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## CURRENT AFFAIRS

## JANURARY 2024

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# 1. Polity & Governance

## 1.1 What is an e-SCR portal?

### About e-SCR portal

- It is an initiative to provide the digital version of the apex court's judgments in the manner as they are reported in the official law report.
- The Supreme Court has developed a search engine with the help of the National Informatics Centre.
- It comprises elastic search technique in the database of e-SCR and the search facility in e-SCR provides for free text search, search within search, case type and case year search, judge search, year and volume search and bench strength search options.
- It will provide free access to its about 34,000 judgements to lawyers, law students and the common public.
- These verdicts will be available on the apex court website, its mobile app and on the judgment portal of the National Judicial Data Grid (NJDG).

### National Judicial Data Grid

- It is a national repository of data relating to cases instituted, pending, and disposed of by the courts across the length and breadth of the country.
- It has been developed by National Informatics Centre (NIC) in close coordination with the in-house software development team of the Computer Cell, Registry with an interactive interface and analytics dashboard.
- The entire database shall be periodically updated on the NJDG portal.

## 1.2 What is the new hit-and-run law?

Overview:

*The countrywide truckers' stir has been called off recently as the government assured that it would consult stakeholders before implementing a contentious law against hit-and-run.*

### About the new hit-and-run law

- As per the Bharatiya Nyay Sanhita (BNS), which is a replacement for the British-era Indian Penal Code (IPC), if a driver causes a serious road accident due to careless driving and then leaves without informing the police or any official, they could be punished with up to 10 years in jail and a fine of Rs 7 lakh.
- BNS has established two distinct categories under the umbrella of "causing death by negligence."
  - The first category addresses causing death through any rash or negligent act that does not amount to culpable homicide.
    - Offenders in this category may face imprisonment for up to five years and a fine.
- The second category deals with causing death through rash and negligent driving, not amounting to culpable homicide.
  - If the individual escapes without promptly reporting the incident to a police officer or magistrate, they could be subjected to up to 10 years of imprisonment and a fine.

- What was the hit-and-run law before?
- The old, British-era IPC did not have a specific provision for hit-and-run cases.
- Actions in such cases were taken under Section 304 A of the IPC.
- As per this section, an individual causing the death of another due to a reckless or negligent act could face a maximum jail term of two years or a fine.
- All cases of hit-and-run, along with other forms of activities that came under the ambit of causing death by a "rash and negligent act" were lodged under Section 304A of the IPC.

**Q1) What is Culpable Homicide in IPC?**

Culpable Homicide in IPC refers to causing the death of a person by engaging in acts with the intention of causing death, intending to cause such bodily injury that is likely to cause death, or having knowledge that the act is likely to cause death.

**1.3 UN Statistical Commission**

Overview:

*Recently, India started its four-year term as a member of the United Nations Statistical Commission.*

**About UN Statistical Commission**

- It was established in 1947 and is the highest body of the global statistical system.
- It brings together the Chief Statisticians from member states from around the world.
- Functions:
  - It is the highest decision-making body for international statistical activities, responsible for setting statistical standards and the development of concepts and methods, including their implementation at the national and international levels.
  - The Statistical Commission oversees the work of the United Nations Statistics Division (UNSD), and it is a Functional Commission of the UN Economic and Social Council.
- Membership: The Commission consists of 24 member countries of the United Nations elected by the United Nations Economic and Social Council based on an equitable geographical distribution according to the following pattern:
  - Five members from African States
  - Four members from Asia-Pacific States
  - Four members from Eastern European States
  - Four members from Latin American and Caribbean States
  - Seven members from Western European and other States
- Term: The term of office of members is four years.
- India was a member of the Statistical Commission last in 2004 and the country is returning to the UN agency after a gap of two decades.
- Headquarter: New York

### 1.4 What is Article 30 of the Indian Constitution?

*The Supreme Court recently attempted to strike a balance by remarking that the intent of Article 30 of the Constitution was not to ghettoise minorities by insisting they had the upper hand in administration of the institution.*

#### About Article 30

- It is one of the many provisions that ensure the preservation of **minority rights**.
- Article 30 of the Indian Constitution states the right of minorities to establish and administer educational institutions.
- It says: **“All minorities**, whether based on religion or language, shall have the right to establish and administer educational institutions of their choice.”
- It was adopted on December 8, 1948.
- Features:
  - It consists of provisions that safeguard various rights of the minority community in the country, keeping in mind the principle of equality as well.
  - Article 30(1) says that all minorities, whether based on religion or language, shall have the right to establish and administer educational institutions of their choice.
  - The right is provided by this clause on two types of minorities, namely, religious and linguistic minorities.
  - Article 30(1A) deals with the fixation of the amount for the acquisition of property of any educational institution established by minority groups.
  - Article 30(2) states that the government should not discriminate against any educational institution on the ground that it is under the management of a minority, whether based on religion or language, while giving aid.
- Concept of Minorities:
  - **The Constitution of India uses the word minority but does not define it.**
  - Article 29 of the Indian Constitution uses the word ‘**minorities**’ in its marginal heading, but it speaks about "any section of the citizens inhabiting the territory of India or any part of the country should have the right to protect **their language or script or culture, which is different and varied**."
    - It also says that citizens should be allowed to take admission in any educational institution which is maintained by the State or getting help from State funds whether they vary in religion, race, caste, language, or any of them.
  - Article 30 of the Constitution of India talks only about religious and linguistic minorities.
  - **Religious Minority:** The basic ground for a community to be nominated as a religious minority is the numerical strength of the community.
  - Section 2, clause (c) of the National Commission of Minorities Act, declares six communities as minority communities. They are:
    - **Muslims**
    - **Christians**
    - **§ Buddhists**
    - **Sikhs**
    - **Jains and**
    - **Zoroastrians (Parsis)**
  - **Linguistic Minorities:**



- Class or group of people whose mother language or mother tongue is different from that of the majority groups is known as the linguistic minorities.
- **Article 350-A** of the Indian Constitution imposes an obligation on the states to try to provide enough facilities for instruction in the mother language at the primary level of education to children belonging to the linguistic minority community.

### 1.5 What is Farsi?

*The External Affairs Minister recently announced that the Government of India has decided to **include Farsi (Persian) as one of the nine classical languages** in India under the New Education Policy.*

#### About Farsi

- **Farsi**, also known as **Persian Language**, is the most widely spoken member of the **Iranian branch** of the Indo-Iranian languages, a subfamily of the Indo-European languages.
- It is the **official language of Iran**, and **two varieties** of Persian known as **Dari** and **Tajik** are official languages in **Afghanistan** and **Tajikistan**, respectively.
- Significant **populations of Farsi speakers** can be found in other **Persian Gulf countries (Bahrain, Iraq, Oman, Yemen, and the United Arab Emirates)**, as well as large communities in the **US**.
- It has about **62 million** native speakers, ranking it among the **world's 20 most widely spoken** first languages.
- Farsi in Iran is written in a variety of the Arabic script called Perso-Arabic, which has some innovations to account for Persian phonological differences. This script came into use in Persia after the Islamic conquest in the seventh century.
- Its **relatives** are the **languages of northern India** and, more distantly, the **major European languages** including **English**.

### 1.6 Classical Language

*Recently, the West Bengal Chief Minister urged the central government to include 'Bengali' as a classical language.*

#### Key Facts about Classical Languages in India:

- Criteria evolved by **Government of India** to determine declaration of a language as a Classical language is as under: -
  - High antiquity of its **early texts/recorded history** over a period of **1500-2000 years**;
  - A body of **ancient literature**/texts, which is considered a valuable heritage by generations of speakers;
  - The literary tradition be **original and not borrowed** from another speech community;
- Currently, **six languages** enjoy the 'Classical' status: **Tamil (declared in 2004), Sanskrit (2005), Kannada (2008), Telugu (2008), Malayalam (2013), and Odia (2014)**.
- The **benefits** it provides once a language is notified as a Classical language:
  - Two major **annual international awards for scholars** of eminence in classical Indian languages.

- A **Centre of Excellence for studies** in Classical Languages is set up.
- The **University Grants Commission** is requested to **create**, to start with at least in the **Central Universities**, a certain number of **Professional Chairs** for the Classical Languages so declared.”

### Key facts about Bengali Language

- It is **an official language of West Bengal**.
- It is **the second most spoken language** in India and the **seventh** most spoken language in the world.
- The Bengali people have a rich heritage and culture dating back to prehistoric times.
- **Bengali is written from left to right.**

### 1.7 SHRESHTA

*The Central Board of Secondary Education (CBSE) recently issued instructions for Residential Private Schools interested in joining SHRESHTA Scheme.*

#### About Scheme for Residential Education for Students in High Schools in Targeted Areas (SHRESHTA)

- The scheme aims **to provide access to the best private residential schools for meritorious students from Scheduled Caste (SC) communities**.
- It will provide **scholarships** to meritorious students from SC communities to study in private and NGO-run residential schools for **Classes 9-12**.
- The scheme is expected to provide admissions to around **3,000 students** in Classes 9 and 11 each year.
- The **core objectives** of the scheme are **to enhance the reach** of the development initiatives of the government and **fill in the gap** in service-deprived SC dominant areas in the education sector.
- The scheme will collaborate with **voluntary organisations** to provide an environment that can help **create conditions for socio-economic upliftment and the overall development of the SC communities**.

**Implementation agency:** The Department of Social Justice and Empowerment, Ministry of Social Justice & Empowerment.

- The scheme is being implemented in two modes.
  - First, there are **SHRESHTA schools**, which consist of **the best CBSE/ state board-affiliated private residential schools**.
  - Under SHRESHTA, outstanding students from **SC communities**, across states and UTs, will be **selected annually** through the **National Entrance Test** for SHRESHTA (NETS) and will be admitted to these schools for education in **Classes 9 through 12**.
  - The **schools** that will be part of this scheme will be selected based on a performance score of **above 75 percent pass rate** in Class 10 and 12 board examinations over the past three years.
  - The second mode is based on **NGO and voluntary organisation-run schools** and hostels. The institutions run by such organisations that run up to Class 12 will also be made part of the scheme.
- **Eligibility:**



- Students whose annual parental income is **less than Rs 2,50,000** and who belong to SC communities are eligible to participate in this scheme.
- Only those candidates who have passed or are appearing in **Class VIII/X** in the given academic session can apply for taking admission to **Class IX/XI**.
- The scheme will cover the tuition fee, the hostel fee, and the mess fees for qualifying students.

Students will also be allowed to choose from a range of schools based on their merit.

### 1.8 Serious Fraud Investigation Office (SFIO)

*The Supreme Court, while dismissing a petition for quashing a complaint filed by the Serious Fraud Investigation Office (SFIO), has left a crucial question of law open i.e., whether SFIO are police officer(s) under the Code of Criminal Procedure, 1973.*

#### About Serious Fraud Investigation Office (SFIO)

- It is a **corporate fraud investigating agency** set up by the Government of India.
- The SFIO was established on 21st July, 2015, and operates under **the Ministry of Corporate Affairs**.
- Section 211 of the Companies Act, 2013, accorded a **statutory status** to the SFIO.
- **Objective:** The core objective of the SFIO is to be an **investigative and law enforcement agency to detect and prosecute or recommend to prosecute white-collar frauds or crimes**.
- **Types of Investigations:** SFIO will usually take up the following types of cases sent by the Central Government:
  - **Complex cases** needing investigation across multi-discipline and inter-departmental affairs.
  - Cases with a **huge monetary impact on the public**.
  - Cases where investigation can lead to the **cleaning up of systems** and the implementation of changes in laws and procedures.
  - **Serious fraud cases** sent by the Department of Company Affairs.
- SFIO can also take up **cases** on its **own** only when **decided by the Director** of the SFIO, and also giving **the reasons** for taking up the case in **writing**.
- Upon assignment of a case to the SFIO, no other investigative agency can proceed with an investigation for any offence under the Act.
- The **Central Government** can ask the **SFIO to investigate** a company in the following cases:
  - When it receives a report from the **Registrar or Inspector** under Section 208 of the Companies Act 2013.
  - When the company itself passes a **special resolution** and requests an investigation.
  - Where there is a **huge monetary impact on the public** or for other large-scale public interest cases.
  - When any Central Government or State Government department makes a **request for an investigation**.
- **Organisational Structure:**
  - It consists of experts in the fields of accountancy, forensic auditing, law, information technology, investigation, company law, capital markets and taxation.
  - SFIO is headed by a **Director** as Head of Department in the rank of Joint Secretary to the Government of India.

- The Director is assisted by Additional Directors, Joint Directors, Deputy Directors, Senior Assistant Directors, Assistant Directors Prosecutors, and other secretarial staff.
- **Headquarters:** The headquarters of SFIO is in **New Delhi, with five** regional offices in Mumbai, New Delhi, Chennai, Hyderabad, and Kolkata.

### 1.9 Guidelines for Registration and Regulation of Coaching Center 2024

*The Ministry of Education's Department of Higher Education recently introduced the "Guidelines for Registration and Regulation of Coaching Center 2024."*

#### About Guidelines for Registration and Regulation of Coaching Center 2024

- According to the guideline, a 'coaching center' includes a center established, run, or administered by any person to provide coaching for any study programme, competitive examinations, or academic support to students at the school, college, and university level for more than 50 students.
- Guidelines:
  - **Registration process:**
    - Coaching centers are required to **submit applications for registration** to the competent authority within their local jurisdiction, complying with specified forms, fees, and document requirements outlined by the appropriate government.
    - Notably, if a coaching center has **multiple branches**, each branch is considered a separate entity, necessitating individual registration.
  - **Marketing Standards:**
    - Coaching centers must refrain from making **misleading promises or guarantees regarding ranks** or marks to attract parents and students.
    - **Transparency is emphasized**, with coaching centers mandated to maintain an **updated website** containing information on **tutors' qualifications, courses, curriculum details, duration, hostel facilities, and fees**.
  - **Student Enrolment:** Students below the **age of 16 are not permitted to enroll**, and entry is allowed only after the completion of secondary school examinations.
  - **Fee Structure:**
    - Tuition fees for various courses **must be fair and reasonable**, with detailed receipts provided.
    - A comprehensive prospectus, displayed prominently, should include information on courses, duration, classes, tutorials, hostel facilities, fees, exit policies, and fee refund procedures.
    - **Any fee increase** during the course duration is **strictly prohibited**. This applies to both course fees and hostel-related charges.
  - **Exit Policy:** In the case of mid-course withdrawals, a **pro-rata refund** is mandated **within 10 days**.
  - **Infrastructure Requirements:**
    - Coaching centers must allocate a **minimum of one square meter per student in each class**.
    - Adherence to fire safety and building codes, along with obtaining Fire and Building Safety Certificates, is compulsory.
    - Proper electrification, ventilation, lighting arrangements, and security measures are essential.

- The coaching center should also be equipped with **CCTV cameras**, a first aid kit, and medical assistance.
- **Study hours:**
  - Classes should not coincide with school hours to ensure regular attendance.
  - Weekly offs for both students and tutors are mandatory.
  - Class sizes should align with maintaining a healthy teacher-student ratio.
- **Mental wellbeing of students:**
  - Coaching centers should establish a mechanism for immediate intervention to provide targeted and sustained assistance to students in distress and stressful situations.
  - The competent authority may take steps to ensure that a counselling system is developed by the coaching centre and is easily available for the students and parents.
- **Complaint Mechanism:**
  - Students, parents, or coaching center tutors/employees can file complaints against coaching centers, and coaching centers can file complaints against students/parents.
  - These complaints will be resolved within thirty days by the competent authority or an inquiry committee established for this purpose by the appropriate government.
- **Penalty:** If the coaching center breaches any terms or conditions of registration or general requirements, it will face penalties: ₹25,000 for the first violation, Rs 1 lakh for a second offense, and registration revocation for subsequent breaches.

### 1.10 Republic Day 2024

India celebrated its 75th Republic Day on 26th January, 2024.

#### About Republic Day 2024

- **Theme of Republic Day 2024:** The theme for the 75th Republic Day 2024 – ‘*Viksit Bharat*’ and ‘*Bharat – Loktantra ki Matruka*’.
  - It reflects women’s integral role in India’s development and progress.
- **Chief Guest of Republic Day 2024:** The Chief Guest for the Republic Day events in 2024 was the President of France, **Emmanuel Macron**.
- **Women Contingent:** The parade was all women-centric. For the first time, it included 100 women artists playing Indian musical instruments such as Sankh, Naadswaram, Nagada, etc.
  - To promote **gender equality and women empowerment**, the 2024 Republic Day featured the women contingent of Delhi Police.
  - An **all-women Tri-Service Contingent** marched the Kartavya Path for the first time. Paramilitary contingent also involved women.
- **Foreign Contingent:** The French participants consisted of a 33-member band contingent and a 95-member marching contingent.
- **Special Guests:** The government also invited **1,500 farmers and their spouses** as special guests for the **Republic Day Parade 2024**.
  - They include members of **Farmers Producers Organisations (FPOs)**, and also beneficiaries of **PM-KISAN and micro irrigation schemes**.

