effect of reducing plant growth, the basis of energy production and the food chain, with an overall drying-out of the landscape.

Vulnerable Regions

- Heat waves are common over the **Core Heatwave Zone (CHZ) —** Rajasthan, Punjab, Haryana, Chandigarh, Delhi, West Madhya Pradesh, Uttar Pradesh, Chhattisgarh, Orissa, Vidarbha in Maharashtra, parts of Gangetic West Bengal, Coastal Andhra Pradesh and Telangana, **as categorised by India Meteorological Department.**
- The regions in the **extreme north, northeast and southwestern India are less prone to heatwaves.**

Why in News?

- The India Meteorological Department (IMD) has indicated an **increasing trend in the number and duration of heatwaves,** based on data from March to June from 1961 to 2020.
  - *IMD was established in 1875. It functions under the Ministry of Earth Sciences (MoES).*
  - *It is the National Meteorological Service of the*

country and the principal government agency in all matters relating to meteorology and allied subjects.

Causes for increasing heatwave events in the country

- According to IMD, the **average temperature** in India has **increased by approximately 0.6°C** over the last century. Thus global warming has resulted in increasing heat waves.
- **Clear skies, low humidity**, and **lack of wind** are favorable conditions for heatwaves formation as they result in an increase in temperature.
- The **urban heat island effects** can make ambient temperatures feel 3 to 4 degrees more than they are.
    - *Urban Heat Islands refer to areas within urban or metropolitan regions that experience significantly higher temperatures than their surrounding rural areas.*
- More heat waves are expected as **global temperatures have risen by an average of 0.8 degrees** in the past 100 years.

4) Namami Gange Mission

About the Mission

- Namami Gange Mission is a **holistic and integrated river rejuvenation programme not just to clean River Ganga but restore its entire riverine ecosystem.**
- It was launched in 2014-15.
- Namami Gange is premised on the **five important pillars** of –
    - **Nirmal Ganga** (unpolluted river),
    - **Aviral Ganga** (unrestricted flow),
    - **Jan Ganga** (People's Participation),
    - **Gyan Ganga** (knowledge and research based interventions) and
    - **Arth Ganga** (people-river connect through the bridge of economy).
- The program is implemented by the **National Mission for Clean Ganga (NMCG).**

Why in News?

- Under the Namami Gange Programme, a total of 442 projects have been taken up so far.

Related Information

About NMCG

- National Mission for Clean Ganga is registered as a society under the **Societies Registration Act 1860.**
- NMCG aims to **ensure effective abatement of pollution and rejuvenation of the river Ganga** by adopting a river basin approach to promote inter-sectoral co-ordination for comprehensive planning and management.
- It also aims to **maintain minimum ecological flows** in the river Ganga with the aim of ensuring water quality and environmentally sustainable development.

5) Montreal Protocol

About

- The **Montreal Protocol on Substances that Deplete the Ozone Layer** is an international environmental treaty that **regulates the production and consumption of nearly 100 man-made chemicals** referred to as **ozone depleting substances (ODS)** including **chlorofluorocarbons (CFCs), halons and hydrochlorofluorocarbons (HCFCs).**

- The **stratospheric ozone layer protects humans and the environment from harmful levels of ultraviolet radiation from the sun**. The widespread use of ODS had caused a **hole** in the Ozone layer of the atmosphere, which allowed some harmful radiation to reach the earth. These radiations were considered potential health hazards.
- Adopted in **1987**, the Montreal Protocol is the **only UN treaty that has been ratified by every country.**
- Under this treaty, all parties have specific responsibilities related to the phase out of the different groups of ODS, control of ODS trade, annual reporting of data, national licensing systems to control ODS imports and exports, and other matters.
- Developing and developed countries have **equal but differentiated responsibilities** along with **binding, time-targeted and measurable commitments.**
- The Montreal Protocol has been a **far more effective and successful agreement** than the climate change instruments. It has already **resulted in the phase-out of nearly 99% of ozone-depleting substances.**

About Hydrofluorocarbons

- Hydrofluorocarbons (HFCs) are a **group of industrial chemicals** primarily used for **cooling and refrigeration.**
- HFCs are **powerful greenhouse gases** and a substantial number are **short-lived climate pollutants** with a lifetime of between 15 and 29 years in the atmosphere.
- HFCs are widespread in **air conditioners, refrigerators, aerosols, foams and other products.**
- HFCs were introduced as **non-ozone depleting alternatives** to support the timely **phase out of CFCs and HCFCs under Montreal Protocol.**
- While these chemicals **do not deplete the stratospheric ozone layer**, HFCs were found to be extremely potent in causing global warming. Some of them have **high Global Warming Potentials (GWPs) ranging from 12 to 14,000.**
- So, the HFCs solved one problem, but were contributing in a major way to another. But these could not be eliminated under the original provisions of Montreal Protocol which was meant to phase-out ozone-destroying chemicals only. The **Kigali Amendment** enabled

the Montreal Protocol to **mandate the elimination of HFCs as well.**

Kigali Agreement

- The Parties to the Montreal Protocol reached an agreement at their 28th Meeting of the Parties in 2016 in Kigali, Rwanda.
- The Agreement particularly aims at **phasing out the production and consumption of Hydrofluorocarbons** which were first introduced as a substitute to ODSs namely CFCs and Hydrochlorofluorocarbons HCFCs.
- Parties to the agreement agreed to **curtail the use of HFC by at least 85 per cent before the middle of this century.**
- Countries have **different timelines** to do this. **India** has to achieve this target by **2047** while the developed countries have to do it by 2036. China and some other countries have a target of 2045.
- The agreement came into force on **1st January 2019** and has been ratified by more than **130 countries** (including **India**) so far.
- Kigali Agreement **legally binds the signatory countries** with non-compliance measures.

Why in News?

- The Gulf Cooperation Council (GCC) members reached a consensus to proceed with the ratification of the Kigali Amendment to the Montreal Protocol.
- The Kigali Amendment will help curb up to 0.4°C of global warming in this century while continuing to protect the ozone layer.

About GCC

- The Gulf Cooperation Council is a **political and economic union of Arab states bordering the Gulf.**
- It was established in 1981 and its 6 members are the **United Arab Emirates, Saudi Arabia, Qatar, Oman, Kuwait and Bahrain.**
- The official language is **Arabic**.
- The GCC Charter states that the basic objectives are to have coordination, integration and inter-connection between Member States in all fields, strengthening ties between their peoples, formulating similar regulations in various fields such as economy, finance, trade, customs, tourism, etc.

Flora & Fauna

1) Gangetic Dolphin

About

- The **Ganges river dolphin** (*Platanista gangetica gangetica*), commonly known as *susu*, is one of the five river dolphins found in the world. The species is found in the **Ganga** and **Brahmaputra river basins** of **India, Nepal** and **Bangladesh.**
- The presence of the Dolphin in a river system **signals its good health and biodiversity.**
- The calves are chocolate brown at birth and become grayish brown in adulthood with a smooth and hairless skin. **Females are larger than males.**
- The Ganges river dolphins **can only live in freshwater** and are **essentially blind.** Instead they use **echolocation to detect food and navigate**, and, to a very small extent, **communication.**
- The Indian government has declared the Ganges river dolphin as the **National aquatic animal.**
- **Vikramshila Gangetic Dolphin Sanctuary**, located in Bihar, is dedicated to the conservation of the species.

Threats:

- Despite being a protected species under the **Wildlife Protection Act, 1972**, its numbers had dwindled over the last century due to **indiscriminate fishing, poaching and development of barrages** and dams along with the habitat of the dolphins.
- Their population is estimated to be less than **2000 individuals.**

Protection Status:

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

Why in News?

- A recent study has revealed that irrigation canals of the Ganga-Ghagra basin in Uttar Pradesh pose a threat to Gangetic river dolphins causing risk of injury or death.

Threats posed to Gangetic dolphins

- Dams, barrages, and other water infrastructure projects **disrupt the natural flow of rivers**, leading to **habitat fragmentation and loss.**
- Increased **boat traffic** in rivers leads to a **higher risk of collisions** between dolphins and boats, causing injuries or fatalities.
- The canals create **artificial waterways** that may lead dolphins away from their natural river channels. These dolphins can become **trapped in the canals,** as the structures may not provide easy exit points for them.
- Canals in the Ganga-Ghagra Basin can be exposed to **intense sunlight**, Dolphins are **sensitive to temperature changes,** and exposure to hot water can cause **heat stroke** and **distress.**

Ghagra Basin

- **Ghaghara River** is a major **left-bank tributary** of the **Ganges River.**
- It rises as the **Karnali River** in the high Himalayas of southern **Tibet Autonomous Region** and flows southeast through Nepal.

- It flows southeast through **Uttar Pradesh** and **Bihar** to enter the **Ganges**.

2) Desiccation tolerant Vascular plants

What's in the news?

- In the biodiversity hotspot Western Ghats, researchers have found 62 species of plants that can **withstand harsh environments.**
- The discovery of the species, called **desiccation-tolerant (DT) vascular plants**, has potential applications in agriculture, particularly in areas where water is scarce.

What are Desiccation tolerant vascular plants?

- The term **"desiccation"** refers to the process of **drying out** or **losing moisture.** DT plant varieties are known for entering a **state of dormancy and reviving** when water becomes available again. These plants can **survive in harsh, arid environments** that would be uninhabitable for most others.
- DT plant varieties are found in **both temperate and tropical climates.** The global population of these species ranges between 300 and 1,500.
- While the **Western Ghats** is known for its **high rainfall, certain areas** within the region can experience **temporary water stress** during dry periods.

Adaptive Mechanisms

- Many desiccation-tolerant plants have **specialized succulent stems, leaves, or roots** that can store and retain water during periods of drought.
- A **waxy or thick cuticle** on the surface of leaves helps reduce water loss by forming a barrier that **prevents excess evaporation.**
- These plants have **extensive root systems** that reach deep into the soil to tap into **groundwater** sources during dry periods.
- Some plants enter a **state of dormancy** during **extreme dry periods**, reducing their **metabolic activity** and **conserving energy** and **water.**

Significance of the Findings

- The Western Ghats, **one of the 36 biodiversity hotspots in the world,** comprises 1,600 km-long ranges running through **Gujarat, Maharashtra, Goa, Karnataka, Tamil Nadu and Kerala,** and covers a total area of 1.60 lakh sq km.
- The findings underline the importance of Western Ghats and as a global desiccation tolerant hotspot.

3) Vaquita Porpoise

About Vaquita Porpoise

- The vaquita porpoise is the **world's smallest marine mammal.**
- Measuring up to five-feet long, it has a rounded head and black patches around its mouth and eyes. It is frequently described as the "**panda of the sea**" because of its distinctive appearance.
- The vaquita is found in a limited area in the **northern Gulf of California (Sea of Cortez)** in **Mexico**, particularly in **shallow, coastal waters** with a depth range of 20 to 50 meters.

Protection Status:

- IUCN Red List: **Critically Endangered**; CITES: **Appendix I**.

Why in News?

- The International Whaling Commission (IWC) issued its first 'extinction alert' on the Vaquita Porpoise whose population is estimated to have shrunk to less than a dozen.

Threats faced by Vaquita Porpoise

- The main threat to the vaquita is **illegal fishing**, particularly the **use of gillnets** intended to catch another **endangered species**, the **totoaba fish,** whose swim bladder is highly valued in **traditional Chinese medicine.**
- Vaquitas often become entangled in these **illegal gillnets set** for totoaba, resulting in **injury** or **death.**
- Pollution from **agricultural runoff, industrial discharge,** and other sources can have detrimental effects on the vaquita's food sources and environment.
- Changes in **ocean temperature, sea level rise**, and **altered prey availability**, are other factors that disrupt the vaquita's habitat.

Related Information

About IWC

- The International Whaling Commission was established under the **1946 International Convention for the Regulation of Whaling** to provide for the **proper conservation of whale stocks and orderly development of the whaling industry.**
- The Commission also conducts activities related to **cetacean (e.g., whale, dolphin) conservation.**
- Currently, there are 88 contracting governments (including **India**).

Agriculture

1) Kisan Credit Card Scheme

About	• The Kisan Credit Card (KCC) scheme was introduced in **1998** to meet comprehensive credit requirements of the farmers.
Aim	• To provide **adequate and timely credit support** to the farmers for their cultivation and other needs as indicated below a. To meet the short term credit requirements for cultivation of crops; b. Post-harvest expenses; c. Produce marketing loan; d. Consumption requirements of farmer household; e. Working capital for maintenance of farm assets and activities allied to agriculture; f. Investment credit requirement for agriculture and allied activities. • ***Note:*** The aggregate of components 'a' to 'e' above will form the **short term credit limit portion** and the aggregate of components under 'f' will form the **long term credit limit portion.**
Nodal Ministry	• **Ministry of Agriculture & Farmers' Welfare**
Features	• Under the KCC Scheme, a **flexible limit of Rs.10,000 to Rs.50,000** has been provided to marginal farmers (as Flexi KCC) based on the land holding and crops grown. • The beneficiaries under the scheme will be issued with a **Smart card/ Debit card.** • It enables farmers to purchase agricultural inputs such as seeds, fertilizers, pesticides, etc. and draw cash to satisfy their agricultural and consumption needs. • Cards issued under the scheme are **valid for 5 years subject to annual review.** • The Government of India provides **interest subvention** and **Prompt Repayment Incentive** to the farmers under KCC scheme.
Eligible beneficiaries	• **Farmers** - individual/joint borrowers who are owner cultivators; • **Tenant farmers, oral lessees & sharecroppers;** • **Self Help Groups (SHGs) or Joint Liability Groups (JLGs)** of farmers including tenant farmers, sharecroppers etc.

	• In 2019, KCC was extended to **farmers who are involved in activities related to animal husbandry and fisheries.**
Implementation	• The Scheme is implemented by **Commercial Banks, RRBs, Small Finance Banks and Cooperatives.**
Why in the news?	• The Government of Tamilnadu conducted special camps across the state to create awareness on the Kisan Credit Card scheme.

Economy

1) RBI to discontinue I-CRR

What's in the news?

- RBI has decided to discontinue **Incremental Cash Reserve Ratio (I-CRR)** in a phased manner.
- I-CRR was introduced in August 2023 to **absorb surplus liquidity** following the withdrawal of 2,000 rupees currency notes.
- The RBI mandated banks to maintain an **I-CRR of 10 percent** on the increase in their net demand and time liabilities (NDTL).

Why was I-CRR needed?

- The RBI announced I-CRR as a **temporary measure** to absorb excess liquidity from the banking system.
- The level of surplus liquidity in the system surged because of the return of Rs 2,000 banknotes to the banking system and pick up in government spending and capital inflows.
- The banking system liquidity surplus was over Rs 2 lakh crore before the I-CRR move. Excessive liquidity can pose **risks to price stability and also to financial stability.**
- Based on an assessment of current and evolving liquidity conditions, the RBI has been decided to withdraw I-CRR in a phased manner.

2) Sovereign Green Bonds

Context

- Pension Fund Regulatory and Development Authority (PFRDA) said that it will allow pension funds to invest in sovereign green bonds (SGrBs).
    - *PFRDA is a statutory regulatory body set up in 2003 with an objective to promote, develop and regulate organized pension funds to serve the old age income needs of people on a sustainable basis.*

What are Green Bonds?

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

How are the projects for green bonds selected?

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

How are they different from conventional government bonds?

- Government bonds or government securities (G-Secs) are normally categorised into two — **Treasury**

Bills and **dated or long-term securities.**

- Treasury Bills have a **maturity of less than one year** and they **do not carry coupon rates.** These are **issued at a discount**, while **redeemed at face value.**
- At the same time, dated or long-term securities are issued for a **period above 1 year and up to 40 years.** These bonds carry **coupon rates** and are **tradable in the securities market.**
- **SGrB is one form of dated security.** It will have a **tenor and interest rate**.
- Money raised through SGrB is **part of overall government borrowing.**

Why are these bonds important?

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

Where will the proceeds go?

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

3) 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. They are derived from monthly surveys of about 400 private companies.
- 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.
- PMI, which is usually released at the **start of the month**, serves as a leading indicator of economic activity. It comes before the official data on industrial output, core sector manufacturing and GDP growth.

How to read PMI?

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

Why in News?

- According to the S&P Global India Services Purchasing Managers' Index, India's services sector growth slowed down in August after registering a 13-year high in July. Services PMI fell to 60.1 in August, from 62.3 in July.
- India's services PMI has remained above the 50-mark since August 2021, the longest such stretch since August 2011.

4) SARFAESI Act

About the Act

- The **Securitisation and Reconstruction of Financial Assets and Enforcement of Security Interest (SARFAESI) Act** was passed in 2002 to lay down processes to **help Indian lenders recover their dues quickly.**
- Under the SARFAESI Act, **banks and other financial institutions** are **allowed to auction residential or commercial properties of borrowers to recover loans, without approaching the courts.**
- Before this Act took effect, financial institutions had to take recourse to civil suits in the courts to recover their dues, which is a lengthy and time-consuming process.
- As per the SARFAESI Act, if a borrower defaults on a loan financed by a bank against collateral, then the **bank gets sweeping powers to recover its dues from the borrower.** After giving a notice period of 60 days, the lender can take possession of the pledged assets of the borrower, take over the management of such assets, appoint any person to manage them or ask debtors of the borrower to pay their dues too, with respect to the asset.
- This recovery procedure saves banks and financial institutions a lot of time which otherwise would be long drawn out due to the intervention of courts.

Why in News?

- The Reserve Bank of India (RBI) has asked Regulated Entities (REs), namely commercial banks and Non-Banking Finance Companies (NBFCs), to display information regarding borrowers whose assets have been taken into possession by the REs under the SARFAESI Act, 2002 in a given format.
- This is part of the move towards greater transparency. This information will be helpful for potential buyers who want to buy assets that are put up for sale/ auction by lenders.

5) National Payments Corporation of India

About NPCI

- The National Payments Corporation of India (NPCI) was incorporated in 2008 as an **umbrella organization for operating retail payments and settlement systems in India.**
- It is an initiative of **the RBI and Indian Banks' Association (IBA)** under the provisions of the **Payment and Settlement Systems Act, 2007**, for creating a robust Payment & Settlement Infrastructure in India.
- It has been incorporated as a **"Not for Profit" Company** under the **Companies Act 2013.**

Products & Services

1.	**Unified Payments Interface (UPI):**	• Unique payment solution which empowers a recipient to initiate the payment request from a smartphone. • It facilitates **'virtual payment address'** as a payment identifier for sending & collecting money & works on **single click 2 factor authentication.**
2.	**Immediate Payment Service**	• A **24X7, real time, cost effective, independent channel, retail payment service,** introduced by NPCI, empowering customers to transfer money instantly with banks & RBI authorized Prepaid payment instruments (PPIs) across India.
3.	**RuPay**	• **Indigenously developed Payment System** designed to offer payment products with superior features & processes specifically designed to cater to diverse consumer needs. • RuPay supports the issuance of **debit, credit and prepaid cards** by banks in India and thereby supporting the growth of retail electronic payments in India.
4.	***99#**	• USSD-based mobile banking service which enables **offline sending & receiving funds, balance inquiry & setting/changing UPI PIN** besides a host of services.
5.	**Aadhaar Payment Bridge**	• Aadhaar Payment Bridge (APB) System is helping the Government and Government agencies in making the **Direct Benefit Transfers** for various Central as well as State sponsored schemes.
6.	**Aadhaar Enabled Payment System:**	• AEPS is a bank led model which allows online interoperable financial transactions at PoS (Point of Sale / Micro ATM) through the Business Correspondent (BC)/Bank Mitra of any bank using the Aadhaar authentication.
7.	**National Financial Switch**	• Facilitates routing of ATM transactions through inter-connectivity between its member institutions thereby **enabling the citizens of the country to utilise any ATM of a connected entity.**

Why in News?

- NPCI International Payments Limited (NIPL) has entered into a **strategic partnership agreement with Al Etihad Payments (AEP) for Domestic Card Scheme (DCS) Implementation in UAE.**
    - *NIPL is a separate subsidiary created by NPCI to take its product to global market. AEP is an indirect subsidiary of the Central Bank of UAE (CBUAE).*
- The DCS will aim to facilitate the growth of e-commerce and digital transactions in the UAE.

6) 1 year of National Logistics Policy

About NLP

- The National Logistics Policy 2022 was formulated by the **Ministry of Commerce and Industry** as a comprehensive effort to **address issues of high cost and inefficiency** by laying down an overarching framework for the development of the entire logistics ecosystem.
- The targets of the NLP are to:
  (i) **Reduce the cost of logistics** in India from **12% to 8% by 2030,**
  (ii) **Improve the World Bank's Logistics Performance Index ranking** – endeavor is to be among **Top 25 countries** by 2030, and
  (iii) **Create data driven decision support mechanism** for an efficient logistics ecosystem.
- The NLP expects to achieve these targets through the implementation of a **five-pronged strategy.**
  - **Pushing up the share of railways** from the current 28 per cent to **40 per cent.**
  - Setting up **multi-modal logistics parks** by encouraging private investment in hotspots identified on the GatiShakti platform.
  - Giving **special emphasis to inland water transportation, coastal shipping**, and moving liquid bulk cargo via **pipelines.**
  - **Specific plans** are to be drawn up for 15 industries that constitute the majority of bulk cargo movement.
  - **Digital integration** is to be achieved for tracking and monitoring.
- The NLP's transformational capacities further increase when combined with previous connectivity and infrastructure improvement programs like:
  - **Gati Shakti Programme:** To implement infrastructure connectivity in a coordinated manner.
  - **Sagarmala:** To promote port-led development and to provide infrastructure to transport goods to and from ports quickly, efficiently and cost-effectively.
  - **Bharatmala:** Focuses on reducing critical infrastructure gaps to increase the effectiveness of road traffic circulation across the nation.

Why in News?

- Recently, India marked the one year of launch of the National Logistics Policy 2022.

7) 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 2016.**
- 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.**

About 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 in India is provided by the **Bureau of Indian Standards.**
- 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
    - Automobile accessories
    - Cylinders, Valves and Regulators
    - Medical Equipment
    - Steel Products
    - Electrical Transformers.

Why in News?

- The Bureau of Indian Standards has reached out to 2.4 lakh Gram Panchayats to create awareness and promote compliance with Indian standards at the grassroots level.

8) PM GatiShakti

About the Project

- In 2021, the Government of India **launched the "PM GatiShakti — National Master Plan"** for infrastructure development aimed at boosting multimodal connectivity and driving down logistics costs.
- PM GatiShakti is a **digital platform that connects 16 ministries** — including Roads and Highways, Railways, Shipping, Petroleum and Gas, Power, Telecom, Shipping, and Aviation- with a view to **ensuring holistic planning and execution of infrastructure projects.**
- The plan has been developed as a **Digital Master Planning tool** by **BISAG-N (Bhaskaracharya National Institute for Space Applications and Geoinformatics).**
    - *BISAG-N is an autonomous scientific society registered under the Societies Registration Act, 1860 under the **Ministry of Electronics and Information Technology** to undertake technology development in the area of geo-spatial technology.*
- The GatiShakti portal will offer **200 layers of geospatial data**, including on existing infrastructure such as roads, highways, railways, and toll plazas, as well as geographic information about forests, rivers and district boundaries **to aid in planning and obtaining clearances.**
- The portal will also allow various government departments to **track**, in real time and at one centralised

place, the **progress of various projects,** especially those with multi-sectoral and multi-regional impact.
- The objective is to **ensure that each and every department now has visibility of each other's activities** providing critical data while planning and execution of projects in a comprehensive manner.
- The GatiShakti platform aims to **address the issue of government departments working in silos.**

How will the platform help bring down logistics costs?

- Studies estimate that **logistics costs in India are about 13-14% of GDP as against about 7-8% of GDP in developed economies.**
- High logistics costs impact cost structures within the economy, and also make it more expensive for exporters to ship merchandise to buyers.
- By incorporating infrastructure schemes under various ministries and state governments, and economic zones, the GatiShakti platform aims to **boost last-mile connectivity and bring down logistics costs with integrated planning and reducing implementation overlap.**

Why in News?

- The 56th Network Planning Group meeting under PM GatiShakti was held recently.

Organisations

1) National Consumer Disputes Redressal Commission

About NCDRC

- The National Consumer Disputes Redressal Commission (NCDRC) is a **quasi-judicial commission** in India which was set up in 1988 under the **Consumer Protection Act of 1986.**
- Its head office is in **New Delhi.**
- The Commission is headed by a **sitting or a retired Judge of the Supreme Court of India or a sitting or a retired Chief Justice of a High Court**.
- NCDRC's jurisdiction involves:
    - complaints where the value of the goods or services **exceeds rupees ten crore;**
    - appeals against the orders of **State Consumer Disputes Redressal Commissions;**
    - appeals against the orders of the **Central Consumer Protection Authority;**
- Any person aggrieved by an order of NCDRC, may prefer an Appeal against such order to the **Supreme Court** of India within a period of 30 days.

Why in News?

- The National Consumer Disputes Redressal Commission has dismissed an appeal filed by a private e-commerce firm challenging the order passed by the Central Consumer Protection Authority (CCPA).