**Major Republic Day Tableau showcased at Kartavya Path**

State/ Ministry/ Department	Republic Day Tableaux Theme
<b>Andhra Pradesh</b>	<ul style="list-style-type: none"> <li>Focuses on <b>revolutionizing school education</b> and preparing students to be globally competitive.</li> </ul>
<b>Rajasthan</b>	<ul style="list-style-type: none"> <li>Focuses on the development of women's handicraft industries and festive culture.</li> <li>Features the famous <b>Ghoomar dance and Meera Bai's statue.</b></li> </ul>
<b>Odisha</b>	<ul style="list-style-type: none"> <li>Highlights women's significant role in <b>handicrafts and handloom sectors</b>, preserving and promoting traditional arts.</li> </ul>
<b>Haryana</b>	<ul style="list-style-type: none"> <li>Illustrates women's empowerment through the '<b>Mera Parivar – Meri Pehchan</b>' program, showcasing Haryanvi women benefiting from Digital India initiatives.</li> </ul>
<b>Madhya Pradesh</b>	<ul style="list-style-type: none"> <li>Showcases Integration of women into the development process through welfare schemes.</li> <li>Features <b>Avani Chaturvedi</b>, Madhya Pradesh's first woman fighter pilot.</li> </ul>
<b>Chhattisgarh</b>	<ul style="list-style-type: none"> <li>Displays <b>Bastar's 'Muria Darbar,'</b> a 600-year-old tribal tradition of community decision-making, emphasizing women's dominant role in decision-making.</li> </ul>
<b>Ladakh</b>	<ul style="list-style-type: none"> <li>Highlights the <b>Indian women's ice hockey team</b>, composed of accomplished Ladakhi women, showcasing their achievements and contributions to sports.</li> </ul>
<b>Manipur</b>	<ul style="list-style-type: none"> <li>Spotlights women's roles in socio-economic activities, featuring intricate work with <b>lotus stems, traditional 'charkhas,'</b> and '<b>Ima Keithel,'</b> an all-women's market.</li> </ul>
<b>Tamil Nadu</b>	<ul style="list-style-type: none"> <li>Presents ancient polling process used during the <b>10th century Chola era</b>, featuring leaf ballots in pots.</li> </ul>
<b>Gujarat</b>	<ul style="list-style-type: none"> <li>Showcases <b>Dhordo village</b>, recently recognized as one of the best tourism villages in the country, reflecting its cultural and touristic significance.</li> </ul>
<b>Ministry of Electronics and IT</b>	<ul style="list-style-type: none"> <li>Showcases the involvement and use of <b>artificial intelligence (AI)</b> in various sectors and industries.</li> </ul>
<b>Ministry of Ports, Shipping &amp; Waterways</b>	<ul style="list-style-type: none"> <li>Displays the development of <b>India's maritime sector</b>, including the rise of women seafarers, lighthouse development, and cruise tourism.</li> </ul>
<b>CRPF</b>	<ul style="list-style-type: none"> <li>Presents a tableau on '<b>women empowerment</b>' featuring all Central Armed Police Forces (CAPFs), emphasizing women's contributions in the security forces.</li> </ul>
<b>Indian Air Force (IAF)</b>	<ul style="list-style-type: none"> <li>Themed '<b>Indian Air Force: Power Beyond Boundaries,'</b> it showcases major IAF assets, including recently inducted ones, symbolizing IAF's prowess.</li> </ul>

<b>DRDO</b>	<ul style="list-style-type: none"> <li>Highlights the significant contribution of women scientists in core areas of defence research, featuring anti-satellite and anti-tank guided missile systems.</li> </ul>
<b>ISRO</b>	<ul style="list-style-type: none"> <li>Showcases Chandrayaan-3 at its landing site, Shiv Shakti Point on the Moon, as one of ISRO's major achievements.</li> </ul>

### Background: Republic

- Republic is a type of a state in which **political power** rests with the **public** (citizens) through their representatives.
- In the Republic form of government, the **head of the State**, who is usually the President, is elected (directly or indirectly) by the people and not hereditary.

### Republic Day of India

- About:** Republic Day of India marks the date on which the Constitution of India came into effect on **26 January 1950**.
- Origin:**
  - After India became independent through the **Indian Independence Act 1947**, it became a constitutional monarchy with George VI as head of state and Lord Mountbatten as governor-general.
  - The independent government decided that a **separate constitution** will be adopted for governing the nation. For that purpose, the constituent assembly was set up.
  - The constituent assembly appointed **Dr B R Ambedkar** as the chairman of the drafting committee of the Indian constitution.
  - A **draft constitution was prepared and submitted** to the Constituent Assembly on 4 November 1947. After discussions, which spanned two years, 11 months, and 17 days, a consensus was reached.
  - The Indian Constituent Assembly adopted the Indian constitution on **26 November 1949** and came into effect on **26 January 1950**.
  - Thus, the Indian constitution replaced the **Government of India Act 1935** as the governing document of India, turning the nation from a **dominion into a republic**.
  - The **26th of January** was chosen as the Republic Day as it was on that day in 1930 when the '**Poorna Swaraj**' was proclaimed by the Indian National Congress at the Lahore Session.

### Events on Republic Day 2024

Here are some major events scheduled for Republic Day 2024;

- Address** by the President of India:
  - On the day prior to the Republic Day, the **President of India addresses the nation**. The address will outline India's achievements and path for the future.
- Declaration of Awards**
  - Usually, the Government of India **declares Padma Awards** to the civilians of India on the eve of the Republic Day.
  - These awards include **Padma Vibhushan, Padma Bhushan and Padma Shri**. The awards include a Certificate issued under the hand and seal of the President and a Medallion.
- Laying the Wreath:**



- Before the parade begins, the **prime minister of India lays a wreath** at the **Amar Jawan Jyoti** and takes a moment of silence to commemorate fallen soldiers.
- **Unfurling of National Flag**
  - The President of India will **unfurl the national flag** at Kartavya path. This will be followed by the playing of the National Anthem and a 21-Gun Salute.
- **Republic Day Parade:**
  - The Ministry of Defence organises **Republic Day parade** in New Delhi to mark the occasion. The parade and related events last for three days.
  - The parade begins from the gates of the **Rashtrapati Bhavan** (the President's residence), Raisina Hill on **Kartavya Path** (formerly Rajpath) past the India Gate.
  - The parade is an event to showcase **India's Defence Capability, Cultural and Social Heritage**. It includes tableaux from various states and government organisations, and also cultural performance by school students and artists.
  - The **Indian Army, Indian Navy, Indian Airforce, paramilitary forces, special forces and police forces** take part in the parade.
  - The main attraction in the parade is the **foreign dignitary**, who will be attending the parade as the chief guest for the events.
- **At Home Reception:**
  - At Home Reception is the key feature of both **Republic Day and Independence Day** celebrations, where the President invites dignitaries to the Rashtrapati Bhavan.
  - The invitees include the **Prime Minister, his council of ministers, top officials and also visiting foreign dignitaries**.
  - The event presents an **opportunity for people** from various walks to meet the Prime Minister and the President and to interact with each other.
- **Beating Retreat Ceremony**
  - The Beating Retreat ceremony officially signifies the **end of Republic Day festivities**. Every year, it is held on the evening of 29 January, the third day after the Republic Day.
  - It includes a **performance by the bands** of the three wings of the defence forces, the Indian Army, Indian Navy and Indian Air Force. The venue is Raisina Hill and an adjacent square, Vijay Chowk.
  - During the ceremony, popular tunes like **Vande Mataram, Vaishnava Jana To, Saare Jahan Se Achcha, Aye Mere Watan Ke Logo** etc, along with the National Anthem, are performed.

### Significance of Republic Day 2024

- Celebrate Adoption of Constitution: **The Republic Day celebrates coming into force of the Indian constitution.**
- Beginning of Indian Presidentship: **It was on 26th January 1950 that the position of President of India came into effect.**
- Commitment to Constitutional Principles: **The Republic Day displays our strong commitment to constitutional principles of justice, liberty and equality.**
- Democratic Rights: **The Republic Day put our focus on democratic values, which are the building blocks of our nation and the civil society.**
- Showcase our Culture and Heritage: **Republic Day is an opportunity to showcase our varied heritage, promoting a feeling of pride and oneness.**



- Creating Awareness: **Republic Day is used as an event to teach students about our Constitution, and the struggles for India's independence.**
- Foreign Policy: **The selection of Foreign Guests for Republic Day celebrations indicates India's foreign standing and its future vision.**
- Defence Power: **The Republic Day provides the opportunity to display the military strength of our country in the form of weapons and defence personnel.**

### 1.11 What is Default Bail?

Overview:

*The Supreme Court recently held that **default bail cannot be claimed** on the ground that the investigation is pending against other accused.*

- About Default Bail:
- The Code of Criminal Procedure (CrPC) provides for **three kinds of bail**. Section 438 provides for **Anticipatory Bail**, Section 439 provides for **Regular bail** whereas Section 167(2) provides for **default/statutory bail**.
- Default bail, also known as statutory bail, is a type of bail which accrues **as a right to an accused detained in custody**, when the **police fail to or are unable to complete the investigation and file the chargesheet within the time frame** stipulated under the law.
- When a person is arrested under any section of any act, there is an obligation on the arresting authority **to complete the investigation within a specified time**. This period is mandatory, and not obligatory.
- The statutory time frame for completing the investigation of offences under the IPC, and for filing of the charge sheet varies depending on the **gravity of the offence**.
  - For offences punishable with imprisonment **up to 10 years**, the investigation must be completed within **60 days of arrest**.
  - For offences punishable with **death, imprisonment for life, or imprisonment for more than 10 years**, the investigation must be completed within **90 days** of arrest (excluding investigation/arrests made under special statutes).
- Therefore, **when a person is arrested and the police is not able to complete investigation within the specified period, it is their default**, and the arrested person cannot be kept behind bars beyond this period. This entitlement is called default bail.
- This is enshrined in Section 167(2) of the CrPC, where it is not possible for the police to complete an investigation in time.
- Principles:
  - **It is a right**, regardless of the nature of the crime.
  - The stipulated period within which the charge sheet has to be filed begins from the day the accused is **remanded for the first time**.
  - It includes **days spent in both police and judicial custody**, but not days spent in house-arrest.
  - For an accused to be entitled to default bail, the accused must have been in custody during the entire statutory period for the investigation, and the accused must not have been released on bail during that period.
  - A requirement for the grant of statutory bail is that the right should be claimed by the person in custody.
  - If the charge sheet is not filed within the stipulated period, but there is no application for bail under Section 167(2), there is no automatic bail.

- Once the accused files an application for bail under Section 167(2), it is considered that he/she has enforced the **right to be released** on default bail.
  - This right only comes into place after the stipulated time limit for investigation has expired.
  - If the accused fails to apply for default bail after the investigation time period has expired and the investigating agency files a charge-sheet or seeks more time before the accused makes such an application for default bail, then the right to default bail is no longer applicable. The Magistrate can then grant further time for the completion of the investigation.
  - However, the accused may still be released on bail under other legal provisions of the Code.
  - The default bail is not liable to be cancelled even after the completion of the investigation and the submission of the charge sheet. **The default bail can be cancelled only on the grounds** and considerations on which a regular bail can be cancelled.
- Default Bail as Fundamental Right:

The Supreme Court, while hearing an appeal regarding default bail, said that default bail under the first proviso of Section 167(2) of the CrPC, is **a fundamental right and not merely a statutory right as it is, a procedure established by law under Article 21 of the Constitution.**

### 1.12 National Voters' Day

Overview:

*Election Commission of India is celebrating **14th National Voters' Day (NVD)** on 25th January 2024.*

#### About National Voters' Day (NVD)

- It has been celebrated on **January 25 every year since 2011**, across the country to mark the foundation day of the Election Commission of India, i.e. 25th January 1950.
- Purpose: The **main purpose** of the NVD celebration is to **create electoral awareness amongst citizens and encourage them to participate in the electoral process.**
- Dedicated to the voters of the country, the National Voters' Day is also used to facilitate enrolment of voters, especially the newly eligible young voters.
- New voters are felicitated and handed over their Elector Photo Identity Card (EPIC) in the NVD functions held across the country.
- NVD is celebrated at the national, state, district, constituency and polling booth levels, which makes it one of the largest celebrations in the country.
- NVD 2024 theme - **'Nothing Like Voting, I Vote For sure'**
- On January 25, 2024, the Election Commission of India celebrates its **75th year of service to the Nation.**

#### Key facts about the Election Commission of India

- It is an autonomous and permanent constitutional body responsible for organizing free and fair elections in India.
- The Constitution grants the ECI with the power of direction, superintendence, and control of elections to Parliament, state legislatures, the office of president of India, and the office of vice-president of India.

- Powers and responsibilities ECI:
  - Determining the Electoral Constituencies' territorial areas throughout the country.
  - Preparing and periodically revising electoral rolls and registering all eligible voters.
  - Notifying the schedules and dates of elections and scrutinizing nomination papers.
  - Granting recognition to the various political parties and allocating them election symbols.
  - The Commission also has advisory jurisdiction in the matter of post-election disqualification of sitting members of Parliament and State Legislatures.
- It issues the Model Code of Conduct in elections for political parties and candidates so that no one indulges in unfair practice or there is no arbitrary abuse of powers by those in power.
- Composition: The commission consists of a Chief Election Commissioner (CEC) and two Election Commissioners (ECs).

Two types of scheme

Central sector & centrally sponsored

### 1.13 Atal Bhujal Yojna

Overview:

*Recently, the meeting for review of progress of Atal Bhujal Yojna was held at Khajuraho, Madhya Pradesh.*

#### About Atal Bhujal Yojna

- Atal Bhujal Yojana is a **central sector scheme** which was launched in 2019.
- Duration: **Period of 5 years** (2020-21 to 2024-25), **Increased by 2 years** in May, 2023.
- Objective: The major objective of the Scheme is **to improve the management of groundwater** resources in select water stressed areas in identified states.
- The scheme is being taken up in **8220 water stressed Gram Panchayats of seven states**: Haryana, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh.
- Scheme components : It has two major components:
  - **Institutional Strengthening and Capacity Building Component** for strengthening institutional arrangements for sustainable groundwater management in the States including improving monitoring networks, capacity building, strengthening of Water User Associations, etc.
  - **Incentive Component for incentivising the States for achievements** in improved groundwater management practices namely, data dissemination, preparation of water security plans, implementation of management interventions through convergence of ongoing schemes, adopting demand side management practices etc.
  - The scheme is being **funded by the Government of India and the World Bank on a 50:50 basis**.
  - Total cost of scheme is Rs. 6,000 crore, Out of this, Rs. 3,000 is loan from the World Bank and Rs. 3,000 crore is matching contribution from the Government of India.
- Implemented Ministry: **Ministry of Jal Shakti**.

- The key results areas are:
  - Strengthened institutional framework and effective ground water data monitoring and disclosure.
  - Improved planning and implementation of groundwater management interventions.

### 1.14 Bharat Ratna

Overview:

**Karpoori Thakur**, a prominent Gandhian socialist leader and former Bihar chief minister will be awarded the 'Bharat Ratna' posthumously.

#### About Bharat Ratna

- It is the highest civilian Award of the country which was instituted in the year 1954.
- **Eligibility:**
  - **Any person** without distinction of race, occupation, position or sex is eligible for these awards.
  - Though **usually conferred on India-born citizens**, the Bharat Ratna has been awarded to one **naturalised citizen, Mother Teresa**, and to **two non-Indians**, Pakistan national **Khan Abdul Ghaffar Khan** and former South African President **Nelson Mandela**.
  - The original statutes did not provide for posthumous awards but were amended in 1955 to permit them. Former Prime Minister **Lal Bahadur Shastri became the first individual to be honoured posthumously**.
- It is awarded in recognition of exceptional service/performance of the highest order in any field of human endeavour.
- The **recommendations** for Bharat Ratna are made by the **Prime Minister himself** to the President and no formal recommendations for this are necessary.
- The number of annual awards is restricted to a **maximum of three** in a particular year.
- On conferment of the award, the recipient receives a **Sanad (certificate)** signed by the President and a medallion. The award **does not carry any monetary grant**.
- In terms of Article 18 (1) of the Constitution, **the award cannot be used as a prefix or suffix to the recipient's name**.
- However, should an award winner consider it necessary, he/she may use the following expression in their biodata/letterhead/visiting card etc. to indicate that he/she is a recipient of the award.

#### About Karpoori Thakur:

- **Karpoori Thakur**, called as "Jan Nayak", was a prominent Indian politician who served as the 11<sup>th</sup> Chief Minister of Bihar twice, from 1970-71 and 1977-79.
  - **Early Life and Political Foundation (1942-1967):** He was a freedom fighter and a staunch socialist who worked under the guidance of stalwarts such as Jayaprakash Narain, Dr Rammanohar Lohia and Ramnandan Mishra.
- Represented the Nai community, listed as an Extremely Backward Class (EBC) among OBCs.

### 1.15 In Past 8 Years, More Women Enrolled in Higher Studies Than Men

#### Why in News?

- In the last eight years, more women have enrolled in higher education compared to men, according to the 2021-22 **All India Survey on Higher Education (AISHE)** released recently.