Related Information

About Consumer Protection Act, 2019

- The Consumer Protection Act, 2019 aims to provide for **protection of the interests of consumers** and for the said purpose, to **establish authorities** for timely and effective administration and settlement of consumers' disputes.
- The Act **replaced the Consumer Protection Act, 1986.**

Key features of the Act

- **Definition of consumer:** A consumer is defined as a person who buys any good or avails a service for a consideration. It does not include a person who obtains a good for resale or a good or service for commercial purpose.
- It covers transactions through all modes including **offline, and online through electronic means, teleshopping, multi-level marketing or direct selling.**
- The following consumer rights have been defined in the Act, including the right to:
    - be protected against the marketing of goods and services which are hazardous to life and property;
    - be informed of the quality, quantity, potency, purity, standard and price of goods or services;
    - be assured of access to a variety of goods or services at competitive prices; and
    - seek redressal against unfair or restrictive trade practices.
- **Product liability clause:** A manufacturer or a service provider has to compensate a consumer if their good/service cause injury or loss to the consumer due to manufacturing defect or poor service. The most significant impact of this provision will be on **e-commerce** platforms as it also includes service providers under its ambit.

- **Consumer Protection Councils:** The Act mandates establishment of **Consumer Protection Councils at the Centre as well as in each State and District,** with a view to **promoting consumer** awareness. The Central Council is headed by **Minister In-charge of the Department of Consumer Affairs** in the Central Government and the State Councils by the Minister In-charge of the Consumer Affairs in the State Governments.
- **Central Consumer Protection Authority (CCPA):** To be set up by the central government to **promote, protect and enforce the rights of consumers.** It will regulate matters related to violation of consumer rights, unfair trade practices, and misleading advertisements.
- **Misleading advertisements:** The CCPA may impose a penalty on a manufacturer or an endorser of up to Rs 10 lakh and imprisonment for up to two years for a false or misleading advertisement. In case of a subsequent offence, the fine may extend to Rs 50 lakh and imprisonment of up to five years.
- **Consumer Disputes Redressal Commissions (CDRCs):** It will be set up at the di**strict, state, and national levels**. A consumer can file a complaint with CDRCs in relation to:
    - Unfair or restrictive trade practices;
    - Defective goods or services;
    - Overcharging or deceptive charging; and
    - The offering of goods or services for sale which may be hazardous to life and safety.
- **Appeals from a District CDRC** will be heard by the **State CDRC.** Appeals from the State CDRC will be heard by the **National CDRC.** Final appeal will lie before the **Supreme Court.**
- The Act also enables regulations to be notified on **E-commerce and direct selling** with focus on protection of interest of consumers.

2) National Investigation Agency

Context

- The National Investigation Agency (NIA) is often mentioned in the news.

What is the NIA?

- NIA is functioning as the **Central Counter Terrorism Law Enforcement Agency** in the country.
- It is mandated to investigate all the **offences:**
    - **affecting the sovereignty, security and integrity of India, friendly relations with foreign states, and**
    - **the offences under the statutory laws enacted to implement international treaties, agreements, conventions and resolutions of the United Nations, its agencies and other international organisations.**
- These include **terror acts and their possible links with crimes** like smuggling of arms, drugs and fake Indian currency and infiltration from across the borders.
- The agency has the power to search, seize, arrest and prosecute those involved in such offences.
- Headquartered in **Delhi**, the NIA has its branches in several parts of the country.

When did the NIA come into being?

- In the wake of the **26/11 Mumbai terror attack in November 2008**, which shocked the entire world,

the central government decided to establish the NIA.

- The agency came into existence on **December 31, 2008 under the NIA Act, 2008**, and started its functioning in **2009**.
- NIA was created mainly to specialize in investigations into **incidents of terrorist attacks and bomb blasts** in various parts of the country. Majority of such incidents were found to have **complex inter-state and international linkages** while at the same time being **linked to drug and arms smuggling** among other activities.
- The NIA Act was amended in the year **2019** to **enlarge the mandate** of the NIA by inclusion of **offences related to human trafficking, manufacture/sale of prohibited arms, cyber-terrorism and offences under the Explosive Substances Act, 1908** and **expanded its jurisdiction beyond India.**

How wide is the NIA's jurisdiction?

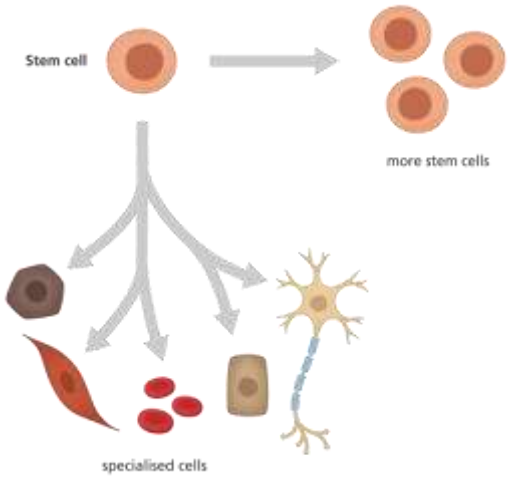
- The law under which the agency operates extends to:
  - **whole of India and also applies to Indian citizens outside the country**;
  - **persons in the service of the government** wherever they are posted;
  - **persons on ships and aircraft registered in India** wherever they may be;
  - **persons who commit a scheduled offence beyond India against the Indian citizen or affecting the interest of India.**

Science and Technology

1) Stem Cells therapy for autism

What are Stem Cells?

- Stem cells are special human cells that have the **ability to develop into many different cell types**. This can range from muscle cells to brain cells.
- In some cases, they also have the **ability to repair damaged tissues.**
- Researchers believe that stem cell-based therapies may one day be used to treat devastating ailments like paralysis and Alzheimer's disease.



Types of Stem Cells

- Stem cells are divided into two main forms: **embryonic** stem cells and **adult** (**somatic**) stem cells.

1. Embryonic stem cells:

- The embryonic stem cells used in research today come from **unused embryos resulting from an in vitro fertilization procedure** and that are donated to science.
- These embryonic stem cells are **pluripotent,** meaning that they **can turn into more than one type of cell.**

2. Adult stem cells:

- There are **two types of adult stem cells.** One type comes from **fully developed tissues**, like the brain, skin, and bone marrow.
- There are only small numbers of stem cells in these tissues, and they are **more likely to generate only certain types of cells (multipotent).** For example, a stem cell derived from the liver will only generate more liver cells.
- The second type is **induced pluripotent stem cells.**
- These are **adult stem cells that have been manipulated in a laboratory to take on the pluripotent characteristics of embryonic stem cells.**

Applications

- The **regenerative properties** of stem cells make them **extremely valuable in medicine.** This is why stem cell treatments are also termed as **regenerative medicine.**
- For over 90 years now, **hematopoietic stem cell transplantation** has been used to treat people with conditions such as **leukaemia and lymphoma.** After chemotherapy or radiation therapy wrecks the patient's healthy cells (along with the cancerous ones), a donor's healthy bone marrow reintroduces functional stem cells to replicate inside of a patient and to produce additional normal blood cells.
- There are **typically a very small number of adult stem cells** in each tissue, and once removed from the body, their **capacity to divide is limited.** This is the **fundamental limitation of stem cell therapies** at the moment.
- That is why, scientists have been focussed on **manipulating adult stem cells to exhibit characteristics of pluripotent stem cells.**

Why in News?

- The Delhi High Court has permitted two children with autism spectrum disorder (ASD) to undergo stem cell therapy for treatment of their condition.
- The order came in a petition moved by family members of the two children, challenging a recommendation of the **Ethics and Medical Registration Board (EMRB) of the National Medical Commission (NMC)** against the use of stem cell treatment for ASD.

What is autism spectrum disorder?

- Autism spectrum disorder is a **neurological and developmental disorder that affects how people interact with others, communicate, learn, and behave.**
- People with ASD often have difficulty with communication and interaction with other people, restricted interests and repetitive behaviours, and symptoms that affect their ability to function in school, work, and other areas of life.
- Currently, there is **no cure for ASD** – treatments and therapies are geared towards managing symptoms and helping someone with ASD lead a happy and functional life.

Can stem cell treatment be used for ASD?

- ASD has potential to be a good candidate for stem cell therapy because evidence exists that some types of stem cells can improve the overall regulation of the immune system and the neural connectivity in the brain.
- Currently, the treatment is very much in an **experimental stage** and there is not enough data to make definitive claims.
- This is why **EMRB made recommendations against its use.** EMRB's recommendation came on the back of what it called **"predatory marketing"** of stem cell therapy which gave false hope to parents and caregivers regarding the possibility of curing ASD.

Related Information

About NMC

- The National Medical Commission (NMC) has been constituted under the **National Medical Commission Act, 2019.**
- The NMC **subsumed the Medical Council of India (MCI)** and is responsible for **regulating medical education and practice in India.**
- The Aim of the National Medical Commission are to
  - **improve access** to quality and affordable **medical education,**
  - **ensure availability** of adequate and high quality **medical professionals** in all parts of the country;
  - promote **equitable and universal healthcare**;
  - encourages medical professionals to **adopt latest medical research** in their work and to **contribute to research;**
  - **objectively assess medical institutions** periodically in a transparent manner;
  - maintain a **medical register** for India;
  - enforce **high ethical standards** in all aspects of medical services;
  - have an effective **grievance redressal mechanism.**

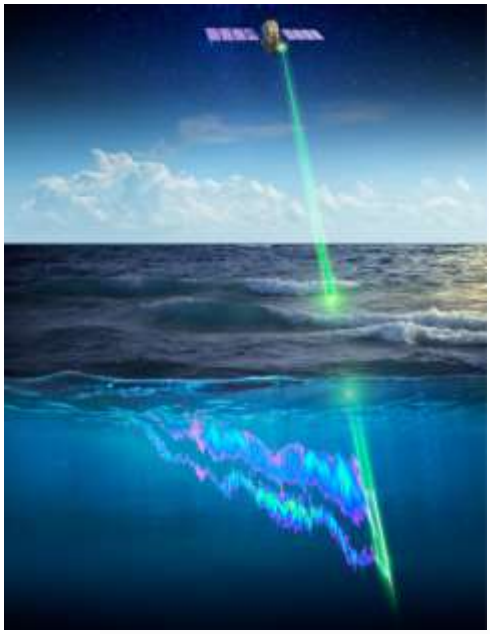
2) CALIPSCO science mission

What's in the news?

- **NASA** has announced that its CALIPSO, a lidar satellite that advanced the world's understanding of climate, weather

and air quality, ended its scientific mission after 17 years of operation.

About CALIPSO Satellite



- Launched in 2006, CALIPSO (Cloud-Aerosol Lidar and Infrared Pathfinder Satellite Observation) is a **cloud and aerosol observation satellite** operated by the **National Aeronautics and Space Administration (NASA)** and **French National Centre for Space Studies (CNES).**
- CALIPSO was launched in tandem with the **cloud-profiling radar system on the CloudSat satellite.**
- **Lidar and radar** are considered **"active"** sensors because they **direct beams of energy at the Earth** — laser light in the case of CALIPSO and radio waves in the case of CloudSat — and then **measure how the beams reflect off the clouds and aerosols** in the atmosphere.
- Other orbiting science instruments use **"passive" sensors** that measure reflected sunlight or radiation emitted from the Earth or clouds.
- The combined data from CALIPSO and CloudSat provided **new insights into cloud structures and aerosol layers.**
- The two satellites circled the globe in **Sun-synchronous orbits (SSO)** from the North to the South poles, crossing the equator in the early afternoon every day.
    - *SSO is a particular kind of polar orbit. Satellites in SSO, traveling over the polar regions, are synchronous with the Sun. This means they are synchronized to always be in the same 'fixed' position relative to the Sun.*
    - *This means that the satellite always visits the same spot at the same local time – for example, passing the city of Paris every day at noon exactly.*
- They **probed the vertical structure of the atmosphere**, **measuring the altitude of clouds and layers of airborne particles** such as dust, sea salt, ash, and soot.
- The unique and nearly simultaneous observations allowed scientists to build a more sophisticated understanding of several atmospheric processes including cloud formation, atmospheric convection, precipitation, and particle transport.

3) Room-temperature Superconductor: What is LK-99?

What are Superconductors?

- A superconductor is a material that **exhibits zero electrical resistance when cooled below a critical temperature.**
- A superconductor can **convey an electrical current without any resistance** and **expels a field of magnetic flux,** termed the **Meissner effect.**

- Scientists have been able to reproduce the superconductivity, but it requires **extreme physical conditions,** like **extremely low temperatures like -268 degrees Celsius or very high pressure.**
- Elemental metals like **lead, mercury, niobium, tin and their alloys** can become superconductors when **chilled to near absolute zero.**

Why in News?

- A group of South Korean scientists claimed to have **developed a superconductor at room temperature and pressure.** The research team published two papers claiming to have discovered the **"world's first room-temperature superconducting material"** named **LK-99.**
- If the claims are found true and can be replicated in other labs, then it could be a monumental discovery because it has been impossible so far to develop a superconductor at room temperature and ambient pressure.

What is LK-99?

- LK-99 is a **mix of powdered compounds of lead, oxygen, sulphur and phosphorus.** When it is **heated at very high temperatures,** it forms a **dark grey solid.**
- According to the new research, the material exhibits **some of the common characteristics of superconductors**, such as **zero resistivity, critical current, and a critical magnetic field.**
- The team claimed to have created the superconductor, which **could work at temperatures as high as 127 Degrees Celsius.**
- The discovery holds importance because scientists have traditionally believed that they **can't have a superconductor at more than -240 degrees Celsius.**

How could superconductors benefit?

- A room-temperature superconductor could open the door to a **new era of scientific innovation.** The discoverty will not only **cut down electricity transmission costs** but also unleash **new possibilities in computing, nuclear fusion and energy storage.**
- Superconducting materials have been used to **speed up connections between computer chips** and superconducting coils are used in some of the **magnetic resonance imaging (MRI) machines** used by doctors to examine soft tissue inside patients.
- If the superconducting materials are available at room temperature, the long-distance power lines could be made of the material enabling **long-distance lossless power transmission.**

4) Voyager Mission

What are the Voyager missions?

- The Voyager program of **NASA** consists of two spacecraft: **Voyager 1 and Voyager 2.**
- Voyager 2 was actually **launched first,** in August 1977, but Voyager 1 was sent on a faster trajectory when it launched about two weeks later.
- They are the **only two functioning spacecraft currently in interstellar space -** the region that lies outside the impact of our Sun's constant flow of material and magnetic field.
- Voyager 2's path took it past **Jupiter** in 1979, **Saturn** in 1981, **Uranus** in 1985, and **Neptune** in 1989. It is the **only spacecraft to**

have visited Uranus or Neptune, and has provided much of the information that we use to characterize them now.

- Because of its higher speed and more direct trajectory, Voyager 1 overtook Voyager 2 just a few months after they launched. It visited **Jupiter** in 1979 and **Saturn** in 1980. It overtook **Pioneer 10** — the only other spacecraft in interstellar space thus far — in 1998 and is now the **most distant artificial object from Earth.**

Features of the Voyager spacecraft

- Voyager 1 and Voyager 2 are **identical spacecraft**.
- Both spacecraft feature a **large antenna**, 3.7 metres in diameter, which is used to receive commands from Earth and radio their findings back to the planet.
- As their mission involved going far away from the Sun, they **aren't powered by solar power,** like other spacecraft are. Instead, Voyager relies on a **small nuclear power plant**, drawing hundreds of watts from the radioactive decay of a pellet of **plutonium**.
- Notably, each Voyager spacecraft is adorned with a **golden phonograph record** — a 12-inch disc, intended to be a sort of time capsule from Earth to any extraterrestrial life that might intercept the probes in the distant future. The record contains sounds and images selected to portray the diversity of life and culture on Earth.

Most notable achievements of the Voyager spacecraft

- The most interesting discoveries made by Voyager 1 included the finding that **Io,** one of Jupiter's moons, **was geologically active.** The spacecraft noted the **presence of at least eight active volcanoes**.
- Voyager 1 and Voyager 2 **discovered three new moons of Jupiter: Thebe, Metis and Adrastea.**
- While passing by Saturn's moon **Titan**, Voyager 1 discovered that it wasn't the biggest moon of our solar system, contrary to what scientists of the time believed.
- After the Saturn expedition, as Voyager 1 headed on a trajectory to **escape the solar system,** Voyager 2 was redirected towards **Uranus** — both probes had fulfilled their primary mission goals but scientists kept them operational for further exploration.
- Voyager 2 confirmed that the main constituents of Uranus are **hydrogen and helium.**
- Voyager 2 also observed the **Great Dark Spot** in Neptune, which was essentially a huge spinning storm in the southern atmosphere of Neptune and it was about the size of the entire Earth.
- While Voyager 1 officially entered interstellar space in 2012, Voyager 2 made its entry in 2018.

Why in News?

- Days after NASA lost communication with Voyager 2, the space agency has detected a signal from the spacecraft.
- Although most of the instruments on the spacecraft aren't

operational, Voyager probes have been transmitting data back to Earth over the years — it is only after the recent glitch that Voyager 2 has stopped sending back the data but scientists hope to regain full communication with the spacecraft soon.

5) OSIRIS-REx Mission

About the Mission

- The OSIRIS-REx (Origins, Spectral Interpretation, Resource Identification, and Security-Regolith Explorer) is a **NASA asteroid-study and sample-return mission** that was launched in 2016.
- Its objective was to visit and collect samples from **Asteroid Bennu**, a **carbon-rich near-Earth asteroid.**
- OSIRIS-Rex arrived at asteroid Bennu in 2018 and in 2020 it picked up a sample from the surface of Bennu before beginning the long journey home in 2021.

Why in News?

- After a seven-year round trip, NASA's OSIRIS-REx has brought asteroid samples to Earth recently.
- The returned samples collected from Bennu will help scientists worldwide make discoveries to better understand planet formation and the origin of organics and water that led to life on Earth, as well as benefit all of humanity by learning more about potentially hazardous asteroids.
- Having released its capsule, the spacecraft will travel to a new target, the **asteroid Apophis,** which will fly close to Earth in 2029.

Significance

- Asteroids are composed of the original materials of the solar system, dating back some **4.5 billion years,** and have remained relatively intact. They can give us **clues about how the solar system formed and evolved**.
- OSIRIS-REx will determine **Bennu's physical and chemical properties.** This will be critical for future scientists to know when developing an impact mitigation mission.
- Finally, asteroids like Bennu contain **natural resources** such as water, organics, and precious metals. Future space exploration and economic development will rely on asteroids for these precious materials.

6) Nipah

About Nipah infection

- It is a **viral infection** caused by the **Nipah virus (NiV).**
- **Fruit bats of the Pteropodidae family** are the natural host of Nipah virus.
- The disease was first identified in **1998** during an outbreak in **Malaysia** and it was named after a village in Malaysia, Sungai Nipah. Later, Nipah outbreaks have been reported in **Singapore, Bangladesh and India.**
- A study in 2018 has identified many **South East Asian countries including Indian states as**

potential hotspots for the NiV disease.
- NiV is on the **top-10 priority list pathogens** identified by the World Health Organization.

Transmission

- It is a **zoonotic virus** (transmitted from animals to humans) which can also be transmitted through **contaminated food or directly between people.**
- **Consumption of fruits or fruit products** (such as raw date palm juice) **contaminated with urine or saliva from infected fruit bats** is the most likely source of infection.
- In infected people, it causes a **range of illnesses** from asymptomatic (subclinical) infection to acute respiratory illness and fatal encephalitis.
- The virus can also cause **severe disease in animals** such as pigs, resulting in significant economic losses for farmers.

Treatment

- There are currently **no drugs or vaccines** specific for Nipah virus infection.
- The primary treatment for humans is supportive care.
- Preventing the Nipah virus involves **infection control measures** like using protective equipment, disinfecting surfaces, and avoiding sick animals or areas with known Nipah virus outbreaks.

Why in News?

- Kerala has shut down schools and offices and declared containment zones in parts of the state amid the risk of an outbreak of Nipah virus following the death of two people from the viral disease.
- The current outbreak is the fourth outbreak in Kerala since 2018 and the sixth outbreak in India.
- The Government of India has reached out to Australia to procure **monoclonal antibody doses** to combat the outbreak in Kerala.

What is a monoclonal antibody?

- Monoclonal antibodies are **laboratory-made proteins that mimic the behaviour of antibodies produced by the immune system** to protect against diseases and foreign substances.
- An **antibody attaches itself to an antigen** – a foreign substance, usually a disease-causing molecule – and helps the immune system eliminate it from the body.
- Monoclonal antibodies are **specifically designed to target certain antigens.**

Are animal-to-human viruses becoming more frequent?

- Zoonotic diseases have multiplied over the past 20 to 30 years.
- **Industrial farming** increases the risk of pathogens spreading between animals while **deforestation** heightens contact between wildlife, domestic animals and humans.
- Scientists have warned that the climate crisis is increasing the risk of **"zoonotic spillover"** events, with 15,000 instances of viruses jumping between species predicted over the next 50 years.

Reports and Indices

1) Global Gender Gap Index

About the Index

- The Global Gender Gap Report is a flagship publication of the **World Economic Forum.**
- The report benchmarks the evolution of gender-based gaps in four areas:
    - **Economic participation and opportunity** (includes metrics such as percentage of women who are part of the labour force, wage equality for similar work, earned income etc),
    - **Educational attainment** (literacy rate and the enrolment rates in primary, secondary and tertiary education),
    - **Health and survival** (sex ratio at birth and healthy life expectancy),
    - **Political empowerment** (percentage of women in Parliament, the percentage of women in ministerial positions etc).
- On each of the four sub-indices as well as on the overall index the report provides scores between **0 and 1**, where 1 shows full gender parity and 0 is complete imparity.
- It also examines the drivers of gender gaps and outlines the policies and practices needed for a gender-inclusive recovery.

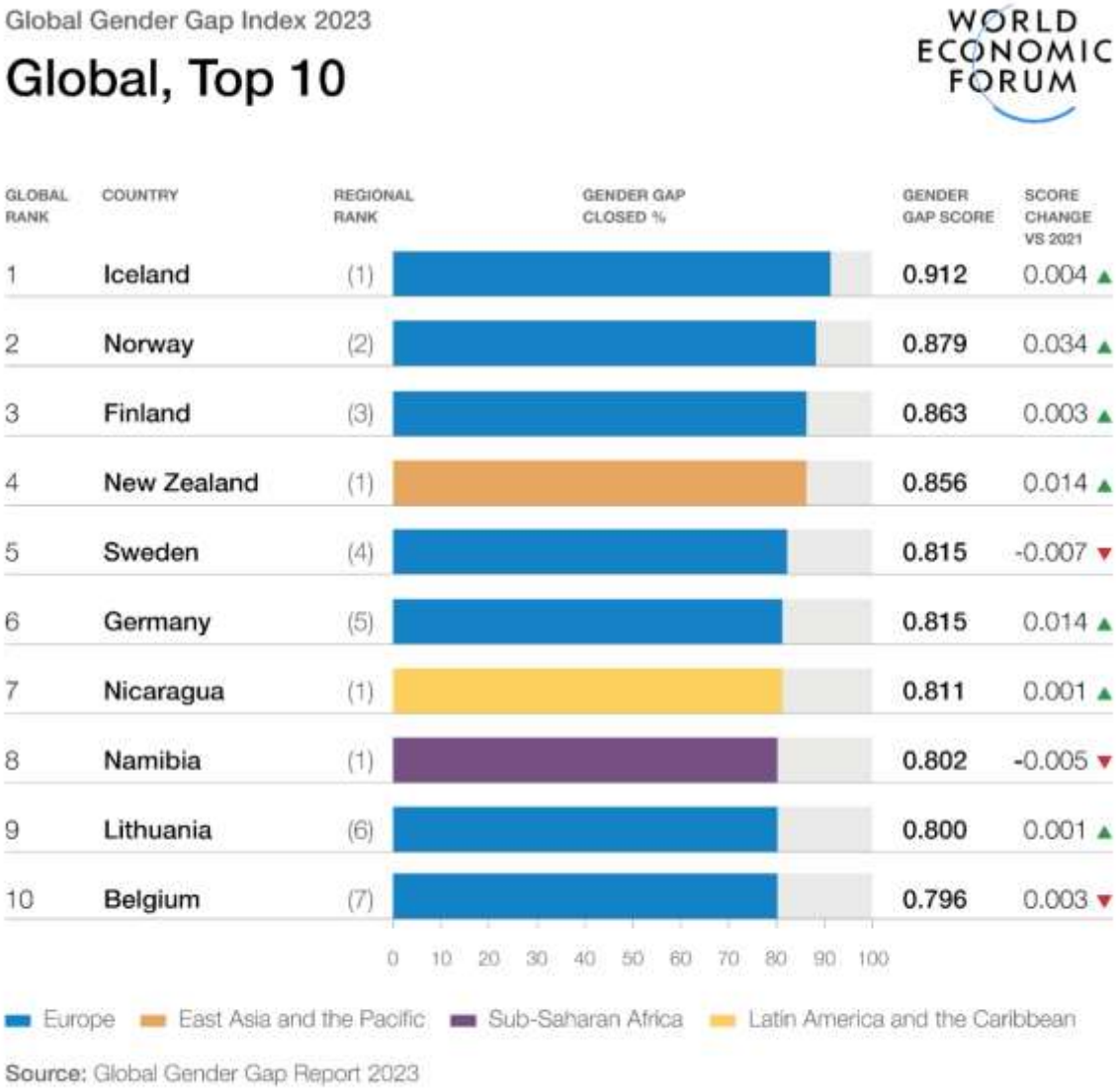
Why in News?