#### About All India Survey on Higher Education (AISHE) Report

- The All-India Survey on Higher Education is the **main source of comprehensive statistics on the Higher Education** scenario in the country.
- It is published by the **Ministry of Education**. The Ministry has been conducting All India Survey on Higher Education since 2011.
- The survey covers **all higher educational institutions** located in Indian Territory and imparting higher education in the country.
- The survey collects detailed information on different parameters such as **student enrollment, teacher's data, infrastructural information, financial information** etc.

#### Key Highlights of the AISHE Report 2021-22

- The AISHE report 2021-22 was conducted with reference period as academic session 2021-22.
- A total of **1,168 Universities**/University level Institutions, **45,473 Colleges** and **12,002 Stand Alone Institutions** were registered in AISHE 2021-22.
- Of them, 1,162 Universities, 42,825 colleges and 10,576 Stand Alone Institutions have responded in the survey.
- **Number of Institutions:**
  - In all, 341 Universities/University level institutions have been established since 2014-15.
  - Out of 1168 Universities registered, 685 are Government managed (Central Govt. 240, State Govt. 445), 10 are Private Deemed (Aided) and 473 are Private (Un-aided).
  - There are **17 Universities exclusively for Women**. It was 11 in 2014-15.
  - In 2021-22, there are 18 Open universities (1 Central University, 16 State Universities and 1 State Private University).
- **Student Enrolment in Higher Education:**
  - Total enrolment in higher education has increased to nearly **4.33 crore in 2021-22** from 3.42 crores in 2014-15.
  - **Female enrolment** in Higher Education increases to **2.07 crore (32% increase since 2014-15)**.
  - The total number of **pass-outs has increased to 1.07 Crore in 2021-22** as against 95.4 Lakh in 2020-21.
- **Caste-wise enrolment**
  - Caste breakdown of the total enrolled students in 2021-22:
    - 15.3% belong to Scheduled Caste,
    - 6.3% belong to Scheduled Tribe,
    - 37.8% are from Other Backward Class and
    - Remaining 40.6% students are from other communities.
  - Enrolment of **Scheduled Caste** students has **increased** to 66.23 lakh in 2021-22 from 58.95 lakh in 2020-21.



- In case of **Scheduled Tribe** students, the enrolment has increased to 27.1 lakh in 2021-22 from 24.12 lakh in 2020-21.
- The enrolment of **Scheduled Tribe Female students has increased** to 13.46 lakh in 2021- 22 from 12.21 lakh in 2020-21.
- The **Minority enrolment has increased to 30.1 lakh** in 2021-22 from 21.8 lakh in 2014-15.
- **State-wise enrolment**
  - The **top 6 States** in terms of Student Enrolment are **Uttar Pradesh, Maharashtra, Tamil Nadu, Madhya Pradesh, West Bengal and Rajasthan**.
    - They constitute **53.3%** of the total Student Enrolment.
  - Number of **foreign students**
    - Total number of foreign students enrolled in higher education is **46,878**. In 2021-22, highest share of foreign students is from Nepal (28%), followed by Afghanistan (6.7%), United States (6.2%), Bangladesh (5.6%), UAE (4.9%), and Bhutan (3.3%).
  - Teaching Staff in Higher Education:
    - **The total number of faculty/teachers in 2021-22 are 15.98 lakh, of which about 56.6% are male and 43.4% are female.**
    - Number of teachers has increased by 46,618 in 2021-22 over 2020-21

### 1.16 PM CARES Fund

#### Overview:

*The Delhi High Court recently set aside an order of the Central Information Commission (CIC) directing the Income Tax (IT) department to provide details regarding the tax exemption granted to the PM Cares Fund under the Right to Information Act, 2005.*

#### About PM CARES Fund:

- It was created on March 28, 2020, following the COVID-19 pandemic in India.
- It was set up to have a **dedicated national fund to deal with any emergency and provide relief** to the distressed.
- **Fund Constitution:**
  - It has been registered as a **Public Charitable Trust**.
  - **The Prime Minister is the ex-officio Chairman** of the PM CARES Fund, and the **Minister of Defence, Minister of Home Affairs, and Minister of Finance** of the Government of India **are ex-officio Trustees** of the Fund.
  - The Chairperson of the Board of Trustees (**Prime Minister**) shall **have the power to nominate three trustees** to the Board of Trustees who shall be eminent persons in the fields of research, health, science, social work, law, public administration, and philanthropy.
  - Any person appointed a Trustee shall act in a pro bono capacity.

#### Objectives:

- To undertake and **support relief or assistance** of any kind relating to a **public health emergency** or any other kind of emergency, **calamity, or distress**, either **man-made or natural**, including the **creation or upgradation of healthcare** or pharmaceutical facilities, **other necessary infrastructure, funding relevant research**, or any other type of support.



- To render **financial assistance, provide grants** of payments of money, or take such other steps as may be deemed necessary by the Board of Trustees for the affected population.
- To undertake any other activity which is not inconsistent with the above objectives.

#### Fund Finance:

- The fund consists **entirely of voluntary contributions** from individuals/organizations and **does not receive any budgetary support**.
- Donations to PM CARES Fund would **qualify for 80G benefits for 100% exemption under the Income Tax Act, 1961**.
- Donations to the PM CARES Fund will also **qualify to be counted as Corporate Social Responsibility (CSR) expenditure** under the Companies Act, 2013
- PM CARES Fund has also **got an exemption under the Foreign Contribution Regulation Act (FCRA)**, and a separate account **for receiving foreign donations** has been opened.
- This enables the CARES Fund to accept donations and contributions from individuals and organizations based in foreign countries.

### 1.17 Key Facts about Supreme Court of India (SC)

#### Overview:

*The Prime Minister recently inaugurated the Diamond Jubilee celebration of the Supreme Court.*

About Supreme Court of India (SC):

#### History:

- The Supreme Court of India is the **apex judicial body** under the Constitution of India.
- **Article 124** of the Constitution **states that "There shall be a Supreme Court of India."**
- The Supreme Court **came into existence on January 26, 1950**, with the coming into force of the Constitution.
- **On January, 28, 1950**, two days after India became a Sovereign Democratic Republic, **the Supreme Court was inaugurated**.
- The Supreme Court **initially functioned from the old Parliament House** till it **moved to the present building located on Tilak Marg, New Delhi, in 1958**.
- The **first President of India, Dr. Rajendra Prasad, inaugurated the present building** of the Supreme Court of India on August 4, 1958.
- **Number of Judges:**
  - The **original Constitution** of 1950 **envisaged** a Supreme Court with a **Chief Justice and 7 puisne Judges**, leaving it to Parliament to increase this number.
  - Considering the increase in workload, **Parliament increased the number of Judges** from 8 in 1950 to 11 in 1956, 14 in 1960, 18 in 1978, 26 in 1986, 31 in 2009, and **34 in 2019 (current strength)**.
- Today, the **judges sit in benches of two and three and come together in larger benches** of 5 and more (**Constitution Bench**) to **decide any conflicting decisions** between benches of the Supreme Court **or any substantial questions concerning the interpretation of the Constitution**.

- The **proceedings** of the Supreme Court are **conducted in English**.
- **Powers and Functions:**
  - The Supreme Court has **original, appellate, and advisory jurisdiction**.
  - It serves both as the **final court of appeals** and the **final interpreter of the Constitution**.
  - Its **exclusive original jurisdiction** extends to **any dispute between the Government of India and one or more States** or between the Government of India and any State or States on one side and one or more States on the other, or **between two or more States**, if and insofar as the **dispute involves any question (whether of law or fact) on which the existence or extent of a legal right depends**.
  - In addition, **Article 32** of the Constitution gives **extensive original jurisdiction** to the Supreme Court **for the enforcement of Fundamental Rights**.
- It is **empowered to issue directions, orders, or writs**, including writs in the nature of habeas corpus, mandamus, prohibition, quo warranto, and certiorari, **to enforce them**.
  - The Supreme Court has been conferred **with the power to direct the transfer of any civil or criminal case from one High Court to another High Court or from a Court subordinate to another High Court**.
  - Under the Arbitration and Conciliation Act, 1996, **International Commercial Arbitration can also be initiated** in the Supreme Court.
  - The **appellate jurisdiction** of the Supreme Court **can be invoked by a certificate granted by the High Court** concerned under Article 132(1), 133(1) or 134 of the Constitution **in respect of any judgement, decree, or final order of a High Court in both civil and criminal cases, involving substantial question of law** as to the interpretation of the Constitution.
  - **Appeals also lie** to the Supreme Court in civil matters **if the High Court concerned certifies:**
    - That the case involves a substantial question of law of general importance, and
    - That, in the opinion of the High Court, the said question needs to be decided by the Supreme Court.
  - **In criminal cases, an appeal lies** to the Supreme Court **if the High Court**
    - **Has on appeal reversed an order of acquittal** of an accused person **and sentenced him to death or to imprisonment for life or for a period of not less than 10 years**, or
    - **Has withdrawn for trial before itself any case from any Court subordinate** to its authority and has in such trial convicted the accused **and sentenced him to death** or to imprisonment for life or for a period of not less than 10 years, or
  - **Certified that the case is a fit one for appeal** to the Supreme Court.
- **Parliament is authorised to confer** on the Supreme Court **any further powers to entertain and hear appeals** from any judgement, final order or sentence in a criminal proceeding of a High Court.
- The Supreme Court also has a **very wide appellate jurisdiction over all Courts and Tribunals in India** in as much as it may, in its discretion, **grant special leave to appeal under Article 136** of the Constitution **from any judgment, decree, determination, sentence or order in any cause or matter passed or made by any Court or Tribunal** in the territory of India.

- The Supreme Court has **special advisory jurisdiction in matters** which may specifically be **referred to it by the President of India under Article 143** of the Constitution.
- **Election Petitions** under Part III of the **Presidential and Vice-Presidential Elections Act, 1952**, are also **filed directly in the Supreme Court**.
- Under Articles 129 and 142 of the Constitution, the Supreme Court has been vested with **power to punish for contempt of Court**, including the power to punish for contempt of itself.
- The Supreme **Court can reconsider its final judgment** or order **by way of a curative petition** on limited grounds after the dismissal of the review petition.

As the highest court in India, the Supreme Court's **judgments are binding on all other courts** in the country.

CAREER IAS

## 2. International Relations

### 2.1 Argentina has formally rejected the invitation to join the BRICS (Brazil, Russia, India, China, South Africa) group of major emerging economies.

- New Argentinian President Milei, during his election campaign, Milei had expressed a geopolitical alignment with the United States and Israel, emphasizing a reluctance to ally with communists.
- The decision aligns with his campaign promises and reflects a shift in foreign policy from the previous administration.
- The membership of Argentina, Ethiopia, Iran, Saudi Arabia, Egypt and the United Arab Emirates was due to take effect from January 1, 2024.

### 2.2 Square Kilometre Array Observatory : India Joins

**India has formally signed up for the Square Kilometre Array Observatory (SKAO) an ambitious multinational initiative to build the world's largest radio telescope spanning over a square kilometer.**

- The SKAO is not one instrument but a vast collection of thousands of telescope antennas at sites in South Africa and Australia.
- These will interconnect as a single giant telescope array.
- It will enable astronomers to probe celestial phenomena out to extreme distances, advancing cosmic understanding.
- Joining SKAO allows India a front-row seat in decoding mysteries of the universe through ultra-sensitive technology.
- Findings can enrich knowledge regarding galaxy evolution, stars, black holes and more while opening up new research directions.

### 2.3 What is the Eurozone?

#### About Eurozone

- The eurozone, officially known as the euro area, is a geographic and economic region that consists of all the European Union countries that have fully incorporated the euro as their national currency.
- As of January 2023, the eurozone consists of 20 countries in the European Union (EU):
- Austria, Belgium, Croatia, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Portugal, Slovakia, Slovenia, and Spain.
- Not all European Union nations participate in the eurozone; some opt to use their own currency and maintain their financial independence.
- The European Central Bank (ECB) exercises the sole power to set the monetary policy for the Eurozone countries.
  - The ECB exercises the sole authority to decide the printing and minting of euro notes and coins. It also decides the interest rate for the Eurozone.
  - The ECBs is headed by a president and a board, comprising the heads of the central banks of the participating nations.

#### What is European Union (EU)?

- The EU is a political and economic union of 27 member states located primarily in Europe.

- The EU was established by the Maastricht Treaty, which entered into force on November 1, 1993.
- The main goal of the EU is to promote cooperation and integration among its member states in order to enhance economic and political stability in Europe.
- The EU has its own currency, the Euro, which is used by 19 of the member states

## 2.4 What is EB-5 Immigrant Investor Program?

Overview:

*The United States Department of State recently released data that indicates significant progress in the processing of EB-5 applications that are currently pending, especially those from Indian citizens.*

### About EB-5 Immigrant Investor Program

- The EB-5 (employment-based, 5th preference), or US golden visa, provides a special road for overseas investors and their families to seek permanent residency and Green Cards in the United States.
- It is administered by the United States Citizenship and Immigration Services (USCIS).
- It was created in 1990 to stimulate the U.S. economy through job creation and capital investment by foreign investors.
- Under this program, investors (and their spouses and unmarried children under 21) are eligible to apply for lawful permanent residence (become a Green Card holder) if they:
  - Make the necessary investment in a commercial enterprise in the United States, and
  - Plan to create or preserve 10 permanent full-time jobs for qualified U.S. workers.

## 2.5 India-Maldives Relations

### In Context:

- **Maldives and China signed 20 agreements** after the Muizzu-Xi meeting **amid a diplomatic row with India.**

### About Maldives

- It is a low-lying island country in the north-central Indian Ocean.
- Its **closest neighbours are India**, about 600 kilometres north-east, and **Sri Lanka**, about 645 kilometres north-east.
- Geography:
  - It consists of a chain of about **1,200 small coral islands** and sandbanks (some 200 of which are inhabited), grouped in clusters, or atolls.
  - The islands extend more than **510 miles** (820 km) from north to south and **80 miles (130 km) from east to west.**
  - None of the coral islands stand more than 1.8 metres (six feet) above sea level.
  - Barrier reefs protect the islands from the destructive effects of monsoons.
- Capital: **Male**
- Languages:
  - The official language is an Indo-European language called **Dhivehi** (or Maldivian).
  - Arabic, Hindi, and English are also spoken.

- **Islam** is the state religion.
- **Economy:** It revolves mainly around tourism.
- **Constitutional Framework:** The constitution of the Maldives was adopted in 2008.
  - The head of state and government is the **president**, assisted by a vice president and a cabinet.
  - The president and vice president are directly elected by universal suffrage to a maximum of two five-year terms.

#### About News:

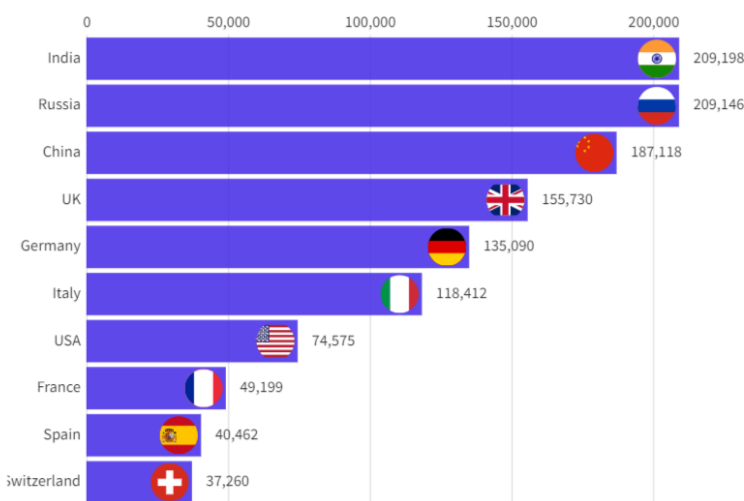
- The Chinese President with his Maldivian counterpart signed **20 “key” agreements**, including on **tourism cooperation, disaster risk reduction and the blue economy**.
- It also announced the elevation of their bilateral ties to a **comprehensive strategic cooperative partnership**.

#### Recent Maldives-India Row:

- The latest trigger has been **undiplomatic words used by ministers in Maldives** against Prime Minister Narendra Modi in particular and Indians in general.
- The new government led by President Mohamed Muizzu **asked India to withdraw military personnel and chose China for one of his first overseas visits**.
  - Maldives President Muizzu in his visit also **urges China to reclaim top spot in tourist arrivals** which was dominated by India in the last few years.
- The incumbent government rode to power on an **‘India Out’ poll campaign**.
  - The release of a report by the **EU Election Observation Mission of Maldives** said, the ruling coalition in Maldives **deployed anti-Indian sentiments and attempted to spread disinformation in the 2023 presidential elections** in which Mr. Muizzu won.
- Maldives has also decided **not to renew the agreement with India on a hydrographic survey** of its waters.
  - The agreement, signed in 2019, **allowed India to conduct a hydrographic survey of the Maldivian territorial waters**, study and chart reefs, lagoons, coastlines, ocean currents and tide levels.