- The World Economic Forum has released its Global Gender Gap Report 2023.
- The index has benchmarked 146 nations across the globe in 2023.

Highlights of the Report

Top Performers:

- While the 2023 report indicates a **recovery of gender equality to pre-pandemic levels** worldwide, it also highlights a **slowdown in the pace of progress.** At the current rate, it will take **131 years to close the global gender gap entirely.**
- **Iceland** is the most gender-equal country in the world for the **14th consecutive year** and the **only one to have closed more than 90% of its gender gap**.
- It is followed by **Norway**, **Finland**, **New Zealand**, and **Sweden**.



India's Performance:

- This year, **India ranked 127th out of 146 countries** which is an improvement of eight positions since last year's report.
- The country has **closed 64.3 per cent of the overall gender gap**.
- India has **attained parity in enrolment across all levels of education** but has **only reached about 36.7 per cent parity on economic participation and opportunity.**
- In India, while there had been an **uptick in parity in wages and income**, the **share of women in senior positions and technical roles had dropped slightly** since the last edition.
- On **political empowerment**, **India has registered 25.3% parity**, with **women representing 15.1% of parliamentarians** — the highest for the country since the inaugural report in 2006.
- The **Health and Survival index** shows a **notable improvement** for India, with a **sex ratio at birth reaching 92.7 per cent,** an increase of 1.9 percentage points compared to the previous year.
- This improvement has helped **drive up parity in health and survival**, which now stands at **95**

per cent, signalling progress after a decade of slow advancement.

Southern Asian Region:

- Overall, the **Southern Asian region has achieved 63.4% gender parity,** the **second-lowest** of the eight regions.
- The index ranked India's neighbours Pakistan at 142, Bangladesh at 59, China at 107, Nepal at 116, Sri Lanka at 115 and Bhutan at 103.

2) India Ageing Report

What's in the news?

- The United Nations Population Fund, India (UNFPA) has released its 2023 India Ageing Report.
    - *UNFPA is the United Nations sexual and reproductive health agency.*
    - *Its goal is ending unmet need for family planning, preventable maternal death, and gender-base violence and harmful practices including child marriage and female genital mutilation by 2030.*

Highlights of the Report

- With the **decadal growth rate of the elderly population** of India currently estimated to be at **41%,** and the **percentage of elderly population** in the country **projected to double to over 20% of total population by 2050**.
- **More than 40% of the elderly in India are in the poorest wealth quintile**, with about 18.7% of them living without an income. Such levels of poverty may affect their **quality of life and healthcare utilisation.**
- The report projected that the population of people aged 80+ years will grow at a rate of around 279% between 2022 and 2050 with a **predominance of widowed and highly dependent very old women** - a finding in line with the pattern across several nations.
- Further, the **sex ratio** (females per 1,000 males) **among the elderly has been climbing steadily** since 1991, with the **ratio in the general population stagnating.** Between 2011 and 2021, the ratio increased in India as a whole and across all regions, barring the Union Territories and western India.

'Inherently gendered'

- The **major challenges** facing India's ageing population are the **feminisation and ruralisation of this older population** and that **policies must be designed to suit their specific needs.**
- **Poverty is inherently gendered in old age** when older women are more likely to be widowed, living alone, with no income and with fewer assets of their own, and fully dependent on family for support.

Recommendations

- The UNFPA report suggested that the government must work on **increasing awareness about schemes** for older persons and **bringing all Old Age Homes under regulatory purview.**
- The report called for the government to encourage the **creation and running of elderly self-help groups**, and stressed the **importance of having elderly people live in multigenerational households.**
- The report also suggested that the government should encourage **in situ (at home) ageing** as much as possible by creating short-term care facilities like creches or day-care facilities, citing better care when elderly people live with their respective families.

Polity

1) One nation, One election

What is the 'One Nation One Election' system?

- One Nation One Election proposes that **simultaneous elections be held in all states and the Lok Sabha in a gap of five years.** The idea behind it is envisaging an amendment in the entire electoral system of the country where **elections to the states and Centre synchronise.**
- Listed voters shall cast their votes at the same time and the same day for both Lok Sabha and state assemblies.

History

- Simultaneous polls to states and Lok Sabha is not a newly conceived norm. In fact, simultaneous elections have previously been conducted in India in **1952, 1957, 1962 and 1967.**
- Soon after, this norm was discontinued following the dissolution of some Legislative Assemblies between 1968-69. Since then, the Indian Electoral system holds polls to Centre and states separately.

Early explorations of the idea

- The idea of reverting to simultaneous polls was mooted in the annual report of the **Election Commission** in **1983**.
- In 2015, the **Parliamentary Standing Committee on Personnel, Public Grievances, Law and Justice**, headed by **E M Sudarsana Natchiappan**, prepared a report on holding simultaneous elections. The report said that simultaneous elections would help to reduce:
    - the **massive expenditure** that is currently incurred for the conduct of separate elections,
    - the **policy paralysis** that results from the imposition of the Model Code of Conduct during election time,
    - the impact on the **delivery of essential services** and,
    - the **burden on crucial manpower** that is deployed during election time.

What are the arguments in favour of simultaneous elections?

- It is principally an **argument for efficiency.**
- The Election Commission implements a **Model Code of Conduct** before every poll that lays down how parties and candidates should conduct themselves during the electoral process. To prevent parties in government from taking unfair advantage of the administrative apparatus under their control, the **code prevents the announcement of new schemes and policies.**
- By implementing simultaneous polls, the argument is that the **time lost to the model code would come down.**
- **NITI Aayog** in one of its reports argued that from the perspective of the Government, simultaneous elections would **reduce the cost of holding elections**, and limit all elections to a single season.
- It is also argued that frequent elections also **prevent governments from thinking of long-term policies**. Simultaneous elections would fix this. If simultaneous polls do reduce the duration of conducting polls, political parties will have ample

time to address national issues and enhance governance.
- Simultaneous polls will **boost voter turnout**, according to the Law Commission.

Arguments against 'One Nation One Election'

- The primary cause of concern amongst parties that have opposed simultaneous polling is that of **Constitutional difficulties** and **anti-federal consequences.**
- It is argued that simultaneous polls could help parties that have a multi-state presence.
- A **study by the public-policy think tank IDFC Institute** analysed electoral data from four Lok Sabha elections – 1999, 2004, 2009 and 2014. The data analysis shows that on average, there is a 77% chance that the **Indian voter will vote for the same party for both the state and Centre when elections are held simultaneously**, a trend that the study calls an **"undesirable impact on voter behaviour".**
- As a result, its critics feel holding polls simultaneously will **undermine Indian federalism.**
- The other argument is that since elections will be held once in five years, it will **reduce the government's accountability to the people**. It would place less pressure on governments to work for the voter.
- Critics argue that holding just one mega election would be **too complex an exercise** to tackle in a country as large and as complex as India. It would be a **logistical nightmare** — requiring, for example, about twice as many electronic voting machines and Voter Verifiable Paper Audit Trail machines as are used now.

Implementation

- Beyond political parties going against this proposal, the main task of executing the 'one nation one election' theory lies with **unavoidable Constitutional problems.**
- Few of the important Articles that need to be amended for implementation of 'one nation one election' are:
    - **Article 83** and **Article 172** deal with the duration of the Houses of Parliament, and guarantees a five-year term to both the elected Lok Sabha and state assemblies, unless they are dissolved sooner.
    - **Article 85** of the Indian Constitution deals with the powers of the President to summon Parliamentary sessions, not exceeding a gap of more than six months. The President also carries the power to adjourn either House of the Parliament and the dissolution of the Lok Sabha.
    - **Article 356** of the Indian Constitution, comes into action in case of governance and constitutional failure in a state and deals with the President' Rule.
    - Amendments in the **People's Representation Act, 1951 (RPA Act 1951)** and the **Anti-Defection Law** must be made for organised conduct and stability in both Lok Sabha and state assemblies.

How can simultaneous elections be achieved?

- Under the **Westminster system of government** that India follows, legislatures do not have fixed

lifetimes. They can either be dissolved by the government, which can call for fresh elections, or expire in case a government falls and no other government can be formed.

- In order to achieve simultaneous elections, drastic changes would be required in India's governance structure.
- One proposal by the **Law Commission in 2018** was to introduce the concept of **"constructive vote of no-confidence"** where a government can only be voted out by a legislature only if the House has confidence in another government that can take its place.
- The law panel document suggested that in case a government fell mid-term, the term of the **new government would be for the remaining period** and not for a fresh five-year term.
- Another proposal involves **either extending or curtailing the lifetimes of state assemblies** in order to make them coincide with the Lok Sabha elections.

Why in News?

- Government has constituted an eight member high level committee to examine One nation, One election.
- Former President Ram Nath Kovind has been appointed as Chairman of the committee.
- The committee will examine and make recommendation for holding simultaneous elections of Lok Sabha, State Legislative Assemblies, Municipalities and Panchayats, keeping in view the existing framework under the Constitution and other statutory provisions.

2) Women Reservation Bill

What's in the news?

- President Droupadi Murmu has given her assent to the **Women's Reservation Bill (Nari Shakti Vandan Adhiniyam)** which seeks to provide **33% reservation to women in the Lok Sabha and State Assemblies.**
- Now, it will be officially known as the **Constitution (106th Amendment) Act.**

Highlights of the Bill

- **Reservation Percentage:** The bill proposes to **reserve one-third of all seats for women in Lok Sabha, state legislative assemblies, and the Legislative Assembly of the National Capital Territory of Delhi.**
- **Horizontal Reservation:** One third of the total number of seats reserved for **Scheduled Castes and Scheduled Tribes** shall be reserved for women of those groups in the Lok Sabha and the legislative assemblies. The allocation of reserved seats shall be determined by such authority as prescribed by **Parliament.**
- **Commencement of Reservation:** The reservation will be **effective once the census conducted after the commencement of this Bill has been published.** Based on the census, **delimitation** will be undertaken to reserve seats for women.
- **Seats on Rotational Basis:** The seats reserved for women will be allotted by rotation to different constituencies in the state or union territory **after each delimitation exercise.**
- **Duration of Reservation:** The reservation will be provided for a **period of 15 years.** However, it shall continue till such date as

determined by a law made by **Parliament**.

- *Refer Pulse September 2023 In Depth edition for comprehensive analysis of the topic.*

3) Lokpal

Context

- The Search Committee of Lokpal has sought applications for preparation of panel of names for appointment of the Chairperson and Members of the Lokpal.
- The search committee recommends names to the **Prime Minister-led selection committee** for appointment as Chief and Members of Lokpal.

About Lokpal

- The **Lokpal and Lokayukta Act, 2013** provided for the establishment of **Lokpal for the Union and Lokayukta for States.**
- These institutions are **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.

4) Armed Forces Special Powers Act

About AFSPA

- Passed in 1958 for the North-East and in 1990 for Jammu & Kashmir, the **Armed Forces Special Powers Act (AFSPA) gives armed forces special powers to control "disturbed areas",** which are designated by the government when it is of the opinion that a region is in such a **disturbed or dangerous condition** that the use of armed forces in aid of civil power is necessary.
- The Act in its original form was promulgated by the British in **response to the Quit India movement** in **1942**. After Independence, the Government decided to retain the Act, which was first brought in as an ordinance and then notified as an Act in 1958.
- Under the act, an area can be disturbed due to differences or disputes between members of different religious, racial, language or regional groups or castes or communities.
- The **Central Government**, or the **Governor of the State** or **administrator of the Union Territory** can declare the whole or part of the State or Union Territory as a disturbed area.
- Under its provisions, the armed forces have been **empowered to open fire, enter and search without warrant, and arrest any person** who has committed a cognisable offence, all while having immunity from being prosecuted.
- The law has been repealed where insurgencies have subsided, and when governments have gained confidence in managing the region using the police force.

Are there safety nets?

- While the Act gives powers to security forces to open fire, this **cannot be done without prior warning** given to the suspect.
- The Act further says that any suspects apprehended by security forces should be **handed over to the local police station within 24 hours.**

- It says **armed forces must act in cooperation with the district administration and not as an independent body.**

Criticisms

- Critics both in India and abroad have criticised government agencies for acting with impunity under AFSPA.
- **Manipuri activist Irom Sharmila** had been on a 16-year hunger strike in protest against AFSPA.
- The **Jeevan Reddy Committee** formed in 2004 recommended a complete repeal of the law.

Why in News?

- The **Manipur government** has extended the imposition of the Armed Forces (Special Powers) Act (AFSPA) in the whole State — except in the jurisdiction of 19 police stations in seven districts of the Imphal Valley — for another six months.
- AFSPA now remains in force in **parts of Assam, Manipur, Nagaland and Arunachal Pradesh as well as in Jammu & Kashmir.**

5) Cauvery Water Dispute

Context

- The Tamil Nadu Assembly has adopted a resolution urging the Union government to direct Karnataka to release Cauvery water as per the orders of the Cauvery Water Management Authority.