#### Tourist arrivals in Maldives in 2023

In 2023, Maldives saw the highest number of tourists from India



Source: Maldives Tourism Ministry  
The Hindu Graphics

#### Evolution of India and Maldives Relations

- The **relationship between India and the Maldives** has evolved over the years, influenced by **geopolitical, economic, and strategic considerations**.



- **Early Diplomatic Ties (1965-1978):** The Maldives gained independence from the British in 1965, and established diplomatic relations with India.
  - India was one of the first countries to recognize the Maldives as an independent nation.
- **Strategic Partnership (1978-1988):** The signing of the **Maritime Boundary Agreement in 1979** helped define the maritime boundaries between the two countries.
- **Political Turbulence (1988-2008):** The relationship faced challenges in 1988 when a **coup attempt in the Maldives** led to the intervention of Indian forces in **Operation Cactus**.
  - India's military intervention was aimed at thwarting the coup and preserving the Maldives' political stability.
  - This event **temporarily strained diplomatic relations** but was later resolved.
- **Normalization and Economic Cooperation (2008-2013):** In 2008, the Maldives experienced a peaceful political transition, and Mohamed Nasheed became the President.
  - The relationship between India and the Maldives improved, focusing on **economic cooperation, trade, and people-to-people ties**.
  - India provided developmental assistance to the Maldives, particularly in infrastructure projects and capacity building.
- **Period of Strain (2013-2018):** The relationship **faced challenges** during the presidency of Abdulla Yameen, with concerns over issues such as democratic backsliding, human rights, and a **perceived tilt towards China**.
  - The Maldives' growing engagement with China, including infrastructure projects under the **Belt and Road Initiative**, raised strategic concerns for India.
- **Renewed Engagement (2018 Onward):** The **election of Ibrahim Mohamed Solih** as the President of the Maldives in 2018 marked a **shift in bilateral relations**. There was a **renewed emphasis** on strengthening ties with India.
  - The two countries reaffirmed their commitment to democratic values, and India extended **financial assistance** for various developmental projects.

#### Significance of Maldives for India:

- **Location:** Maldives' proximity to the west coast of India (barely 70 nautical miles from Minicoy and 300 nautical miles from India's West coast).
- **Trade Route:** Situated along **crucial maritime trade routes** between the Gulf of Aden and the Strait of Malacca, the **Maldives acts as a "toll gate" for nearly half of India's external trade and 80% of its energy imports**.
- **Strategic Importance:** The Maldives is strategically located in the Indian Ocean, and its stability and security are of interest to India.
- **Counterbalancing China:** Maldives presents an opportunity for India to counterbalance China's growing influence in the Indian Ocean, fostering regional balance of power.
- **Economic partnership:** India is one of the biggest investors and tourism markets for the Maldives, with significant trade and infrastructure projects underway.
- **Defence: Defense and Security Cooperation: Since 1988**, defence and security has been a major area of cooperation between India and Maldives.
  - A **comprehensive Action Plan for Defence** was also signed in **2016** to consolidate defence partnership.

- Estimates suggest that almost **70 per cent of Maldives' defence training is done by India** — either on the islands or in India's elite military academies.

### **Significance of India for Maldives:**

- **Essential Commodities:** India supplies Maldives with its everyday essentials: rice, spices, fruits, vegetables, poultry, medicines and life-saving drugs.
- **Education:** Every year, Maldivian students come to Indian higher educational institutions.
- **Economic dependence:** Of the Rs 50 crore total trade between India and Maldives in 2022, **Rs 49 crore was India's exports to Maldives**. India emerged as Maldives' second largest trade partner in 2022.
- **Disaster Relief Assistance:** When a tsunami struck the islands in 2004, India was the first to send in help.
  - **In 2014 Male had a drinking water crisis** as the major desalination plant broke down, India overnight airlifted drinking water to the islands.
  - **During the Covid-19 pandemic**, India sent essential medicines, masks, gloves, PPE kits and vaccines for the island country.

### **Challenges:**

#### **Political Instability**

- **Domestic turmoil in the Maldives:** Recent political upheavals and changes in government can create uncertainty and complicate long-term cooperation projects.

#### **Chinese Influence**

- **Economic and infrastructure investments:** China's growing economic presence in the Maldives, evidenced by investments in infrastructure projects and debt-trap diplomacy, can be perceived as a challenge to India's strategic interests in the region.
- **Military ambitions:** Chinese naval expansion and potential military ambitions in the Indian Ocean with the active support from Maldives can raise concerns for India.

#### **Security Concerns:**

- **Non-traditional threats:** Piracy, terrorism, and drug trafficking remain concerns in the region, requiring continuous collaboration and intelligence sharing between India and the Maldives.
- **Extremism and radicalization:** The Maldives' vulnerability to religious extremism and radicalization poses a security threat that necessitates joint efforts in countering such ideologies.

#### **Economic and Environmental Concerns:**

- **Trade imbalance:** The significant trade imbalance between India and the Maldives could lead to resentment and calls for diversifying trade partnerships.
- **Impact of climate change:** Both nations are highly vulnerable to climate change and rising sea levels, requiring coordinated efforts for adaptation and environmental protection.

### **Overcoming the challenges:**

- **Open and transparent communication:** Regular dialogue at all levels can address concerns and build trust.
- **Focus on common interests:** Prioritizing areas like maritime security, climate change, and economic development can solidify the foundation of the partnership.
- **Respect for sovereignty and non-interference:** Both countries must respect each other's internal affairs and avoid interference in domestic politics.
- **Strengthening people-to-people ties:** Cultural exchange programs and educational collaborations can foster deeper understanding and empathy.
- **Addressing internal issues:** Both India and the Maldives need to address domestic challenges like corruption and instability to project a positive image and foster a stable partnership.

### Way Ahead:

- The evolution of India-Maldives relations reflects a combination of geopolitical dynamics, changes in leadership, and shared regional interests.
- India is steadfast in its commitments towards Maldives and **has always walked the extra mile** towards building relations.
- Any impulsive steps to undo the carefully nurtured all encompassing partnership is **likely to harm Maldives more than it would India**.

By acknowledging and addressing these challenges, India and the Maldives can **navigate the complexities of their relationship and build a stronger, more resilient, and mutually beneficial partnership** for the future.

### 2.6 Key facts about Cabo Verde

Recently, the World Health Organization (WHO) has certified Cabo Verde (also known as Cape Verde) as a malaria-free country.

### Why in the news?

- Cabo Verde has become the third country to acquire the status in the global health organisation's African region. The country has now joined Mauritius and Algeria, who were certified in 1973 and 2019, respectively.

### About Cabo Verde

- It is also known as Cape Verde which comprises a group of islands that lie off the west coast of Africa.
- It is located nearby Senegal and is the nearest point on the continent.
- This volcanic archipelago includes ten islands and five islets, divided into the windward (Barlavento) and leeward (Sotavento) groups.
- Climate: Generally moderate, the climate is characterized by stable temperatures with extreme aridity.
- The terrain of the Cabo Verde islands varies from the geologically older, flatter islands in the east and the newer, more mountainous islands in the west.



- Population: The overwhelming majority of the population of Cabo Verde is of mixed European and African descent and is often referred to as mestiço or Crioulo.
- Capital: Praia
- Languages spoken: Portuguese and Cape Verdean Creole

### Key facts about Malaria

- It is a life-threatening disease caused by parasites that are transmitted to people through the bites of infected female Anopheles mosquitoes.
- There are 5 parasite species that cause malaria in humans, and 2 of these species, Plasmodium falciparum and Plasmodium vivax, pose the greatest threat.
- It is common in tropical areas where it's hot and humid.
- Children under 5 years of age are the most vulnerable group affected by malaria.
- Symptoms: Fever and sweating, Chills Headache and muscle aches etc

Treatment: It is preventable and curable. With early treatment, most people with malaria will make a full recovery.

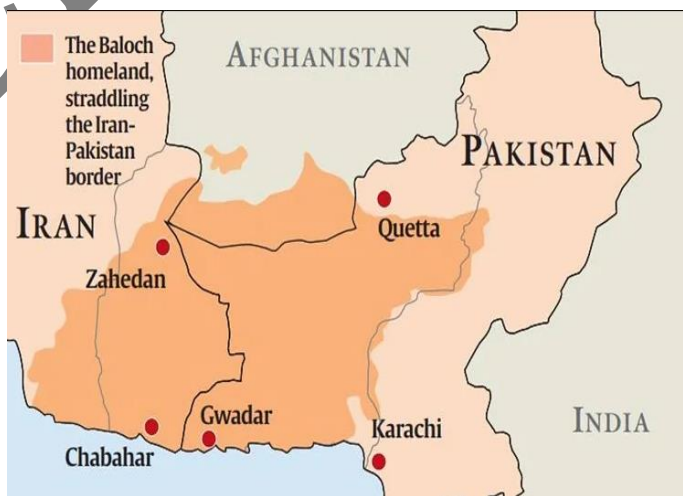
### 2.7 Iran Pakistan & Baloch Militancy:

Recently, the relationship between **Iran and Pakistan has taken serious hits** over Iranian missiles and drones that struck two alleged bases of the **Jaish al-Adl (JAA), an anti-Iran Baloch militant group**, in Pakistan's Balochistan province.

- Pakistan reacted strongly to the "blatant breach" of its sovereignty and carried out its own cross-border missile strikes on **alleged terrorist sanctuaries in Iran**.
- **The JAA came under the scanner of Indian security agencies** following the abduction of an Indian, **Kulbhushan Jadhav**. The group allegedly traded Jadhav to Pakistan's Inter Services Intelligence (ISI).

### Who is Jaish al-Adl?

- Jaish al-Adl, or the Army of Justice, is a **Sunni Militant group that emerged in 2012**. It is primarily composed of **members from the ethnic Baluch community**, residing on both sides of the Iran-Pakistan border.
- The group is considered an **offshoot of the Jundullah organisation**, which saw its strength diminish after Iran arrested many of its members.
- Jaish al-Adl's main objectives include **seeking independence**



- for Iran's eastern Sistan province and Pakistan's southwestern Baluchistan province. These goals, advocating for the **rights of the Baluch people**, make the group a **common target for both the Iranian and Pakistani governments**.
- The ethnic Baluch community faces discrimination in both Iran and Pakistan, with concerns about a lack of fair distribution of resources and wealth in their respective provinces. Baluch separatists and nationalists demand a more equitable share and often resort to insurgency as a means of expressing their grievances.



- The group's presence in Balochistan, particularly in the border regions, has been a source of tension between Iran and Pakistan.
  - Both countries have a history of suspicion and accusations regarding each other's involvement in supporting militant activities.

### How has been the Relationship Between Pakistan and Iran?

- **Pre-1979 Alliance:**
  - Before the **1979 Islamic Revolution in Iran**, both countries were firmly allied to the **United States** and had, in 1955, joined the **Baghdad Pact**, later known as the Central Treaty Organization (CENTO), a military alliance modeled on **NATO (North Atlantic Treaty Organization)**.
  - Iran provided material and weapons support to **Pakistan during its wars against India in 1965 and 1971**.
  - The Shah of Iran expressed concern about the "**disintegration**" of **Pakistan after the Liberation of Bangladesh**.
- **Post-1979 Shift:**
  - The Islamic Revolution in Iran led to the **rise of an ultra-conservative Shiite** regime under **Ayatollah Khomeini**. This was concurrent with Pakistan's own Islamization under military dictator **General Zia-ul-Haq**.
  - The two countries found themselves on opposite ends of the sectarian divide.
- **Geopolitical Differences:**
  - Iran went **from being an ally to a sworn enemy** of the United States almost overnight, the Americans embraced Pakistan closer.
  - Since 1979, has been a major reason for the Iranian distrust of Pakistan, which increased after **09/11 as Islamabad extended unqualified support to the US "War on Terror"**.
  - Iran's post-1979 foreign policy, which focused on exporting the revolution, made its Arab neighbours nervous.
    - Each of these oil-rich kingdoms was **effectively controlled by a small group of families**, not unlike the Shah's regime in pre-revolution Iran. Pakistan's continued strategic ties with these Arab kingdoms **added rough edges to its relationship with Iran**.
- **Afghanistan Conflict:**
  - Iran and Pakistan found themselves on **opposite sides in Afghanistan after the Soviet withdrawal**.
  - Iran backed the **Northern Alliance against the Taliban**, a group initially supported by Pakistan.
  - Tensions escalated after the Taliban **massacred Persian-speaking Shia Hazaras** and Iranian diplomats in **Mazar-i-Sharif in 1998**.
- **Attempts at Reconciliation:**
  - Despite historical tensions, both countries **made attempts to improve ties**. Prime Minister Benazir Bhutto expressed regret over tightening U.S. sanctions against Iran in 1995, and Pakistan **imported gas from Iran during her government**.
  - However, relations soured after General Pervez Musharraf took power in 1999.

### What is the Balochistan Dynamics between Iran and Pakistan?

- **Geographical and Demographic Context:**

- The Iran-Pakistan border, known as the **Goldsmith Line**, spans approximately 909 kilometres from a tripoint with Afghanistan to the northern **Arabian Sea**.
- Roughly 9 million ethnic **Baloch people inhabit both sides of the border, residing in the Pakistani province of Balochistan, the Iranian province of Sistan and Baluchestan**, and neighbouring areas of Afghanistan.
- **Shared Baloch Identity:**
  - Baloch people share a **common cultural, ethnic, linguistic, and religious identity** that transcends the modern borders imposed on the region.
  - Despite living in different countries, the **Balochs maintain strong ties based on historical and cultural connections**.
- **Marginalisation and Grievances:**
  - The Baloch in both **Iran and Pakistan have experienced marginalization**, feeling politically and economically distant from the dominant regimes in each country.
    - **In Pakistan**, the Baloch face **challenges as an ethnic minority** within a Punjabi-dominated political structure.
    - **In Iran**, they are not only an **ethnic minority but also a religious minority**, with the majority being Sunni in a predominantly Shia country.
- **Economic Disparities:**
  - The Baloch homeland is **rich in natural resources**, but economic disparities persist. In Iran, a significant portion of the **Baloch population lives under the poverty line**.
  - In Pakistan, despite massive investments in projects like **China's Belt and Road Initiative**, **improvements in their lives have been limited**.
- **Nationalist Movements:**
  - Baloch nationalism has **historical roots dating back to the early 20<sup>th</sup> century** when new international borders were drawn in the region.
  - The marginalisation of the Baloch people in both Iran and Pakistan has fueled separatist **movements seeking a "Greater Balochistan" nation-state**.
- **Insurgency and Cross-Border Movements:**
  - Baloch insurgents operate on both sides of the Iran-Pakistan border, attacking military and occasionally civilian targets.
  - Insurgents, affiliated with groups like the **Baloch Liberation Army (BLA)** and the **Baloch Liberation Front (BLF)**, have been involved in armed struggles against the respective states.

#### **What are the Implications of Escalating Tensions Between Pakistan and Iran?**

- **Regional Stability:**
  - Escalating tensions between Pakistan and Iran **could contribute to regional instability**, especially given the complex geopolitical landscape of the Middle East and South Asia.
  - The relationship between Pakistan and Iran **may further strain, impacting diplomatic, economic, and cultural ties**.
- **Proxy Dynamics:**
  - Both Pakistan and Iran have been accused of **supporting proxies in regional conflicts**. Escalations may heighten proxy dynamics, with each country trying to exert influence in the other's internal affairs or supporting certain factions in ongoing regional conflicts.



- **Impact on Balochistan:**
  - Balochistan could witness increased unrest. **The Baloch nationalist movements might gain momentum**, and there could be repercussions for the local populations.
  - The situation might draw in **other regional actors, such as India, the United States, Saudi Arabia, or Israel**, further complicating the geopolitical landscape and potentially leading to a broader regional conflict.
- **Security Concerns:**
  - Escalating tensions may raise security concerns for neighbouring countries, particularly Afghanistan. The region is already grappling with **security challenges, and heightened tensions could exacerbate the situation.**
- **Implications for India:**
  - The tensions **may impact India's relations with Iran**, especially considering India's involvement in projects like the Chabahar port. India may find itself in a delicate diplomatic position, balancing its ties with both Iran and the United States.

### What is India's Stance over the Faceoff Between Pakistan and Iran?

- **Zero Tolerance Towards Terrorism:**
  - India emphasised its **"uncompromising position of zero tolerance towards Terrorism."** This statement underscores India's consistent stance against terrorism, aligning with its long-standing concerns regarding cross-border terrorism emanating from Pakistan.
- **Understanding Actions in Self-Defense:**
  - India acknowledged and **expressed an understanding of "actions that countries take in their self-defence."** It suggests a recognition of the complex security dynamics in the region and a cautious approach to the actions taken by countries to address their security concerns.

### 2.8 Non-Aligned Movement (NAM)

*Recently, the **19th Non-Aligned Movement (NAM)** summit was held in Kampala, the capital of Uganda on 19 and 20 January.*

#### About NAM Summit

- The 19th NAM Summit was held under **Uganda's leadership in Kampala**. Uganda has taken over as chair from Azerbaijan, to run until 2027.
- Theme: **'Deepening Cooperation for Shared Global Affluence.'**
- **Key discussions** at the summit:
  - Israel-Hamas war
  - India's "Vishwaa Mitra" initiative
  - A call for multipolar world

#### About Non-Aligned Movement

- The Non-Aligned Movement (NAM) is an **alliance of developing nations that refuses to identify with any major superpower.**
- It was established in **1961** at the height of the Cold War. Whereas it started with the **Bandung Conference** held in Indonesia in 1955.
- Current members:

- **120 countries:** 53 from Africa, 39 from Asia, 26 from Latin America and the Caribbean and two from Europe.
- It also includes the **non-UN member state of Palestine**, 17 other observer countries, and 10 observer organizations.
- **India is one of the founding members.**
- **After the United Nations, NAM is the second-largest grouping of nations.**
- NAM does not have a permanent secretariat or a formal founding charter, act, or treaty
- The summit usually **takes place every three years.**

## 2.9 Crisis in Red Sea

### Why in news?

- In the latest in a series of attacks on commercial vessels in the western Arabian Sea by the Houthi rebels, a **Marshall Islands-flagged oil tanker Marlin Luanda** came under a missile attack.
  - The vessel had 22 Indian and one Bangladeshi crew members on board.
  - While the ship was learnt to have caught fire and reported damage, no casualty or injury was reported at the time.
- It prompted a quick response from the Indian Navy's guided missile destroyer **INS Visakhapatnam**, which was deployed in the Gulf of Aden.



### What is Red Sea?

- **About:**
  - Red Sea is narrow strip of water extending **southeastward from Suez, Egypt, to the Bab el-Mandeb Strait.**
    - **Bab-el-Mandeb Strait connects the Mediterranean Sea to the Arabian Sea via the Red Sea and the Suez Canal.**
  - Basically, it is a narrow inland sea between the Arabian Peninsula and Africa.
    - **The Red Sea separates the coasts of Egypt, Sudan, and Eritrea from those of Saudi Arabia and Yemen.**
  - **The Gulf of Aqaba**, a northeastern extension of the sea, reaches southern Israel and southwestern Jordan.
- **Significance**
  - The Red Sea contains some of the **world's hottest and saltiest seawater.**
  - It is one of the most **heavily travelled waterways** in the world, carrying maritime traffic between Europe and Asia.
- **Significance for India**
  - Freight rates for Indian shipments headed to **Europe and Africa** could surge as much as **25-30 per cent** if there is disruption along this route.
    - **For India**, the Red Sea trade route is the **shortest trade route** for ships moving from **Asia to Europe.**

- India is heavily reliant on the **Bab-el-Mandeb Strait for its crude oil**, LNG imports and trade with parts of West Asia, Africa, and Europe.
- This route is vital for **30 per cent** of global container traffic.

### Who are Houthis?

#### Overview:

*Yemen's Iran-aligned Houthis have stepped up their attacks on commercial vessels transiting the Red Sea.*

#### About Houthi

- The Houthis, officially known as **Ansar Allah (Partisans of God)**, are an armed religious and political movement in **Yemen**.
- Houthis are **Zaydi Shiites**, or Zaydiyyah. **Shiite Muslims are the minority community** in the Islamic world, and **Zaydis are a minority of Shiites**, significantly different in doctrine and beliefs from the Shiites who dominate in **Iran, Iraq**, and elsewhere.
- They are a **minority in Yemen**, which is predominantly **Sunni Muslim**, but they are a significant one, numbering in the hundreds of thousands and making up as much as a third of the overall population.
- Its members advocate regional autonomy for **Zaidis** in northern Yemen.
- They have been fighting Yemen's Sunni-majority government since **2004**.
- The Houthis took over the **Yemeni capital Sanaa in September 2014** and seized control over much of north Yemen by 2016.
- The Houthi movement began as an effort to maintain tribal autonomy in northern Yemen and protest Western influence in the Middle East.
- Today, the Houthis seek a greater role in the Yemeni government and continue to advocate for Zaidi minority interests.
- The movement is known for its virulently **anti-American and anti-Semitic rhetoric**.
- Several of the group's leaders have been designated as terrorists by the United States.

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### Q1) Which countries border the Red Sea?

Yemen and Saudi Arabia border the Red Sea to the east. It is bordered by Egypt to the north and west and by Sudan, Eritrea, and Djibouti to the west.

### Trouble in Red Sea and Impact on India

- **Trouble in Red Sea**
  - Attacks on cargo ships in the Red Sea since November 2023 by the Houthi militia of Yemen have increased.
  - It has turned the quickest marine route linking Asia with Europe through the Suez Canal unsafe.
  - It has forced freighters to take a longer transit around the Cape of Good Hope in Africa's southern tip, making shipments both dearer and longer to deliver.
- **Status**
  - Almost 90% of western hemisphere cargo, both inbound or shipped from India, that used to go through the Red Sea is now getting re-routed through the Cape of Good Hope.

- The remaining 10% of Indian import or export cargo is either not moving or using a transit facility.
- Container Corporation of India said that about 25% of its containers are being held back by Indian exporters as everybody is hoping the situation will normalise shortly.
- **Impact on India**
  - Besides the extra time taken on account of the longer route, the developments could make **imports costlier and call for better inventory management.**
  - The Red Sea crisis could come in the way of any plans to reduce pump prices of petrol and diesel.
  - Freight rates for impacted routes have increased.
    - War risk premiums in the Red Sea have been partially contributing to the freight-rate increases for the relevant routes.
    - Commodities are the worst affected whether it be chemicals, plastic, petrochemicals, because margins are not there to absorb the hike in freight.

## 2.10 International Court of Justice

### Overview:

*The International Court of Justice recently ruled that it will not throw away the genocide case against Israel.*

About International Court of Justice (ICJ):

- The ICJ, also known as the **World Court**, is the **principal judicial organ of the United Nations (UN)**.
- It was **established in June 1945 by the Charter of the UN** and began work in April 1946.
- **The seat of the Court is at the Peace Palace in The Hague (Netherlands).**
- **Of the six principal organs of the UN, it is the only one not located in New York, United States.**
- **The hearings of the ICJ are always public.**
- **Official Languages: French and English**
- **Powers and Functions:** The Court may entertain **two types of cases:**
  - First, it can **act as a dispute settlement body between two member States** in what are called **“contentious cases.”** Such disputes may concern, in particular, land frontiers, maritime boundaries, territorial sovereignty, the non-use of force, violation of international humanitarian law, non-interference in the internal affairs of States and diplomatic relations.
  - Second, it can accept requests to **issue an advisory opinion on a legal question referred to it by a UN body or specialized agency.** These opinions can clarify the ways in which such organizations may lawfully function or strengthen their authority in relation to their member States.
  - The court's **judgments in contentious cases are final and binding** on the parties to a case, and **without appeal.**
  - Unlike the Court's judgments, **advisory opinions are not binding.**
  - The ICJ **decides disputes in accordance with international law** as reflected in international conventions, international custom, general principles of law recognized by civilized nations, judicial decisions, and the writings of the most highly qualified experts on international law.

**Composition:**

- It consists of **15 judges, all from different countries**, who are **elected to nine-year terms by majority votes in the UN General Assembly and the Security Council**.
- The judges, **one-third** of whom are **elected every three years**, are **eligible for reelection**.
- Once elected, a member of the Court **is a delegate neither of the government** of his own country nor of any other State.
- In addition, the ICJ Statute **allows a state party to a case** before it **which does not have a judge** of its nationality on the bench **to appoint a person to sit as judge ad hoc** in that specific case.
- The Court is assisted by a Registry, its permanent administrative secretariat, which is independent of the United Nations Secretariat.

**2.1.1 Free Movement Regime****Overview:**

*The Home Minister recently said the Free Movement Regime (FMR) agreement with Myanmar would be reconsidered to stop border residents from moving into each other's country without any paperwork.*

About Free Movement Regime (FMR):

- Under the FMR, all the hill tribes, whether they are **citizens of India or Myanmar, can travel within 16 km on either side of the Indo-Myanmar Border (IMB)**.
- They can cross the border **by producing a border pass** with a **one-year validity** issued by the competent authority and **can stay up to two weeks per visit**.
- The FMR was **implemented in 2018 as part of** the Central government's **Act East policy**.
- FMR is implemented by both governments **for the people living along the IMB**.
- This helps locals get more culturally assimilated with trans-border villages through weddings, celebrating common festivals together, and trans-border trade.
- It is a reflection of the physical, ethnic, linguistic, cultural, and fraternal linkages among the trans-border villagers.

Key Facts about Indo-Myanmar Border (IMB):

- It runs for **1,643 km** in the four states of **Mizoram, Manipur, Nagaland, and Arunachal Pradesh**.
- It runs **from the tripoint with China** in the north **to the tripoint with Bangladesh** in the south.
- **Assam Rifles** is tasked with **guarding the IMB**.

**Q1: What is Assam Rifles?**

The Assam Rifles, one of the central armed police forces, is the leading counter-insurgency force in the Northeast. It is the oldest paramilitary force in India. It is tasked with the maintenance of law and order in the North East along with the Indian Army and also guards the Indo-Myanmar border in the region. It is the only paramilitary force with a dual control structure. While the administrative control of the force is with the Ministry of Home Affairs, its operational control is with the Indian Army, which is under the Ministry of Defence.



# 3. Economy

## 3.1 What is the Windfall Tax?

*India cut its windfall tax on petroleum crude to 1,700 rupees (\$20.53) a tonne from 2,300 rupees a tonne, according to a recent government notification.*

### About Windfall Tax

- What is it? It is a **tax levied by governments against certain industries when economic conditions allow those industries to experience significantly above-average profits.**
- The term “windfall” refers to an **unexpected rise in profits**, and the tax on **windfall gains** is known as the windfall tax.
- When is it imposed?
  - When the government notices a **sudden increase in an industry's revenue**, they impose this tax.
  - However, these revenues cannot be linked to anything the company actively pursues, such as its business strategy or expansion.
  - Rather, it is related to a one-off external event for which the business is not responsible.
  - Consequently, a Windfall Tax is imposed on an industry's profits when it experiences a sharp increase in revenue **due to unrelated external events.**
  - A recent example is the sudden rise in the profits of the oil and gas industries due to the **Russia-Ukraine conflict.**
  - The unexpected windfalls are taxed by the government over and above the normal tax rates.
- The most common industries that fall target to windfall gains tax include **oil, gas, and mining.**
- Purpose:
  - **Redistribution of unexpected gains** when high prices benefit producers at the expense of consumers;
  - To **fund social welfare schemes;**
  - As a **supplementary revenue** stream for the government.

## 3.2 'One Vehicle, One FASTag' initiative

*Recently, the National Highways Authority of India (NHAI) has launched the 'One Vehicle, One FASTag' initiative.*

### About 'One Vehicle, One FASTag' initiative

- The National Highways Authority of India suggested tagging users to complete the **Know Your Customer (KYC)** process by the end of **January 31 to avoid deactivation.**
- The move aims to **enhance the efficiency of the Electronic Toll Collection system** and provide seamless movement at the Toll Plazas.
- The new arrangement Of 'One Vehicle, One FASTag' has also been introduced to discourage user behaviour of using single **FASTag for multiple vehicles or linking multiple FASTags to a particular vehicle.**



- The initiative had been taken after the recent reports of multiple FASTags being issued for a particular vehicle and FASTags being issued without KYC in violation of RBI's mandate.

### Key points about FASTags

- It is a device that **employs Radio Frequency Identification (RFID) technology** for making **toll payments** directly while the vehicle is in motion.
- It is a RFID passive tag used for making toll payments directly from the customers linked **prepaid or savings/current account**.
- It is affixed on the windscreen of the vehicle and enables the customer to drive through toll plazas, without stopping for any toll payments.
- The toll fare is directly deducted from the linked account of the customer.
- It is also vehicle specific and once it is affixed to a vehicle, it cannot be transferred to another vehicle.
- FASTag can be purchased from any of the National Electronic Toll Collection (NETC) Member Banks.
- If a FASTag is linked to the prepaid account, then it needs to be recharged/topped-up as per the usage of the customer.

### 3.3 What is Momentum investing?

*Many academic studies have shown that momentum investing can generate high returns that comfortably beat the benchmark indices.*

#### About Momentum investing

- **It refers to a style of investing wherein investors purchase assets such as stocks or bonds that are consistently rising in price while selling assets whose prices are falling.**
- Momentum investors buy assets with rising prices in the hope that the upward price momentum of these assets would continue, thus allowing them to sell these assets at higher prices in the future to make profits.
- It is based on the philosophy that there can be discernible trends in asset prices and that these trends tend to persist over time.
- The persistence of such trends gives investors an opportunity to recognise and participate in them early enough to make significant profits from their investments.
- Similarly, they sell assets that are falling in price expecting the fall in prices to continue for some time.
- Momentum investors generally do not conduct a deep analysis of the fundamental or intrinsic value of the assets in which they invest their money.
- They invest purely based on whether the price of an asset is showing a strong trend, either upward or downward, that they can ride on.
- The “buy high, sell higher” philosophy of momentum investing is in stark contrast to the traditional “buy low, sell high” advice given to investors.

### 3.4 Zero Effect, Zero Defect Scheme (ZED)

*The Zero Effect, Zero Defect scheme (ZED) by the MSME Ministry has achieved the 1 lakh certification milestone, the ministry said recently.*

### **About Zero Effect, Zero Defect Scheme (ZED)**

- Launched in October 2016 and revamped in April 2022, the ZED scheme **offers certification** for **environmentally conscious** manufacturing under three certification levels (**gold, silver, and bronze**) classified according to **20 performance-based parameters** such as quality management, timely delivery, process control, waste management, etc.
- The major objectives of the ZED Scheme are:
  - To create **proper awareness** in MSMEs about ZED manufacturing and motivate them for the assessment of their enterprise for a ZED rating.
  - **To drive manufacturing with the adoption of Zero Defect production processes without impacting the environment (Zero Effect).**
  - To encourage MSMEs to constantly upgrade their quality standards in products and processes.
  - To support the **“Make in India”** campaign.
- The scheme provides financial assistance of up to **75 percent of the total cost of certification**, with a maximum subsidy ceiling of **Rs 50,000, along with up to Rs 2 lakh** in support for handholding/consultancy to achieve the next certification level.
- For technology upgradation, the scheme offers assistance of up to Rs 3 lakhs for moving towards zero effect solutions/pollution control measures/cleaner technology.
- MSMEs are charged Rs 10,000 for bronze certification, Rs 40,000 for silver certification, and Rs 90,000 for gold certification.
- In December 2023, the MSME Ministry made the ZED scheme **free for women-led MSMEs**.
- In addition, the government will now make guarantee payment of 100 percent financial support for the certification costs under the scheme.
- The ZED certification is valid for three years, and the MSME units are required to re-apply for the certificate as per the validity of the scheme.
- Currently, **the scheme is applicable for manufacturing MSMEs only.**

### **3.5 What is SBI Green Rupee Term Deposit (SGRTD) Scheme?**

*The State Bank of India (SBI) recently introduced the SBI Green Rupee Term Deposit (SGRTD) scheme to mobilize funds to support environment friendly initiatives and projects.*

### **About SBI Green Rupee Term Deposit (SGRTD) Scheme**

- It is an initiative of the State Bank of India (SBI) with the aim of **raising money to finance environment-friendly projects.**
- The deposit scheme is **open to resident individuals, non-individuals**, and non-resident Indian (**NRI**) customers.
- The current framework permits green deposits to be **denominated in rupees only.**
- It offers investors the flexibility to choose from three distinct tenors: **1,111 days, 1,777 days, and 2,222 days.**
- Interest Rate:

- SGRTD will offer 10 basis points (bps) interest rates below the card rate for retail and bulk deposits for respective tenors.
- Senior Citizens/ Staff/ Staff Senior Citizens are eligible for an additional interest rate over the applicable rate for the public.
- The benefit of additional interest shall not be available to NRI Senior Citizens/NRI Staff.
- **Pre-mature withdrawals are allowed under the scheme.**
- **Loan/ overdraft facility will be available against the deposit.**

### What is Green Deposit?

- A **Green deposit is an interest-bearing deposit, received by the regulated entities (RE) for a fixed period, the proceeds** of which are earmarked for being allocated towards green finance.
- The deposits raised under the framework are covered by the Deposit Insurance and Credit Guarantee Corporation (DICGC).