Constitutional provisions related to water

- **Water is a State subject** and thus **states** are empowered to enact legislation on water.
- **Entry 17 of the State List** deals with water i.e. water supply, irrigation, canal, drainage, embankments, water storage and water power.
- **Entry 56 of the Union List** gives power to the Union Government for the regulation and development of inter-state rivers and river valleys to the extent declared by Parliament to be expedient in the public interest.

Article 262 of the Constitution

- It **empowers the Parliament** to make laws for the **adjudication of any dispute relating to waters of the Inter-State River or river valley.**
- Parliament may, by law, provide that **neither the Supreme Court nor any other court shall exercise jurisdiction** in respect of any such dispute or complaint as mentioned above.

Inter-state River Water Dispute Tribunal

- The **Inter-state River Water Disputes Act, 1956 (IRWD Act)** was enacted under **Article 262 of the Constitution** to resolve disputes in the **use, control and distribution of inter-state rivers.**
- Whenever **any request** under the Act is received from any state, and the Centre is of the opinion that it cannot be settled by negotiation, it constitutes a tribunal for adjudication called **Inter-state River Water Dispute Tribunal.**
- So far, **nine tribunals have been constituted,** of which **five were subsequently dissolved after they completed adjudication.** Of the nine tribunals, Ravi and Beas Water Tribunal, Krishna Water Disputes Tribunal -II, Mahadayi Water Disputes Tribunal, Mahanadi Water Disputes Tribunal are active.
- Although the **Supreme Court shall not question the Award or formula** given by tribunal, it can **question the working of the tribunal.**

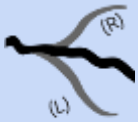
Can the Supreme Court issue orders relating to interstate water disputes?

- **Article 262 and the Inter State River Water Disputes Act** restrains the jurisdiction of the Supreme Court in matters of inter state river water disputes.
- However, **Article 136 of the Constitution** empowers the Supreme Court to grant special leave to appeal from any order etc, passed or made by any court or tribunal. This power is a **plenary or comprehensive one** and the Supreme Court invokes the same in cases where a substantial question of law is involved.
- This provision alone is enough to conclude both jurisprudentially and constitutionally that the **apex court has jurisdiction over all courts and tribunals in the territory of India.**

Timeline of Cauvery Dispute

- The origin of the dispute traces back to the late 1800s, when agreements were reached between the **princely state of Mysore** (now part of Karnataka) and the **Madras Presidency** (now Tamil Nadu).
- Primarily, the dispute pertains to the allocation of water resources during periods of water scarcity, the distribution of water during regular years, and the establishment of reservoirs and dams along the river's course.
- The **Cauvery Water Disputes Tribunal (CWDT)** was formed in 1990 and was aimed at addressing water disputes involving Tamil Nadu, Karnataka, Kerala, and Puducherry.
- The CWDT arrived at a conclusive ruling in **2007**, outlining water allocations among the four states in the Cauvery basin. The ultimate decision has been difficult to implement with Karnataka and Tamil Nadu expressing discontent with the tribunal's judgement on various occasions.
- In **2018**, the Supreme Court, invoking its powers **under Article 136,** declared the **Cauvery River a national resource** and **reallocated the water share** as follows:
    - Karnataka (284.75 tmc ft);
    - Tamil Nadu (404.25 tmc ft);
    - Kerala (30 tmc ft) and
    - Puducherry (7 tmc ft).
    - Ten tmc ft and four tmc ft have been set apart for environmental protection and inevitable escapes into the sea.
- The SC also ordered the **creation of the Cauvery Water Management Authority (CWMA) and the Cauvery Water Regulatory Committee (CWRC)** to adjudicate disputes between the states within the framework of the final court orders and to oversee the implementation of the verdicts of the Tribunal and the Court.

Geography Basics

About	• Cauvery is an **easterly flowing river of the Peninsular India** that runs across three of the southern Indian states i.e. **Karnataka, Tamil Nadu, Kerala and a Union Territory of Puducherry.**
Origin	• The point of origin of Cauvery, **Talakaveri** is in the **Brahmagiri ranges** of the Western Ghats at an elevation of 1341m.
Course	• It is the **third largest river in southern India** after Godavari and Krishna, and the largest in Tamil Nadu. • It begins its **800 km long journey** from the Western Ghats; traverses through Mysore plateau and finally forms a delta on the eastern coastline of the subcontinent before falling into the Bay of Bengal.
Geology	• Geologically, the basin forms a part of the **South Indian Shield.**
Soils	• The principal soil types found in the basin are red soils, black soils, laterite, alluvial soils, forest soils and mixed soils.
Cultivable area	• Cultivable area in the basin is about 5.8 Million ha, which is **3.0% of the total cultivable area** of the country
Catchment area	• The catchment of the river basin lies in the states of **Karnataka, Tamil Nadu, Kerala and Union Territory of Pondicherry.** • Of the total area of the basin, 41.2% falls in the state of Karnataka, **55.5% in the state of Tamil Nadu** and 3.3 % in Kerala.
Tributaries 	• **Left bank tributaries:** Harangi, the Hemavati, the Shimsha and the Arkavati • **Right bank tributaries:** Lakshmantirtha, the Kabbani, the Suvarnavati, the Bhavani, the Noyil and the Amaravati. • The river drains into the Bay of Bengal.
Significance	• The Cauvery River, often referred to as the **"Ganges of the South,"** is a vital source of **drinking water** for the southern states. • Its waters are used primarily for **irrigation**, providing sustenance to

millions of farmers.

- It is known for its **biodiversity**, including several endemic species of fish and aquatic life.
- It holds immense **cultural and religious significance** for the people of the region.

International Relations

1) G-20 Summit

About G20

- The Group of Twenty (G20) is an **intergovernmental forum** comprising **19 countries** - Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Republic of Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, United Kingdom and United States and the **European Union.**
- The G20 members represent around **85% of the global GDP, over 75% of the global trade, and about two-thirds of the world population.**

G20 members

Genesis of G20

- The G20 was founded in **1999** after the **Asian financial crisis** as a forum for the Finance Ministers and Central Bank Governors to discuss global economic and financial issues.
- It was **upgraded to the level of Heads of State/Government** in the wake of the global economic and financial crisis of 2007, and, in 2009, was designated the **"premier forum for international economic cooperation".**
- The forum initially dealt with **matters related to macroeconomics,** but over the years, its agenda has **expanded to cover** issues relating to trade, climate change, sustainable development, health, agriculture, energy, environment, climate change, and anti-corruption.

How does the G20 work?

- The G20 Summit is held annually under a **rotating presidency**.
- The **G20 Presidency steers the G20 agenda for one year and hosts the Summit.**
- The G20 consists of **two parallel tracks:** the **Finance Track** and the **Sherpa Track.**
    - Finance Ministers and Central Bank Governors lead the Finance Track while Sherpas (personal representative of the leader of a member country) lead the Sherpa Track.
    - Sherpas oversee negotiations all through the year, discussing agenda items for the summit and coordinating the substantive work of the G20.
    - Within the two tracks, there are **thematically oriented working groups** in which representatives from the relevant ministries of the members as well as from invited/guest countries and various international organisations participate.
- In addition, there are **Engagement Groups** which bring together civil societies, parliamentarians, think tanks, women, youth, labour, businesses and researchers of the G20 countries.
- The group **does not have a permanent secretariat**, and the presidency is supported by the previous, current, and future

holders of the post, together called the **Troika**.

India's G-20 Presidency

- India holds the Presidency of the G20 from **2022 to 2023.**
- As the President-nation, India is responsible for hosting the **18th G20 Heads of State and Government Summit.** Apart from hosting the summit and setting the theme, the **G20 presidency does not come with any formal powers.**

G20 Logo & Theme

- Last year, the Government of India unveiled the Logo and Theme of India's G20 Presidency.
- The G20 Logo draws **inspiration from the vibrant colours of India's national flag – saffron, white and green, and blue.**
- It **juxtaposes planet Earth with the lotus**, India's national flower that reflects growth amid challenges. The Earth reflects **India's pro-planet approach to life**, one in perfect harmony with nature.
- Below the G20 logo is **"Bharat",** written in the **Devanagari script.**

- The **theme of India's G20 Presidency - "Vasudhaiva Kutumbakam" or "One Earth · One Family · One Future"** - is drawn from the ancient Sanskrit text of the **Maha Upanishad.**

Why in News?

- The 18th G20 Summit of 2023 recently concluded in New Delhi, marking the first-ever G20 summit hosted by the country.

Key Outcomes of the 2023 G20 summit

1. G20 New Delhi Declaration:

- All parts of the G20 New Delhi Leaders' Declaration were unanimously approved, achieving a **remarkable 100 percent consensus**, even with China and Russia in agreement.
- **Highlights of New Delhi Declaration:**
  - All states must **refrain from the threat or use of force to seek territorial acquisition** against the territorial integrity and sovereignty or political independence of any state.
  - **All acts of terrorism** are **criminal and unjustifiable** regardless of their motivation, wherever, whenever, or by whomever they are committed.
  - The document emphasises **protecting the vulnerable** through promoting equitable growth and enhancing macroeconomic and financial stability.
  - It focuses on **strong and sustainable growth**, accelerating progress on sustainable development goals, a green development pact, and reinvigorating multilateralism.
  - The G-20 nations agree to remain committed to **strengthening the global health architecture.**

2. African Union accepted as part of the G20:

- Prior to the summit, the only African member of the G20 was **South Africa.**
- At the Delhi Summit of the G20, the **African Union**, which represents the 55 countries in the African continent, was given **full**

membership in the grouping. (G20 to now **G21**).

3. India – Middle East – Europe Economic Corridor (IMEC):

- During the Summit, a Memorandum of Understanding (MoU) was signed among the **Governments of India, the U.S., Saudi Arabia, the European Union, the UAE, France, Germany, and Italy** to establish the **India – Middle East – Europe Economic Corridor.**
- IMEC is envisioned as a **network of transportation routes encompassing railways and sea lanes.**
- Its primary objective is to **promote economic development by fostering integration between Asia, the Arabian Gulf, and Europe.**
- This project falls under the umbrella of the **Partnership for Global Infrastructure Investment (PGII),** an initiative led by Western nations to support infrastructure projects worldwide.
    - *The PGII seeks to finance infrastructure projects in developing countries by leveraging a combination of public and private investments.*
    - *It was initially introduced during the G7 summit in the UK in 2021.*
- The IMEC corridor hopes to become a **viable alternative to China's Belt and Road Initiative (BRI),** which has steadily established global connectivity linkages with the Chinese market through extensive shipping, rail, and road networks, since its conception 10 years ago.

4. Global Biofuel Alliance:

- **India** along with the leaders of **Singapore, Bangladesh, Italy, USA, Brazil, Argentina, Mauritius and UAE**, launched the Global Biofuel Alliance (GBA), a new organization aimed at **promoting the development and adoption of sustainable biofuels.**
- GBA envisions developing an **alliance of Governments, International organizations and Industry** to facilitate adoption of biofuels.
- It will also facilitate development, adoption and implementation of **internationally recognized standards, codes, sustainability principles and regulations** to incentivize biofuels adoption and trade.

5. Climate action:

- The summit endorsed a goal to **triple global renewable energy capacity** and **emphasized the necessity for emissions to peak before 2025.**
- Additionally, the Declaration acknowledged that **limiting global warming to 1.5 degrees Celsius** (2.7 degrees Fahrenheit) **necessitates a 43 percent reduction in greenhouse gases by 2030 compared to 2019 levels.**

2) Nagorno-Karabakh Dispute

Background

- Nagorno-Karabakh is a landlocked, mountainous and forested region located in the **South Caucasus region**, which straddles the border between **eastern Europe and western Asia** and spans the **southern part of the Caucasus mountains.**
- Modern-day **Armenia and Azerbaijan** became part of the **Soviet Union** when it formed in the 1920s.
- As the Soviet Union saw increasing tensions in its constituent

republics in the 1980s, Nagorno-Karabakh voted to become **part of Armenia**, but the Soviets gave control over the area to **Azerbaijani authorities**.

- Azerbaijan and Armenia fought a bloody war over Nagorno-Karabakh in the late 1980s and early 1990s, and it has been the trigger for further violence in the years since.

Why in News?

- Fresh conflict erupted between Armenia and Azerbaijan over Nagorno-Karabakh.

3) CPEC

What is the CPEC project?