### 3.5 What is the difference between an Interim Budget and Vote-On-Account?

*The Finance Minister is all set to present her sixth Budget in a row and since it is a general elections year, the government will be allowed only to present an Interim Budget or Vote-on-account instead of a regular full Budget.*

### About Interim Budget vs Vote-On-Account

- An interim budget serves as a framework for **managing provisional expenditures** over a **short duration**, usually **spanning a few months**, until a new government takes office at the central level.
- An interim budget generally includes the **current state of the economy**, plan and non-plan expenditures and receipts, **changes in tax rates**, **revised estimates** of the current financial year, and **estimates** for the coming financial year.
- Despite being presented for the entire year, similar to a regular budget, **the interim budget is subject to constraints imposed by the Election Commission.**
  - These constraints **aim to prevent the government from implementing policies that could unduly influence the general public before the commencement of voting.**
- The Parliament passes a **Vote-on-account** to meet **essential expenditures** such as **salaries of central government staff, funding of ongoing projects, and other government expenditures.**
  - In other words, it accounts for **only expenditures** to be borne by the **outgoing government for a period of two months**, which may be extended to four months on special circumstances.
- The interim budget serves as a **financial plan** during a transitional period, typically when there are only a few months left in the current government's tenure. The vote-on-account can be approved within the framework of the interim budget.
- Like a full budget, an **interim budget** will be **discussed and passed in the Lok Sabha**, and in the case of a **vote-on-account**, it will be passed **without** any formal discussion as such.
- An **interim budget** can propose changes in the **tax regime**, whereas a **vote-on-account cannot** change the tax regime under any circumstances.

- **Vote-On-Account** is a **parliamentary approval for withdrawing money** from the **Consolidated Fund of India** from April to June/July or until the new Government presents its full-fledged budget.
  - It can be termed an **advance grant**, interim arrangement, and authorisation for the outgoing government to draw the money from the above-said fund and meet short-term expenditures.

As far as validity is concerned, the **interim budget is valid throughout the year** whereas the **vote-on-account is valid only for a period of two to four months**.

### 3.6 What is Universal Service Obligation Fund (USOF)?

*Telecom service providers have urged the Ministry of Finance to suspend the universal service obligation fund (USOF) levy until the existing corpus is exhausted.*

#### About Universal Service Obligation Fund (USOF)

- USOF was set up by an **Act of Parliament** in December 2003 by amending the Indian Telegraph Act, 1885.
- The objective of the USOF is to **provide access to telecom services in a nondiscriminatory manner to people in rural and remote areas** at affordable and reasonable prices, thereby bridging the **rural-urban digital divide**.
- For commercially non-viable rural and remote areas, USOF provides **subsidy support** in the form of **Net Cost or Viability Gap Funding (VGF)** to incentivize telecom service providers for the expansion of telecommunications and broadband services in those areas.
- **Funding Mechanism:**
  - The USOF is funded through a **levy on the revenue** earned by telecom operators.
  - The government imposes a **Universal Service Levy (USL)** on the gross revenue of the telecom companies, which is a percentage of their Adjusted Gross Revenue (AGR).
  - This levy is **collected and deposited** into the USOF.
- **Administration:**
  - USOF is headed by **the Administrator**, USO Fund who is appointed by the Central Government, for the administration of the fund.
  - It is an **attached office** of the **Department of Telecommunications (DoT)**, Ministry of Communications.

#### What is the Telecom Technology Development Fund (TTDF)?

- USOF officially launched the TTDF Scheme on October 1st, 2022.
- The TTDF Scheme is **aimed at domestic companies and institutions involved in technology design, development**, and commercialization of telecommunication products and solutions to enable affordable broadband and mobile services in **rural and remote areas**.
- This initiative helps to **connect schools** with varied volunteers from the Indian Diaspora, namely, young professionals, retired teachers, retired Government officials, retired professionals, NGOs, Private Sector and Public Sector Companies, Corporate Institutions, and many others.
- The scheme entails **grants** to Indian entities to encourage and induct **indigenous technologies** tailor-made to meet domestic needs.

### 3.7 Strategic Interventions for Green Hydrogen Transition (SIGHT) Programme

Overview:

*Rs 17,490 crore has been set aside for the Strategic Interventions for Green Hydrogen Transition (SIGHT) programme, to bolster domestic electrolyser manufacturing, green hydrogen production.*

#### About Strategic Interventions for Green Hydrogen Transition (SIGHT) Programme

- It is a subcomponent of **National Green Hydrogen Mission**.
- Aim: **To bolster domestic electrolyser manufacturing and green hydrogen production.**
- In the initial stage, two distinct financial incentive mechanisms were proposed with an outlay of ₹ 17,490 crore up to 2029-30:
  - **Incentive for manufacturing** of electrolysers
  - **Incentive for production** of green hydrogen.
- Depending on the markets and technology development, specific incentive schemes and programmes will continue to evolve as the Mission progresses.
- **Implementing agency:** The Solar Energy Corporation of India (**SECI**) would be the implementing agency responsible for the scheme's execution.

#### What is National Green Hydrogen Mission?

- It is implemented by the Ministry of New and Renewable Energy with an outlay of ₹ 19,744 crore from FY 2023–24 to FY 2029–30.
- The overarching **objective** of the Mission is **to make India a global hub for the production, usage, and export of Green Hydrogen** and its derivatives.
- The expected outcomes of the mission by 2030, are as follows:
  - India's Green Hydrogen production **capacity** is likely to reach **5 MMT per annum**, contributing to reduction in dependence on the import of fossil fuels. Achievement of Mission targets is expected to reduce a cumulative **₹ 1 lakh crore worth of fossil fuel imports by 2030.**
  - This is **likely to leverage over ₹8 lakh crore** in total investments and create **over 6 lakh jobs.**
  - Nearly 50 MMT per annum of CO<sub>2</sub> emissions are expected to be averted through the production and use of the targeted quantum of Green Hydrogen.
- It has a provision for supporting pilot projects for low-carbon steel, mobility, shipping, and ports.
- The Mission provides allocations for various sub-components of the Mission such as SIGHT, Pilot projects, R&D etc. to fund specific selected projects.
- **There is no State-wise allocation made under the Mission.**

#### Key Facts about Green Hydrogen

- Green Hydrogen is produced by the **process of electrolysis**, where water is split into hydrogen and oxygen using electricity generated from renewable sources like solar, wind, or hydropower.
- This process results in a **clean and emission-free fuel** that has **immense potential to replace fossil fuels and reduce carbon emissions.**



### 3.8 What is end-to-end encryption?

Overview:

*End-to-end (E2E) encryption **protects information** in a way that has transformed human rights organisations', law-enforcement agencies', and technology companies' outlook on their ability to access and use information.*

#### About End-to-end encryption (E2EE)

- Encryption is a **way of protecting data from unauthorised access or tampering**.
- It works by transforming the data into a secret code that only the intended recipient can decipher. This comes in useful for various cases, such as **securing online communications, storing sensitive information, and verifying digital identities**.
- There are two main types of encryption:
  - **Symmetric**: It uses the **same key to encrypt and decrypt the data**. In symmetric encryption, the key used to encrypt some information is also the key required to decrypt it.
  - **Asymmetric**: It uses a **pair of keys: one public and one private**. The public key can be shared with anyone, but the private key must be kept secret.
- The term encryption is generally used when referring to the **privacy of stored data**, while end-to-end encryption protects data as it's transferred between a location – which is crucial wherever there's a rapid exchange of information.
- In an E2EE-enabled app, only the person on each end – **the sender and receiver** – can read any exchanged messages.
- This is because **messages get encrypted on your device** before being sent and only are decrypted when they reach your intended recipient.

#### Issues with End-to-end encryption

- **Some potent malware** can also **'snoop'** on your messages by infiltrating your device via other means – an SMS and reading them before they are encrypted.
- The company that installs E2E encryption on **its products can install a backdoor** or an exception that allows the company to surmount the encryption and access the messages.

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#### Q1) What is the Chameleon Trojan?

**It is a malware that has the ability to disable biometric authentication methods, including fingerprint and face unlock, to sneakily access sensitive information.**

### 3.9 H-1B Visa

Overview:

*The U.S. State Department recently launched a program to renew the much sought-after H-1B foreign work visas domestically.*

#### About H-1B Visa

- It is a **non-immigrant visa that allows US companies to employ foreign workers in specialty occupations that require theoretical or technical expertise for a specified period**.
  - A **specialty occupation** is one that requires the application of a body of highly **specialized knowledge** and the attainment of **at least a bachelor's degree** or its equivalent.



- The intent of the H-1B provisions is **to help employers who cannot otherwise obtain needed business skills and abilities from the U.S. workforce** by authorizing the temporary employment of qualified individuals who are not otherwise authorized to work in the United States.
- Occupations that qualify for the H-1B visa are typically in fields such as **technology, finance, engineering, architecture, or more.**
- **Eligibility:** In order to be eligible for the H1B visa, you will need:
  - A **valid job offer from a U.S. employer** for a role that requires specialty knowledge
  - **Proof of a bachelor's degree** or equivalent experience in that field
  - The US employer must show that **there is a lack of qualified U.S. applicants** for the role.
- **Cap:**
  - The annual H-1B visa limit is **85,000**. There are **65,000 regular H-1B** visas each year, and an additional **20,000 visas are reserved for applicants** with advanced degrees.
  - Some **exceptions** to the H-1B visa cap include people entering the U.S. to work in higher education or affiliated research/non-profit organizations.
  - Applicants are selected for **adjudication via lottery system.**
- **Features:**
  - The H-1B visa is valid **for three years** and **can be extended** one time for an additional three years. In general, the H-1B is **valid for a maximum of six years.**
  - There is **no limit to the number of H1-B Visas that an individual can have in his or her lifetime.**
  - H1-B holders can seek **Green Card or Lawful Permanent Residency** for themselves and their family.
  - If the H1-B holder is changing jobs, he or she must reapply for a new visa.

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### Q1) What is a US L1 Visa?

L1 Visa is **an Intra-Company Transferee Visa**. It allows large multinationals (need not be a US company) - with operations across various countries - to shift employees in specialized positions on a temporary basis to the US. There are two types of **L1 visas - L1A and L1B. Managers and executives** come under the category of **L1As** while **L1Bs encompass workers** with specialized knowledge. There is no education requirement for the L1 visa. L-1A visa holders are allowed a maximum stay of seven years in the U.S while L-1B visa holders are allowed a maximum stay of five years.

# 4. Internal Security

## 4.1 The Defence Research and Development Organisation recently launched an indigenous assault rifle named 'Ugram'.

- 'Ugram' is a state-of-the-art indigenous assault rifle.
- It has been developed by the Armament Research and Development Establishment (ARDE), a unit of DRDO, in collaboration with a private industry partner.
- It was developed in less than 100 days.
- It has been developed as per the General Staff Qualitative Requirements (GSQR) of the army into consideration.
- It has an effective range of 500 metres.
- It weighs less than four kilograms.
- The rifle has a 20-round magazine that fires robustly and in full auto mode.

## 4.2 Exercise Desert Cyclone

*The Joint Military Exercise 'Desert Cyclone 2024' between India and UAE will be held from January 2 to January 15 in Rajasthan.*

### About Exercise 'Desert Cyclone'

- It is the inaugural edition of joint military exercise "Desert Cyclone 2024" between India and the United Arab Emirates (UAE).
- The exercise aims to enhance interoperability by learning & sharing best practices in Urban Operations.
- This exercise is marking a significant milestone in the strategic partnership.

### Key facts about India and UAE relations

- India and the UAE established diplomatic relations in 1972 and UAE opened its Embassy in Delhi in 1972 whereas India opened its Embassy in Abu Dhabi in 1973.
- The first-ever India-UAE Joint Air Forces exercise took place in September 2008 at the Al-Dhafra base in Abu Dhabi.
- India has also been a regular participant at the biennial International Defence Exhibition (IDEX) in Abu Dhabi.
- Earlier this year, two ships of the Indian Navy, INS Visakhapatnam, and INS Triakand participated in bilateral exercise 'Zayed Talwar' with the UAE to enhance interoperability and synergy between the two navies.

## 4.3 Exercise Ayutthaya

*Recently, the maiden Bilateral Maritime Exercise -Ayutthaya' between the Indian Navy (IN) and Royal Thai Navy (RTN) was conducted.*

### About Exercise Ayutthaya

- The **India-Thailand** Bilateral Exercise is being named as 'Ex-Ayutthaya', which literally translates to 'The Invincible One' or '**Undefeatable**'.

- It symbolises the significance of two of the oldest cities **Ayodhya** in India and **Ayutthaya** in Thailand, the historic legacies, rich cultural ties and shared historical narratives dating back to several centuries.
- Indigenously built **INS Kulish** and **IN LCU 56** participated in the inaugural edition of the exercise.
- The 36th edition of India-Thailand Coordinated Patrol (Indo-Thai **CORPAT**) was also conducted along with the maiden bilateral exercise.
- As part of Government of India's vision of **SAGAR (Security And Growth for All in the Region)**, the Indian Navy has been proactively engaging with countries in the Indian Ocean Region towards enhancing regional maritime security.
- The Indian Navy and Royal Thai Navy have maintained a close and friendly relationship which has strengthened over the years.

#### 4.4 Exercise Sea Dragon-24

*Indian Navy's P8I aircraft landed at Guam, a US island territory in Western Pacific, to participate in Exercise Sea Dragon – 24.*

##### About Exercise Sea Dragon-24

- It is an elite multinational maritime exercise that **encourages professional exchanges** and teamwork among participating navies.
- Participating countries: **India, Japan, South Korea, Australia, and the US.**
- The exercise seeks to improve skills in a variety of maritime combat domains through a number of aerial and ground-based tasks, including:
  - **Anti-submarine warfare (ASW):** Locating and neutralising enemy submarines hiding beneath the seas.
  - **Surface warfare:** Coordinated attacks on hostile surface vessels using superior weaponry and tactics.
  - **Air defence:** Putting up an impenetrable air barrier to keep friendly forces safe from aerial threats.
  - **Search and rescue (SAR):** Tracking down and saving maritime personnel in need.
  - **Communication and coordination:** Synchronising activities across several platforms and exchanging information in a seamless manner.

##### Key facts about the P8I aircraft

- It is a versatile aircraft with potent force multiplier in maritime operations. Some of its primary capabilities are:
  - **Long-range surveillance:** The P8I can scan wide sections of ocean, identifying hostile movements and activities from long distances.
  - **Multi-sensor fusion:** Its electronic intelligence systems, sonars, and onboard radars provide a thorough image of the maritime environment.
  - **Anti-submarine warfare:** With its depth charges and torpedoes, the P8I poses a serious threat to enemy submarines.
  - **Communication relay:** The aircraft can serve as an essential means of communication between various participating fleets' forces.

#### 4.5 Exercise -Sada Tanseeq

##### Overview:

*In a major boost of ties the militaries of India and Saudi Arabia are conducting their first Joint Military Exercise named as Sada Tanseeq.*

##### About Exercise Sada Tanseeq:

- It is the inaugural edition of **India-Saudi Arabia Joint Military Exercise 'SADA TANSEEQ'** commenced at Mahajan, Rajasthan.
- The Exercise is scheduled to be conducted from 29th January to 10th February 2024.
- Aim of the Exercise is to train troops of both sides for Joint Operations in Semi Desert terrain under **Chapter VII of the United Nations Charter**.
- The Exercise will enable both the sides to share their best practices in the tactics, techniques and procedures of conducting operations in sub-conventional domain.
- It will facilitate developing interoperability, bonhomie and camaraderie between troops from both sides.
- The Exercise will involve Establishment of Mobile Vehicle Check Post, Cordon & Search Operation, House Intervention Drill, Reflex Shooting, Slithering and Sniper Firing.
- The Exercise will provide an opportunity to both the contingents to strengthen their bond.

#### 4.6 What is Sky Dew?

##### Overview:

*Israel recently deployed Sky Dew along the Lebanese border as tensions with Hezbollah escalated.*

##### About Sky Dew

- Sky Dew is a massive **balloon-like structure in the shape of a puffed aircraft**.
- The high-altitude observation balloon acts as a **detection radar blip** for small unmanned aircraft and cruise missiles.
- It is one of the **largest aerial threat warning systems** in the world.
- The technology has been jointly developed by **Israel Defense and US company TCOM**. The project was entirely funded by the U.S. Department of Defence.
- The Israel Air Force was handed over the Sky Dew in 2022.
- The system comprises a blimp capable of flying at high altitudes with radar and detection systems to scan a wide range in any direction.
- The radar on the balloon is **capable of observing at 250 km** and tracking multiple targets, including low-altitude ones and those in valleys.
- It can carry 7,000 pounds and has an operational altitude of 10,000 feet.

- It offers a significant advantage in its ability to remain in surveillance for extended periods without needing fuel or crew replacement.

#### 4.7 INS Kabra

*Indian warship, INS Kabra, an indigenous fast attack craft, docked at the Colombo port in a move aimed at fostering bilateral ties between India and Sri Lanka.*

##### About INS Kabra

- It is a naval vessel named after an island of the Andaman and Nicobar archipelago.
- It belongs to the **Car Nicobar class of high-speed offshore patrol vessels** are built by Garden Reach Shipbuilders and Engineers (GRSE) for the Indian Navy.
- It was the eighth in a series of **10 Fast Attack Crafts**.
- The vessels are designed as a cost-effective platform for patrol, **anti-piracy** and **rescue operations in India's Exclusive Economic Zone**.
- With a top speed of over **35 knots**, and the ship is ideally suited for high-speed interdiction of fast moving targets.

#### 4.8 Drishti 10 'Starliner'

*Chief of Naval Staff recently flagged off the first indigenously manufactured Drishti 10 'Starliner' Unmanned Aerial Vehicle (UAV) for the Navy.*

##### About Drishti 10 'Starliner'

- It is an **indigenously manufactured Unmanned Aerial Vehicle (UAV)**.
- It was developed by **Adani Defence and Aerospace**.
- It is an advanced intelligence, surveillance, and reconnaissance (ISR) platform **with 36 hours** endurance and a **450 kg payload** capacity.
- It is an **all-weather** military platform which has clearance to fly in both segregated and unsegregated airspace.
- It is designed to possess high endurance, combat-proven capabilities, and advanced features, providing a significant boost to India's naval capabilities.
- One of the distinguishing features of the Drishti 10 'Starliner' is its **minimal maintenance** requirements, making it **cost-effective** and operationally efficient.
- This characteristic ensures increased operational readiness, reducing downtime, and maximizing deployment opportunities.
- It is equipped with advanced communication systems, including satellite communication and Line-of-Sight (LOS) data links, ensuring reliable and secure data transmission.

#### 4.9 New Generation Akash missile

*Defence Research and Development Organisation (DRDO) conducted a successful flight-test of the New Generation **AKASH (AKASH-NG) missile** from the Integrated Test Range (ITR), Chandipur off the coast of Odisha.*

##### About New Generation Akash missile

- It is a **surface-to-air** new generation missile.
- The **missile intercepted the high-speed unmanned aerial vehicle at a very low altitude**.

- The test has validated the functioning of the **complete weapon system** consisting of a missile with an **indigenously developed** radio frequency seeker, launcher, multi-function radar and command, control and communication system.
- This was the first trial of the missile against a live target, which was successfully intercepted and destroyed.
- Features
  - It is a new generation state-of-the-art **surface-to-air missile (SAM)** for the Indian Air Force (IAF) to destroy high manoeuvring low radar cross section agile aerial threats.
  - This advanced variant comes with an active electronically scanned array (AESA) multi-function radar that features all three functions - **search, track and fire control** in one platform.
  - It can defend an area **10 times better** compared to any short-range SAM and is capable of engaging up to **10 targets simultaneously**.
  - It can strike targets up to **40 km** as against the earlier variant's maximum range of 30 km.

With a canisterised launcher and a much smaller ground system, the missile has been developed with better deployability compared to other similar systems.

#### 4.10 What is Ingenuity Mars Helicopter?

Overview:

*NASA has re-established contact with its Ingenuity helicopter on Mars, the US space agency said recently.*

##### About Ingenuity Mars Helicopter

- It is a **small, autonomous aircraft** that flew to Mars aboard NASA's Perseverance rover.
- It was sent to Mars to perform **experimental flight tests** to determine if powered, controlled flight at the Red Planet was possible.
- Ingenuity's mission is experimental in nature and completely independent of the rover's science mission.
- Ingenuity was deployed to the surface on **April 4, 2021**.
- On April 19, it became the **first aircraft in history** to make a powered, controlled flight on another planet.
  - **It rose to a height of 10 feet, hovered for 30 seconds, and then descended back to the ground.**
  - The flight lasted **39.1 seconds**.
  - It managed to fly in Mars' thin atmosphere, which isn't conducive for flying.
- It's piloted by onboard guidance, navigation, and control systems running algorithms.
- Perseverance acts as a relay between the chopper and the earth.

##### Key Facts about Perseverance Rover

- It is a **robotic explorer** to land on Mars as part of NASA's ongoing **Mars 2020 Mission**.
- **Main Job:** Seek signs of ancient life and collect samples of rock and regolith (broken rock and soil) for possible return to Earth.
- The rover will collect samples of rock and soil, encase them in tubes, and leave them on the planet's surface to be returned to Earth at a future date.



- **Launch:** It was launched on July 30, 2020, from Cape Canaveral, Florida.
- **Landing:** Successfully landed on the surface of Mars's Jezero Crater on February 18, 2021.
- **Features:**
  - It is about 3 metres long, 2.7 metres wide, and 2.2 metres tall.
  - It is about the size of a car but weighs only about 1,025 kilograms with all instruments on board.
  - Power source: Multi-Mission Radioisotope Thermoelectric Generator (MMRTG).
- Converts heat from the radioactive decay of plutonium into electricity.

#### 4.11 Willingdon Island

Overview:

*Recently, the Cochin Port Joint Trade Union Forum has urged the Prime Minister of India to take effective steps to **revive the lost glory of Willingdon Island.***

##### About Willingdon Island

- It is among the **most beautiful locations** in the Kochi area.
- This is a **man-made island**, named after **Lord Willingdon** who was a British Viceroy of India.
- It is among the biggest of its kind in India.
- It is a **major commercial centre** and has some of the **best hotels** in the city.
- It is also home to the **Kochi Naval Base of the Indian Navy, the Central Institute of Fisheries Technology and the Port of Kochi.**
- It handles millions of tonnes of freight every year.
- The island is connected to the mainland by the **Venduruthy Bridge.**

##### Who was Lord Willingdon (1931 - 1936)?

- He was the **22nd Viceroy** and Governor-General of India.
- Major events during his tenure
  - Introduction of the **Government of India Act, 1935.**
  - The **Second Round Table Conference, held in 1931**, saw the participation of Gandhi as a representative of the Congress.
  - British Prime Minister Ramsay MacDonald introduced the **Communal Award in 1932.**
  - The **Poona Pact of 1932** was reached between Gandhi and Ambedkar to address provisions related to fair representation of backward classes.
  - The **Third Round Table Conference**, held in 1932, failed as neither Gandhi nor Congress attended.

#### 4.12 Bureau of Police Research and Development

Overview:

*Recently, the Bureau of Police Research and Development (BPRD) has warned users of different scams perpetrated through messaging platform WhatsApp.*

##### About Bureau of Police Research and Development

- It was set up in 1970 under the **Ministry of Home Affairs** by replacing the Police Research and Advisory Council.
- Objectives

- To identify the **needs and problems of the police** in the country.
- To **undertake research projects and studies**, and suggest modalities to overcome problems and challenges and meet the needs and requirements of the police.
- It was also mandated to keep abreast of the **latest developments in the fields of science and technology, both in India and abroad**, with a view to promoting the use of appropriate technology in police work.
- It is also assisting the States in modernization of the State Police Forces and Correctional Administration.
- The Bureau was established with the following two divisions initially; Research, Statistics & Publication and Development
- On the recommendations of the Gore-Committee the bureau created a Training Division in 1973.
- More recently, the BPR&D has also been entrusted with the responsibility of anchoring and coordinating the work of the National Police Mission.

#### 4.13 Exercise Khanjar

Overview:

Recently, **India-Kyrgyzstan** Joint Special Forces Exercise KHANJAR has commenced at the Special Forces Training School in Bakloh, Himachal Pradesh.

#### About Exercise Khanjar

- It was **first initiated in December 2011, in Nahan, India.**
- It is the **11th edition** of India-Kyrgyzstan **Joint Special Forces** Exercise.
- It is an annual event conducted alternatively in both the countries.
- The Indian Army contingent comprising 20 personnel is being represented by troops from **The Parachute Regiment (Special Forces)** and the Kyrgyzstan contingent comprising 20 personnel is represented by **Scorpion Brigade.**
- Aim of the exercise is to exchange experiences and **best practices in Counter Terrorism** and Special Forces Operations in Built-up Area and Mountainous Terrain under Chapter VII of United Nations Charter.
- The exercise will emphasise on developing Special Forces skills, advanced techniques of insertion and extraction.
- The exercise will provide an opportunity for both sides to fortify defence ties while addressing common concerns of international terrorism and extremism.
- The exercise will also accord the opportunity to showcase capabilities of cutting edge indigenous defence equipment besides achieving shared security objectives and foster bilateral relations.

#### 4.14 Exercise Cyclone

Overview:

The Indian Army contingent comprising 25 personnel reached Egypt to take part in the **India-Egypt Joint Special Forces Exercise CYCLONE.**

#### About Exercise Cyclone

- It is the 2nd edition of the Exercise Cyclone which will be conducted at **Anshas, Egypt** from 22nd January to 1st February 2024.
- The **first edition** of the exercise was **conducted last year in India.**

- The Indian contingent is being represented by troops from **The Parachute Regiment** (Special Forces) and Egyptian contingent comprising **25 personnel** is being represented by **Egyptian Commando Squadron and Egyptian Airborne Platoon**.
- Aim of the Exercise is to acquaint both the sides with each other's operating procedures in the backdrop of **Special Operations in desert/ semi desert** terrain under Chapter VII of United Nations Charter.
- Exercise CYCLONE is designed to develop bilateral military cooperation and strengthen bond between two armies through conduct of discussions and rehearsal of tactical military drills.
- It will involve planning and execution of special operations in sub conventional domains and conducted in three phases.
- While the first phase will include Military Exhibitions and Tactical Interactions, second phase will focus on training on Improvised Explosive Device (IED), counter IED and Combat First Aid. The third and final phase will encompass Joint Tactical Exercise based on Fighting in Built-up Area and Hostage Rescue Scenarios.
- The Exercise will provide an opportunity to both the contingents to strengthen their bond and share best practices.

**It will also act as a platform to achieve shared security objectives and foster bilateral relations between two friendly nations.**

#### 4.15 What is Pinaka Weapon System?

*According to defence officials, two South American countries have shown interest in the Pinaka multi-barrel rocket launchers.*

##### About Pinaka

- Pinaka is a **Multi-Barrel Rocket Launcher (MBRL)**.
- The Pinaka MBRL is designed by the Armament Research and Development Establishment (**ARDE**), a laboratory of the DRDO.
- It was first used during the **Kargil War**, where it successfully neutralised Pakistan Army positions on the mountain tops.
- It delivers lethal and responsive fire against a variety of area targets, such as exposed enemy troops, armoured and soft-skin vehicles, communication centres, air terminal complexes, and fuel and ammunition dumps.
- **Features:**
  - It consists of a multi-tube launcher vehicle, a replenishment-cum-loader vehicle, a replenishment vehicle, and a command post vehicle.
  - The rocket launcher has two pods containing **six rockets** each and can neutralise an area of **700 × 500 square metres** within **48 seconds**.
  - The launcher system is supported on four hydraulically actuated outriggers at the time of firing.
  - It has a range of **60 to 75 kilometers**.
  - The system is mounted on a Tatra truck for mobility.

#### 4.16 What is a Tomahawk Missile

*Japan recently signed a deal with its ally, the United States, to buy 400 long-range Tomahawk missiles.*

##### About Tomahawk Missile

- It is a **US-made long-range cruise missile** used for **deep-land attack warfare**.

- It can be **launched from a ship or submarine** and deliver its warhead precisely to a target at a long range.
- It flies at **low altitudes to strike fixed targets**, such as communication and air-defense sites, in high-risk environments where manned aircraft may be vulnerable to surface-to-air missiles.
- **Features:**
  - It is designed to fly at **subsonic speed** while maintaining a **low altitude, making it difficult to detect** on radar.
  - It uses tailored guidance systems to manoeuvre at such low elevations.
  - It has an accuracy of **about 5 meters (16 feet)**.
  - The 6-meter (18.4-foot) long missile has a **range of up to 2,400 km** (1,500 miles) and can travel as **fast as 885 km** (550 miles) per hour.
  - Tomahawks are launched vertically from ships, but they can be launched horizontally from torpedo tubes on attack submarines or from external launchers attached to a submarine's hull.
  - It **uses satellite-assisted** navigation and **TERCOM** (Terrain Contour Matching) radar to guide it to a target.
  - It is capable of **twisting and turning** like a radar-evading fighter plane, skimming the landscape at an altitude of only 30–90 metres (100–300 feet).
  - It can carry either conventional or nuclear payloads.

#### 4.17 What is BrahMos?

*India is all set to begin the export of ground systems for the BrahMos supersonic cruise missiles to the Philippines.*

#### About BrahMos

- It is a **supersonic cruise missile** that can be launched from land, sea, and air.
- It has been developed by **Brahmos Aerospace**, a joint venture of India and Russia.
- It is named after the **rivers Brahmaputra (India) and Moskva (Russia)**.
- **Features:**
  - It is a **two-stage missile** with a solid propellant **booster engine** as its first stage, which brings it to supersonic speed and then gets separated. **The liquid ramjet, or second stage** then takes the missile closer to 3 Mach speed in the cruise phase.
  - It is one of **the fastest cruise missiles** currently operationally deployed, with a speed of Mach 2.8, which is nearly **three times more than the speed of sound**.
  - It has a **launch weight of 2,200-3,000 kg**.
  - The extended-range variant of the missile can strike land and sea targets at a **maximum range of 400 to 500 kilometers with supersonic speed** all throughout the flight.
  - It operates on the "**Fire and Forgets**" principle, adopting varieties of flights on its way to the target.
  - Its cruising altitude could be up to **15 km**, and its terminal altitude is as low as 10 meters.
  - It carries a conventional warhead weighing **200 to 300 kg**.
  - It is equipped with stealth technology designed to make it less visible to radar and other detection methods.
  - It has an inertial navigation system (INS) for use against ship targets, and an INS/Global Positioning System for use against land targets.

#### 4.18 Armado

##### Overview:

The new **Mahindra Armado** recently made its first appearance at the Republic Day Parade.

##### About Armado

- It is **India's first Armoured Light Specialist Vehicle (ALSV)**.
- It is a **fully indigenous** vehicle designed and built by the **Mahindra Defence Systems** (MDS) for the Indian armed forces.
- It can be used in **counter-terrorist and special forces operations**. It can also be used by quick reaction teams, as a reconnaissance vehicle and for **patrolling the borders**.
- **Features:**
  - It has a seating capacity of **six passengers**, including the driver, and can be configured to seat up to eight.
  - Above the standard **1,000 kg load capacity**, the ALSV can carry **another 400 kg**.
  - It gets **ballistic protection up to the B7 level and STANAG level-2**. This means that its armour offers protection against **armour-piercing rifles**.
  - Also, the ALSV gets protection on all sides (front, side and rear) from ballistics and explosives.
  - Powering the 4-wheeler is a **3.2-litre multi-fuel diesel engine** that **generates 216 hp** of maximum power.
  - Armado takes just **12 seconds to accelerate from 0 to 60 kmph**, and runs at a speed of more than 120 kmph.
  - It also gets a self-cleaning-type exhaust scavenging and air filtration system for extreme dusty climate, like deserts.

#### 4.19 Different Types of Security Cover in India

##### Why in news?

- Union Home Ministry has extended **Z+ Security cover of CRPF to Governor of Kerala**.
- MHA took a decision on this after the Kerala Governor held a sit-in in front of a roadside shop in Kollam district after Students' Federation of India (SFI) activists allegedly tried to hit his vehicle.

##### What is Central Reserve Police Force (CRPF)?

- **About**
  - CRPF is one of the oldest **Central para military forces** (now termed as Central Armed Police Force) and **it comes under the Ministry of Home Affairs**.
  - CRPF came into existence as **Crown Representative's Police** on 27th July 1939.
    - It became the Central Reserve Police Force on enactment of the CRPF Act in December 1949.
  - It is **All India** in character, both in deployment and in its composition.
  - CRPF has, over the years, acquired the distinction of being perhaps the most acceptable Force, by the people and the State administrations.



- This is due to its unique capability to quickly adapt to various situations, and also, to work in perfect harmony with the State Police.
- **Duties performed by the CRPF**
  - **Crowd & Riot control**
  - **Counter Militancy / Insurgency operations/Dealing with Left Wing Extremism**
  - Overall **co-ordination of large-scale security arrangement** especially with regard to elections in disturbed areas.
  - **Protection of VIPs** and vital installations.
  - Checking environmental **de-gradation and protection of local Flora and Fauna**
  - **Fighting aggression during War time**
  - Participating in **UN Peace Keeping Mission**
  - Rescue and Relief operations at the time of **Natural Calamities**.

### Security Category in India

- In India, security is provided to **high-risk individuals** by the police and local government.
- Ministers get Central Security cover due to their position in the government.
  - On the other hand, a call on such security to private individuals is taken by the **Home Ministry based on inputs from intelligence agencies**.
- However, since these agencies do not report to any statutory body, VIP security has sometimes been alleged to be a political decision.

### Security Forces Responsible for VIP Protection

- Typically, the agencies responsible for providing securities to **VVIPs/VIPs /high-profile celebrities** include:
  - The **Special Protection Group (SPG), National Security Guards (NSG), Indo-Tibetan Border Police (ITBP), Central Reserve Police Force (CRPF) and Central Industrial Security Force (CISF)**.