- China-Pakistan Economic Corridor (CPEC) refers to a clutch of major infrastructure works currently under way in Pakistan, intended to **link Kashgar in China's Xinjiang province to Gwadar deep sea port** close to Pakistan's border with Iran.
- Several other road, rail and power projects are associated with the corridor, and the project seeks to expand and upgrade infrastructure across the length and breadth of Pakistan, and to widen and deepen economic ties with China.
- CPEC is **part of the larger Belt and Road Initiative**.
    - *China's Belt and Road Initiative aims to strengthen Beijing's economic leadership through a vast program of infrastructure building throughout China's neighbouring regions. It was launched in 2013.*
    - *The plan was two-pronged: the overland **Silk Road Economic Belt** and the **Maritime Silk Road.** The project initially aimed to strengthen connectivity with Southeast Asia but later expanded to South and Central Asia, Africa, Europe, and Latin America.*
- CPEC was launched in 2015 and it now envisages investment of over USD 70 billion in different projects of development in Pakistan.

Significance

- The goal of CPEC is both to **transform Pakistan's economy**—by modernizing its road, rail, air, and energy transportation systems—and to **connect the deep-sea Pakistani ports of Gwadar and Karachi to China's Xinjiang province and beyond by overland routes.**
- This would reduce the time and cost of transporting goods and

energy such as natural gas to China by **circumventing the Straits of Malacca and the South China Sea.**

- The CPEC project is also **strategically important for China.** Currently, eighty percent of China's oil has to pass through the **Strait of Malacca**, a narrow stretch of water between the Indonesian island of Sumatra and the Malay Peninsula.
- In the event of a conflict, the Malacca Strait could easily be blocked by a rival nation, cutting off China from crucial energy resources. CPEC allows China to circumvent the Strait of Malacca and reduce its **dependency on the strait.**

India's position on CPEC

- India has been opposing the project as it **passes through Gilgit-Baltistan in Pakistan-occupied Kashmir (PoK),** which New Delhi considers its own territory.
- India claims that the CPEC project encroaches on sovereignty and territorial integrity of the country.

Why in News?

- Pakistan and China have signed new agreements to help undertake the second phase of the China-Pakistan Economic Corridor project, further cementing the all-weather strategic relations between the countries.

4) Minerals Security Partnership

About MSP

- **The US** and 11 partners — **Australia, Canada, Finland, France, Germany, Japan, the Republic of Korea (South Korea), Sweden, the United Kingdom, Italy and the European Union** — formed the Minerals Security Partnership (MSP) in 2022.
- MSP is an ambitious alliance to **secure supply chains of critical minerals**. It comes in the backdrop of recorded demand for critical minerals, which are essential for clean energy and other technologies.
- The goal of the alliance is to ensure that critical minerals are produced, processed, and recycled in a manner that supports the ability of countries to realise the full economic development benefit of their geological endowments.
- The focus would be on the supply chains of minerals such as **Cobalt, Nickel, Lithium and also the 17 "rare earth" minerals.**
    - *Rare earth minerals are a set of seventeen metallic elements. They are called 'rare earth' because earlier it was difficult to extract them from their oxides forms technologically. They are an essential part of many high-tech devices.*
- The alliance is seen as primarily focused on **evolving an alternative to China**, which has created processing infrastructure in rare earth minerals and has acquired mines in Africa for elements such as Cobalt.

Why in News?

- **India** has become a part of the Mineral Security Partnership — headed by the United States.
- MSP is a strategic grouping which aims to **catalyse public and private investment in critical mineral supply chains globally.**
- India's inclusion in the club is vital for India to fulfill its ambition of **shifting towards sustainable mobility** through large, reliable fleets of electric public and private transport.
- Securing the supply chain of critical minerals will also provide the country with the necessary push

towards a **concerted indigenous electronics and semiconductor manufacturing.**
- The inclusion will also pave the way for **equitable sharing of resources across the globe.**

Related Information

What are 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.**

Who are the top producers of critical minerals?

- According to a report released by the **International Energy Agency,** the major producers of critical minerals globally are **Chile, Indonesia, Congo, China, Australia and South Africa.**
- **China** dominates in terms of processing.

Scenario in India

- Presently, India boasts a **production of 95 minerals** and **possesses the world's fifth-largest reserve of rare earth minerals.**
- Yet, **India heavily relies on imports for the majority of its minerals,** with a few exceptions like copper, gallium, graphite, cadmium, phosphorus, potash, and titanium.
- **India has only tapped into 10–20 percent of its actual capacity** in terms of critical mineral exploration.

Government of India Initiatives and International Partnerships

1. Establishment of Khanij Bidesh India Ltd. (KABIL):

- Khanij Bidesh India Ltd. is a **joint venture company of three Central Public Sector Enterprises** under **Ministry of Mines** namely, National Aluminium Company Ltd. (NALCO), Hindustan Copper Ltd. (HCL) and Mineral Exploration and Consultancy Ltd.
- The company was set up in **2019** with an objective to **identify and acquire overseas mineral assets of critical and strategic nature.**
- The Company is **focusing on two prime critical and strategic mineral** i.e. **Lithium and Cobalt** in the present context of the Indian economy and linking it with creation of supply chain ecosystem in the country.

2. India-Australia Critical Minerals Investment Partnership:

- India and Australia have entered into a strategic partnership aimed at **securing the critical mineral supply chain.**
- The primary objective of this partnership is to bolster exploration and extraction efforts, ensuring a stable supply of vital minerals to meet India's growing industrial demands.

3. Critical Minerals List:

- Recently, India has officially released its **first-ever critical minerals list, identifying 30 key critical minerals,** including lithium, cobalt, nickel, graphite, tin and copper, which are **essential**

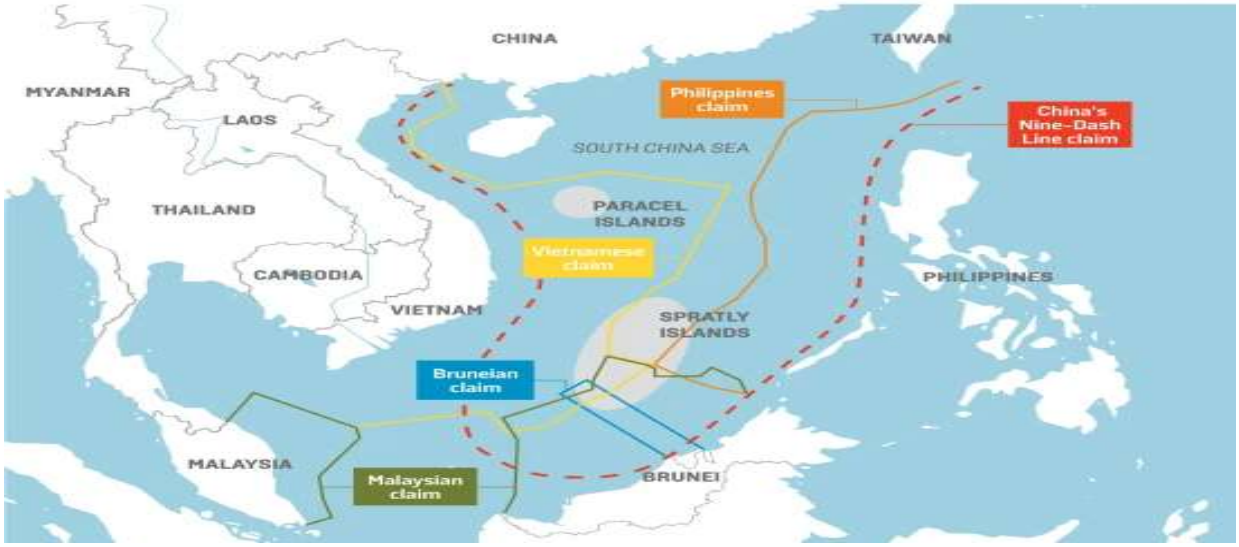
for the country's economic development and national security.

- This pioneering step aims at reducing import dependence, enhancing supply-chain resilience, and supporting the country's net-zero objectives.
- India is also set to establish the **Center of Excellence for Critical Minerals (CECM)** to periodically identify and update the list. This body will also be responsible for executing functions to ensure a reliable value chain for critical minerals.

5) South China Sea dispute

Background

- Currently, among the most disputed topics in the world, in the South China Sea (SCS) dispute, the governments of **six countries** (Vietnam, Indonesia, Philippines, Brunei, Malaysia and China) claim that they are the rightful owner of **Paracel and Spratly islands**, and among them, China has been the most aggressive one.
- The disputed sea is composed of approximately 100 to 230 islands wherein small islands called islets are usually included in it.
- The Chinese government claims an enormous area under what is known as the **"nine-dash line"** that is over 2000 km long, starting from mainland China and reaching waters close to Indonesia and Malaysia. China maintains that the area has been under Chinese rule since ancient times.
- China has been building military bases on small islands and also expanding the area of islands artificially.



Importance of the South China Sea

- This sea route, connecting Asia with Europe and Africa, is an **important trade passageway** for international trade.
- The **Strait of Malacca**, along with the **Lombok Strait** and **Sunda strait** are all connected with SCS and responsible for oil and LNG imports by major countries such as China, Japan, Indonesia, South Korea, and others from Gulf countries.
- It is estimated that around 15 million barrels each day are transported through the Strait of Malacca, making it the **second busiest strait** after the Strait of Hormuz in terms of oil transportation with respect to volume.

- The economy of China depends upon the oil import in which 80% of the oil is transported through the Strait of Malacca and then through SCS to China, which means that full control and easy access through this strait is the justification behind economic prosperity of the Chinese nation.
- Apart from the strategic importance of the SCS, this region is also blessed with **large deposits of natural resources beneath the sea**.
- Aside from oil and gas reserves, this region is also gifted with **one-third of the total marine biodiversity of the Earth**, which means that substantial revenue can also be generated through **fishing** alone.

PCA award

- Following the dispute, the Philippines filed a case against China in the **Permanent court of arbitration (PCA)**.
- In 2016, a tribunal of the PCA issued its **ruling against China's claims in the South China Sea.** The tribunal's five arbitrators ruled overwhelmingly in the Philippines' favor after finding that China had violated the sovereign rights of the Philippines in its exclusive economic zone.
- However, **China refused to participate in the arbitration and rejected the outcome.**

Why in News?

- A fresh controversy broke out recently between China and The Philippines after China installed a barricade near the South China Sea's **Scarborough Shoal.**
- Both countries have been embroiled in a tussle over the shoal's territorial claim since 2012. The shoal was seized in 2012 by China, which has maintained a constant presence of coast guard and fishing trawlers there ever since.

Related Information About PCA

- The Permanent Court of Arbitration was established by the **Convention for the Pacific Settlement of International Disputes**, concluded at The Hague in 1899 during the first Hague Peace Conference.
- The 1899 Convention was revised at the second Hague Peace Conference in 1907.
- The PCA is not a court in the traditional sense but provides services of an **arbitral tribunal** to resolve disputes that arise out of international agreements between member states, international organizations or private parties.
- The cases span a range of legal issues involving territorial and maritime boundaries, sovereignty, human rights, international investment, and international and regional trade.
- The PCA has **no sitting judges: the parties themselves select the arbitrators.**
- The PCA is an **official United Nations Observer.** It is headquartered in **The Hague, Netherlands.**

Members

- The PCA has more than 120 Contracting Parties which have acceded to one or both of the PCA's

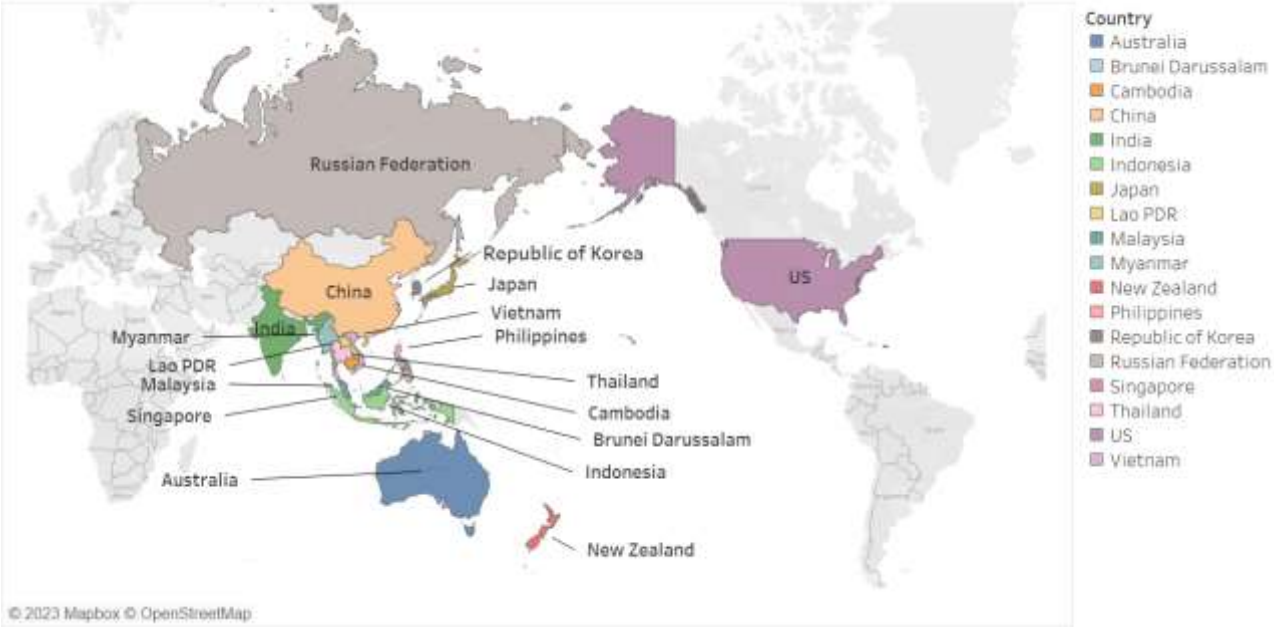
founding conventions (1899 and 1907 Conventions).
- **India is a party** to the PCA according to the convention of 1899.

6) East Asia Summit

About EAS

- The East Asia Summit (EAS) is the **Indo-Pacific's premier forum for strategic dialogue.**

Members of East Asia Summit



- Established in **2005**, EAS allows the principal players in the Asia-Pacific region to discuss issues of common interest and concern at the highest level.
- The membership of EAS consists of **ten ASEAN Member States** (i.e. Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, Singapore, Thailand, the Philippines and Vietnam), **Australia, China, India, Japan, New Zealand, Republic of Korea, Russian Federation and the USA**.
- **India** is a founding member of EAS.
- EAS is an initiative of ASEAN and is based on the premise of the centrality of ASEAN. **EAS can only be chaired by an ASEAN member.**
- It is the only leader-led forum at which **18 key Indo-Pacific partners** meet to discuss political, security and economic challenges facing the region, and has an important role to play in advancing closer regional cooperation.

Membership

- *Refer Pulse May 2023 Digest edition for details about ASEAN.*

Priority areas

- There are **six priority areas of regional cooperation** within the framework of the EAS. These are – Environment and Energy, Education, Finance, Global Health Issues and Pandemic Diseases, Natural Disaster Management, and ASEAN Connectivity.
- **India endorses regional collaboration in all six priority areas.**

Why in News?

- The 18th East Asia Summit was recently held in Indonesia.

Art & Culture

1) New UNESCO World Heritage sites

UNESCO's World Heritage Convention, 1972

- The **Convention Concerning the Protection of the World Cultural and Natural Heritage** is an international agreement that was adopted by the General Conference of UNESCO in 1972.
- It is based on the premise that certain places on Earth are of **outstanding universal value** and should therefore form part of the common heritage of humankind.
- It basically defines the kind of **natural or cultural sites** which can be considered for inscription on the World Heritage List.
    - **Cultural sites** include monuments, such as architectural structures, art and science pieces, while **natural sites** include formations that are of outstanding universal value from the aesthetic or scientific point of view.
    - In addition to these, UNESCO designates some sites as **Mixed heritage sites** which contain elements of both natural and cultural significance.
- The Convention sets out the duties of **State Parties** in **identifying potential sites and their role in protecting and preserving them.**
- By signing the Convention, each country pledges to conserve not only the World Heritage sites situated on its territory, but also to **protect its national heritage.**
- It explains how the **World Heritage Fund** is to be used and managed and under what conditions **international financial assistance** may be provided.

World Heritage Sites in India

Cultural sites (32)

- Agra Fort
- Ajanta Caves
- Archaeological Site of Nalanda Mahavihara at Nalanda, Bihar
- Buddhist Monuments at Sanchi
- Champaner-Pavagadh Archaeological Park
- Chhatrapati Shivaji Terminus (formerly Victoria Terminus)
- Churches and Convents of Goa
- Elephanta Caves
- Ellora Caves
- Fatehpur Sikri
- Great Living Chola Temples
- Group of Monuments at Hampi
- Group of Monuments at Mahabalipuram
- Group of Monuments at Pattadakal
- Hill Forts of Rajasthan
- Historic City of Ahmedabad
- Humayun's Tomb, Delhi
- Jaipur City, Rajasthan
- Khajuraho Group of Monuments
- Mahabodhi Temple Complex at Bodh Gaya
- Mountain Railways of India
- Qutb Minar and its Monuments, Delhi
- Rani-ki-Vav (the Queen's Stepwell) at Patan, Gujarat
- Red Fort Complex
- Rock Shelters of Bhimbetka
- Sun Temple, Konârk
- Taj Mahal
- The Architectural Work of Le Corbusier, an Outstanding Contribution to the Modern Movement
- The Jantar Mantar, Jaipur
- Victorian Gothic and Art Deco Ensembles of Mumbai
- Ramappa temple, Telangana
- Dholavira, Gujarat

Natural sites (7)

- Great Himalayan National Park Conservation Area
- Kaziranga National Park
- Keoladeo National Park
- Manas Wildlife Sanctuary
- Nanda Devi and Valley of Flowers National Parks
- Sundarbans National Park
- Western Ghats

Mixed site (1)

- Khangchendzonga National Park

Why in News?

- The number of UNESCO World Heritage Sites in India has grown to **42** with the **Santiniketan and 'Sacred Ensembles of the Hoysala'** finding a place in the coveted list.

About Shantiniketan

- **Santiniketan**, located in **West Bengal**, is a renowned **cultural and educational center** with historical and literary significance.
- Santiniketan was founded by renowned poet and philosopher **Rabindranath Tagore** in 1901. The name "**Santiniketan**" translates to "**Abode of Peace.**"
- Santiniketan is home to **Visva Bharati University**, an internationally renowned institution that Tagore established in **1921**. Visva Bharati embodies the ideals of Rabindranath Tagore, promoting a blend of **traditional Indian education** with the best of **Western and international ideas.**
- Santiniketan has played a pivotal role in the **Indian cultural** and **literary renaissance**. It has been a gathering place for artists, intellectuals, and creative minds.

Sacred Ensembles of the Hoysala

- This serial property encompasses the **three most representative examples of Hoysala-style temple complexes** in **Karnataka**, dating from the **12th to 13th centuries.**
- The Hoysala style was created through careful selection of contemporary temple features and those from the past to create a different identity from neighbouring kingdoms.
- The shrines are characterized by **hyper-real sculptures** and **stone carvings** that cover the entire architectural surface, a **circumambulatory platform**, a **large-scale sculptural gallery,** a **multi-tiered frieze**, and **sculptures of the Sala legend**.
- The excellence of the sculptural art underpins the artistic achievement of these temple complexes, which represent a significant stage in the historical development of Hindu temple architecture.

1. Chennakeshava Temple:

- The **Chennakeshava Temple** is a famous Hindu temple located in Belur, Karnataka.
- The Chennakeshava Temple was commissioned by **King Vishnuvardhana** of the **Hoysala dynasty** in the 12th century. It was built to commemorate his victory over **Cholas** in 1116 AD.

- The temple is dedicated to **Lord Chennakeshava**, a form of **Lord Vishnu**.
- The temple is adorned with sculptures depicting various mythological and religious themes, as well as scenes from the **Ramayana, Mahabharata**, and **Bhagavad Gita.**

2. Hoysaleshwara Temple in Halebid:

- The **Hoysaleshwara Temple** is an exemplary showcase of Hoysala architecture, characterized by detailed and intricate carvings.
- Built in **1121CE** during the reign of the Hoysala King, **Vishnuvardhana Hoysaleshwara.**
- The temple, dedicated to **Shiva**, was sponsored and built by wealthy citizens and merchants of **Dwarasamudra.**
- The temple is built with **soapstone** and stands on a **raised platform.**

3. Keshava Temple, Somanathapura:

- The Keshava temple at Somanathapura is another magnificent **Hoysala monument.**
- It is a **Trikuta Temple** dedicated to **Lord Krishna** in three forms – Janardhana, Keshava and Venugopala.
- Unfortunately, the main **Keshava idol** is **missing**, and the **Janardhana** and **Venugopala idols** are damaged.

2) Nehru Trophy Boat Race

About

- The Nehru Trophy Boat Race named after **Pandit Jawaharlal Nehru** is conducted on the **Punnamada Lake, near Alappuzha in Kerala** every year.
- One of the features that make the race stand out is that it **isn't linked to any ritual or practice.**
- The origin of this backwater spectacle traces back to **1952**. The race was first organised to welcome the then Prime Minister of India Jawaharlal Nehru.
- The major attraction of the boat race is the competition of the **"Chundan Vallam" or the snake boats.** These majestic boats measuring a length over 100 ft with a raised prow can accommodate around 100 rowers.

Why in News?

- The Nehru Trophy Boat Race was recently held on Punnamada Lake in Kerala's Alappuzha district.

3) Adi Shankaracharya

Who was Adi Shankaracharya?

- Adi Shankara, who is believed to have lived between **788 and 820 AD**, was born in **Kerela's Kaladi**, situated on the bank of the **Periyar River**.
- He became a **sanyasin** at an early age and left his household, where he is said to have made his way to **Omkareshwar (Madhya Pradesh)**.
- Here, he studied under his **guru Govinda Bhagavatpada** and soon became a **proponent of Advaita Vedanta** that declared that god and humans were not two. He pronounced that **'Brahman or pure consciousness is the absolute reality that is attainable by human beings and that the material world is an illusion'.**

- From the age of 16 to 32, Adi Shankaracharya travelled across the length and breadth of India with the message of Vedas.
- Adi Shankaracharya **founded four ashrams - Badrinath, Puri, Dwaraka and Sringeri -** in the four corners of the country. These were the centres to elucidate the essence of Advaita philosophy.
- Each ashram was to follow one of the four Vedas - Puri for Rig Veda, Sringeri for Yajur Veda, Dwaraka for Sama Veda and Badrinath for Atharva Veda.

Works of Adi Shankaracharya

- Adi Shankaracharya wrote **18 commentaries on the scriptures** including the Brahma Sutras, the Bhagavad Gita and 12 major Upanishads.
- He wrote about two dozen books elucidating the fundamentals of the Advaita Vedanta philosophy. Some of these books are **Viveka Chudamani, Atma Bodha, Vaakya Vritti and Upadesa Sahasri.**
- Adi Shankaracharya is credited to have composed **72 devotional and meditative hymns.**
- At the age of 32, Adi Shankaracharya retired to the Himalayas and is believed to have entered a cave near Kedarnath. He was never seen again and the cave that he entered is considered as his final resting place.

Why in News?

- A 108-foot-tall statue of Adi Shankaracharya, known as **'Ekatmata Ki Pratima' (Statue of Oneness),** was recently unveiled in Omkareshwar, Madhya Pradesh.
- The statue depicts Shankaracharya as a 12-year-old child when he is said to have visited Omkareshwar.

Defence

1) Defence Acquisition Council

About DAC

- Defence Acquisition Council (DAC) is **constituted under the Ministry of Defence** (MoD) for **overall guidance of the defence procurement planning process.**
- The **Defence Minister is the Chairman** of DAC. Its members include the Chief of Defence Staff (CDS) and Chiefs of triservices.
- The DAC is the **highest decision-making body** in the defence ministry for deciding on new policies and capital acquisitions for the three services and the Indian Coast Guard.
- The objective of the DAC is to **ensure expeditious procurement** of the approved requirements of the Armed Forces in terms of capabilities sought, and time frame prescribed, by optimally utilizing the allocated budgetary resources.

Why in News?

- The Defence Acquisition Council (DAC) has granted Acceptance of Necessity (AoN) for capital acquisition proposals worth approximately Rs 7,800 crore.

Miscellaneous

1) Dark Patterns

What are dark patterns?

- A dark pattern refers to a design or user interface technique that is intentionally crafted to **manipulate or deceive users into making certain choices or taking specific actions that may not be in their best interest.**
- It is a **deceptive practice employed to influence user behaviour in a way that benefits the company implementing it.**
- Some of the different types of dark patterns are **"false urgency",** meaning falsely stating or implying a sense of urgency; **"basket sneaking",** meaning inclusion of additional items at the time of checkout without the consent of the user; and **"confirm shaming",** or using a phrase, video, audio or any other means to create a sense of fear or shame or ridicule or guilt in the mind of the user.

Why in News?

- The Department of Consumer Affairs, Government of India, has sought public comments on Draft Guidelines for Prevention and Regulation of Dark Patterns.
- The draft guidelines **define dark patterns** as any practices or deceptive design patterns using UI/UX (user interface/user experience) interactions on any platform; designed to mislead or trick users to do something they originally did not intend or want to do; by subverting or impairing the consumer autonomy, decision making or choice; amounting to misleading advertisement or unfair trade practice or violation of consumer rights.