### Different Types of Security Cover

**There are six kinds of security covers:**

- **X:** It has a security cover of **2 personnel** (No Commando, Only Armed Police Personnel)
- **Y:** It has a security cover of **11 personnel** (Including 1 or 2 Commando) + (Police Personnel). Only one personnel for mobile security.
- **Y Plus:** It has a security cover of **11+ personnel** (Including 1 or 2 Commando) + (Police Personnel). Two personnel for mobile security.
- **Z:** It has a security cover of **22 personnel** (Including 4 or 5 NSG Commando) + (Police Personnel)
- **Z plus**
  - It has a security cover of **55 personnel** (Including 10+ NSG Commando) + (Police Personnel).
  - Protectees under his category get a **bullet proof car**, escort in three shifts and additional security when required.
- **Special Protection Group (SPG) – SPG protects only the Prime Minister.**

**News Summary: Union Home Ministry extends Z+ security to Kerala Governor**

- Kerala Governor Arif Mohammed Khan has been given Z+ security by Centre after a faceoff with student activists.
- Earlier, Governor Khan confronted members of the CPI(M)-linked Students Federation of India (SFI) in Kollam district as they staged a black flag protest against him.
- The Governor's actions led to a two-hour standoff, during which he sat on the roadside, expressing his dissatisfaction with the response of the authorities.
- The Governor has accused Chief Minister Pinarayi Vijayan of "promoting lawlessness in the state" and demanded action against the protestors.

CAREER IAS

# 5. Environment

## 5.1 Japan's Kuril Islands : Earthquake

**An earthquake of magnitude 6.3 on the Richter Scale jolted Japan's Kuril Islands, the National Centre for Seismology (NCS) informed**

- The Kuril Islands stretch from Japan's Hokkaido to Russia's Kamchatka Peninsula, separating the Okhotsk Sea from the North Pacific Ocean.
- They are part of the Pacific's Ring of Fire, with over 100 volcanoes, 35 active, and numerous hot springs. The Southern Kuril Islands are disputed between Russia and Japan.
- The islands have been under Russian administration since their 1945 invasion by the Soviet Union near the end of World War II.
- Japan claims the four southernmost islands, including two of the three largest (Iturup and Kunashir), as part of its territory, as well as Shikotan and the unpopulated Habomai islets, which has led to the ongoing Kuril Islands dispute.
- The disputed islands are known in Japan as the country's "Northern Territories"

## 5.2 Alvaro : Tropical Cyclone

**Tropical Cyclone Alvaro made landfall in southwest Madagascar on January 1st 2024, becoming the first cyclone to impact the island nation in the ongoing 2023-2024 cyclone season for the southwest Indian Ocean region spanning late October to May.**

- According to latest data, Cyclone Alvaro has affected over 16,100 people so far with at least 5 reported dead and 8400 displaced in the southern African country known for vanilla and lemur populations.
- The actual death toll could likely be higher.
- Cyclone Alvaro has hit provinces like Atsimo-Andrefana in southwestern Madagascar which face immense flooding challenges during heavy rains, hampering evacuation and drainage towards the sea.

## 5.3 Indian Pangolin

Overview:

*The pangolin conservation project launched to protect pangolins has succeeded at Pench Tiger Reserve and Satpura Tiger Reserve, as the mammals have started to breed there.*

### About Indian Pangolin

- The Indian pangolin, also called the thick-tailed pangolin, is native to the Indian subcontinent.
- They are one of the most trafficked mammals in the world, despite an international ban on their trade.
- Distribution: It lives in India (south of the Himalayas), Bangladesh, Southern Nepal, Sri Lanka, and small parts of Pakistan.
- Habitat:
  - They are well adapted to desert regions and prefer barren, hilly areas. Their habitat extends up to 2,500 feet above sea level.
  - Overall, they prefer soil that is soft and semi-sandy, suitable for digging burrows.

- They have also been shown to survive in various types of tropical forests, open land, grasslands, and in close proximity to villages.
- It can also curl itself into a ball as self-defense against predators.
- It is an insectivore, feeding on ants and termites.

**Conservation status:**

- IUCN Red List: Endangered
- Wildlife (Protection) Act, 1972: Schedule I
- CITES: Appendix I

**5.4 River Devika Project**

Overview:

*North India's first river rejuvenation project, 'Devika', is in the final stages, and it will be soon dedicated to the nation by the Prime Minister.*

**About River Devika Project**

- Built on the lines of 'Namami Ganga', the project was launched in February 2019.
- It is north India's first river rejuvenation project.
- The project is implemented along the Devika River in Jammu and Kashmir.
- It has been included in the Government of India's National River Conservation Project (NRCP).
- Under the project, bathing "ghats" (places) on the banks of the Devika River will be developed, encroachments will be removed, natural water bodies will be restored, and catchment areas will be developed along with cremation ground.
- Built at a cost of over Rs 190 crore, the sharing of fund allocation is in the ratio of 90:10 by the centre and UT, respectively.
- On completion of the project, the rivers will see a reduction in pollution and an improvement in water quality.

**Key Facts about Devika River**

- Devika River is considered the sister of the sacred river Ganga, and it has great religious significance.
- Course:
  - It originates from the hilly Suddha Mahadev temple in the Udhampur district of Jammu and Kashmir.
  - It flows down towards western Punjab (now in Pakistan), where it merges with the Ravi River.
- As it appears and disappears in many places, Devika is also known as Gupt Ganga.

**5.5 What is Karman Line?**

Overview:

*The Kármán line lacks a specific national demarcation, resembling the concept of international waters.*

**About Karman Line**

- Located at 100 km (62 miles) above sea level, it is an imaginary line that demarcates the earth's atmosphere from space.
- It was established in the 1960s by a record-keeping body called the Fédération Aéronautique Internationale (FAI).
- It was named after aerospace pioneer Theodore von Kármán.

- Though not all scientists and spacefarers accept it (for example, the Federal Aviation Administration, NASA, and the U.S. military place the line between outer space and the atmosphere at 80 km (50 miles) above the Earth's surface), a majority of countries and space organisations recognise this boundary between earthsky and space.
- It is based on physical reality in the sense that it roughly marks the altitude where traditional aircraft can no longer effectively fly.
- Anything traveling above the Kármán line needs a propulsion system that doesn't rely on lift generated by Earth's atmosphere—the air is simply too thin that high up.
- In other words, the Kármán line is where the physical laws governing a craft's ability to fly shift.
- Anyone who crosses this line qualifies as an astronaut.

### 5.6 Key Facts about Kavaratti Island

Overview:

*The Prime Minister received a warm welcome in Kavaratti, Lakshadweep, recently as he arrived to inaugurate and lay the foundation for numerous development projects.*

#### About Kavaratti Island

- Kavaratti is the capital of Lakshadweep (smallest Union Territory of India) and its most developed island.
- It lies 360 km of the coast of the State of Kerala.
- It is located in the centre of the Lakshadweep archipelago. It is located between Agatti Island on the west and Andrott Island on the east.
- It has an area of 4.22 sq km. The maximum length of the island is 5.8 km, and width is 1.6 km.
- The island is 2 to 5 m above the mean sea level on the western side and 2 to 3 m on the eastern side.
- There is a shallow lagoon on the western side of the island, and coconut palms grow on the northern side.
- The island is home to 12 atolls, five submerged banks, and three coral reefs.
- Strangely, Kavaratti has a small inland lake at its northern end.
- Kavaratti town is noted for the carved wooden pillars and roofs of its mosques and the carved stones of its graveyards.
- It has the maximum percentage of non-islanders as residents.
- Languages Spoken: Malayalam and Mahl
- Karavatti has been selected as one of the hundred Indian cities to be developed as a smart city under the flagship Smart Cities Mission
- In the Lakshadweep region, there is an **absence of forests**.

**Pitti Island** is an important breeding place for sea turtles and for a number of pelagic birds such as the brown noddy, lesser crested tern, and greater crested tern. The Pitti island has been declared a **bird sanctuary**.

### 5.7 Indrayani River



Overview:

*The recent reappearance of toxic foam on the Indrayani river once again raised concerns about pollution here.*

### About Indrayani River

- It is a tributary of the Bhima River, which again is a tributary of the Krishna River.
- Course:
  - It originates in Kurvande village near Lonavla, a hill station in the Sahyadri mountains of Maharashtra.
  - Fed by rain, it flows east from there to meet the Bhima River.
  - It follows a course mostly north of the city of Pune.
- The river has great religious importance, and the two sacred towns of Alandi and Dehu are situated on its banks.
- Dehu is known to be a sacred place for being the hometown of the poet Saint Tukaram, who was a popular saint of Maharashtra, and Alandi holds the samadhi of the poet Dnyaneshwar.
- Valvan Dam at Kamshet, situated on the Indrayani River, is a hydroelectric generating station.

### Key Facts about Bhima River

- The Bhima River (also known as the Chandrabagha River) is a major river in southwest India.
- It is a major tributary of the Krishna River.
- Course:
  - It originates in the Bhimashankar hills near Karjat on the western side of the Western Ghats, in the Pune District of Maharashtra.
  - Bhima flows southeast through the states of Maharashtra, Karnataka, and Telangana.
  - The Bhima River merges into the Krishna River at Kadlur (Raichur) in Karnataka.
- This 861 km-long river has the Western Ghats on the west, the Balaghat Range in the north, and the Mahadeo Hills in the south.
- The total basin area of the river is 48,631 sq. km, out of which 75 percent lie in the state of Maharashtra.
- Major tributaries are the Sina and Nira rivers.

Pandharpur is an important pilgrimage centre located on the right bank of the Bhima River.

### 5.8 Cauvery basin

*The National Green Tribunal (NGT) has served notices to Karnataka, Tamil Nadu and Kerala governments, based on a report by the Indian Institute of Science (IISc) that has highlighted the massive reduction of green cover in the Cauvery basin over the past five decades*

### About Cauvery basin

- It extends over states of **Tamil Nadu, Karnataka, Kerala and Union Territory of Puducherry.**

- It is bounded by the **Western Ghats on the west, by the Eastern Ghats on the east and the south and by the ridges separating it from Krishna basin and Pennar basin on the north.**
- Origin:** It rises at an elevation of 1,341 m at **Talakaveri on the Brahmagiri range** near Cherangala village of **Kodagu district** of Karnataka.
- The river drains into the Bay of Bengal at **Poompuhar** in the Mayiladuthurai district of Tamil Nadu.
- Major **left bank tributaries:** Harangi, the Hemavati, the Shimsha and the Arkavati.
- Major **right bank tributaries:** Lakshmantirtha, the Kabbani, the Suvarnavati, the Bhavani, the Noyil and the Amaravati
- The **principal soil types** found in the basin are black soils, red soils, laterites, alluvial soils, forest soils and mixed soils. **Red soils** occupy large areas in the basin. **Alluvial soils** are found in the delta areas.
- National Parks** in this basin: **Bandipur** National Park, **Nagarhole** National Park and **Bannerghatta** National Park.

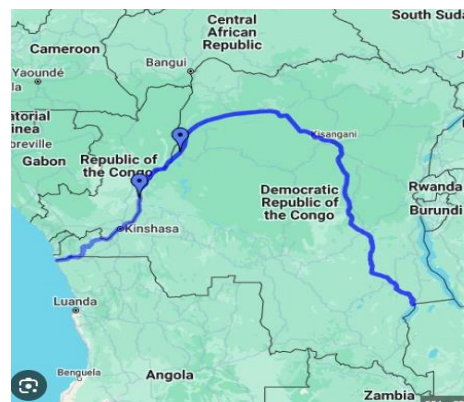


### 5.9 Key Facts about Congo River

*The Congo River has risen to its highest level in more than 60 years, causing flooding throughout the Democratic Republic of Congo (DRC) and the Congo Republic that has killed more than 300 people recently.*

#### About Congo River

- It is a River in **west-central Africa.**
- It is also called the **Zaire River.**
- With a length **of 2,900 miles (4,700 km)**, it is the continent's second-longest river, after the Nile, and the **ninth-longest** in the world.
- The river gets its name from the ancient **Kongo Kingdom**, which existed near the mouth of the river.
- The Congo River system **runs** through the Republic of the **Congo, the Democratic Republic of the Congo, the Central African Republic, western Zambia, northern Angola, and parts of Cameroon and Tanzania.**
- Course:
  - It rises in the highlands of northeastern Zambia between Lakes Tanganyika and Nyasa (Malawi) as the Chambeshi River at an elevation of 5,760 feet (1,760 metres).
  - Its course then takes the form of a **giant counterclockwise** arc, flowing to the northwest, west, and southwest before draining into the Atlantic Ocean at Banana (Banane) in the Democratic Republic of the Congo.
  - Its course through the rainforest causes it to cross the **equator twice.**
- It is the **deepest river in the world.** It reaches depths of over **750 feet** (230 meters).



- The river also has the **second-largest flow in the world**, with a discharge of 1.5 million cubic feet of water per second, trailing **only the Amazon**, and the second-largest watershed of any river.
- It drains an area of 3.7 million square kilometers (1.4 million square miles) known as the Congo Basin.
  - Much of the basin is covered by rich tropical rainforests and swamps. Together these ecosystems make up the bulk of Central Africa's rainforest, which, at 178 million hectares (2005), is the world's second-largest rainforest, second only to the Amazon Rainforest in South America.
- The main tributaries are the **Ubangi, Sangha, and Kasai**.

### 5.10 What are BS-VI Norms?

*The Supreme Court recently directed the Union government to frame a national policy to phase out heavy-duty diesel vehicles like trucks and trailers, and replace them with BS-VI vehicles.*

#### About BS-VI Norms

- Bharat stage (BS) emission standards are laid down by the government **to regulate the output of air pollutants from internal combustion engine and spark-ignition engine equipment, including motor vehicles**.
- India has adopted BS Emission Standards since 2000, modelled on European Union norms.
- The first emission norms with the name **'India 2000'** were introduced in the year 2000. BS2 and BS3 were introduced in 2005 and 2010, while BS4 norms came into effect in 2017 with stricter emission standards or norms.
- The BS standards regulate tailpipe emissions of air pollutants, including particulate matter, **SO<sub>x</sub>, and NO<sub>x</sub>**, as well as carbon monoxide, hydrocarbons, and methane.
- Who sets them? The standards and timeline for implementation are set by the Central Pollution Control Board under the Ministry of Environment, Forests and Climate Change.
- In **April 2020**, India leapfrogged from **BS-IV to the implementation of BS-VI**. The central government has mandated that vehicle makers must manufacture, sell, and register only BS-VI (BS6) vehicles from April 1, 2020.
  - **It is applicable for cars, trucks, buses, three-wheelers, and two-wheelers (motorcycles, scooters, and mopeds).**
  - This emission norm does not apply to off-highway equipment and vehicles such as tractors, back-hoe loaders, excavators, etc.
- Difference between BS-IV and BS-VI:
  - Both BS-IV and BS-VI are **unit emission norms** that set the maximum permissible levels for pollutants that an automotive or a two-wheeler exhaust can emit.
  - Compared to BS4, BS6 emission standards are stricter.
  - The main difference is in the **amount of sulphur in the fuel**, which is reduced from 50 ppm in BS IV fuel to 10 ppm in BS VI fuel for both gasoline and diesel. Hence, BSVI engines produce less harmful emissions and pollutants.

### 5.11 Krishna Raja Sagar (KRS) Dam

*The High Court of Karnataka recently banned all types of mining and quarrying activities within a 20-km radius of the historic Krishnarajasagar (KRS) dam in Mandya district.*

#### About Krishna Raja Sagara (KRS) Dam

- It is a type of **gravity dam** located below the confluence of the river Kaveri with its tributaries, **Hemavati and Lakshmana** Tirtha, in the district of **Mandya** in Karnataka.
- History:
  - The dam was constructed during the rule of the Maharaja of Mysore, Krishnaraja **Wadiyar IV**, and it was named in his honor.
  - The construction of **the KRS Dam began in 1911** and was completed in 1931.
  - The dam was designed by **Sir M. Visvesvaraya**, a famous Indian engineer (often referred to as the 'architect of modern Mysore' or 'father of planning in India').
  - The creative beautification of the whole dam complex has been the achievement of Sir Mirza Ismail, the then Dewan of the princely State of Mysore.
- Usage:
  - The water from the dam is used for irrigation in Mysore and Mandya and is the main source of drinking water for Mysore, Mandya, and Bengaluru city.
  - It also ensures power supply to the **Shivanasamudra hydroelectric power station**.
  - The water released from this dam flows into the state of Tamil Nadu and is stored in the Mettur dam in the Salem district.
- Features:
  - It was built using a mixture of surki mortar and limestone.
  - It is **2,621 meters** (8,600 feet) long and 40 meters (130 feet) high.
  - Its reservoir is about 130 sq. km, which was **the largest in Asia at the period when it was built**.
  - **It was the first dam to install automated crest gates**.
  - Brindavan Gardens, an ornamental garden, is attached to the dam.
    - The garden is designed based on the Shalimar Gardens of Kashmir in the Mughal style.

### 5.12 India's First Dark Sky Park

*The Pench Tiger Reserve in Maharashtra has been designated as India's first Dark Sky Park and the fifth in Asia, protecting the night sky and preventing light pollution.*

#### About India's First Dark Sky Park

- The **Pench Tiger Reserve (PTR) in Maharashtra** is India's first Dark Sky Park within a tiger reserve for earmarking areas around the park that restrict light pollution for stargazers to access pristine dark skies.
- Dark Sky Place certification focuses on lighting policy, dark sky-friendly retrofits, outreach and education, and monitoring the night sky.
- This designation positions PTR as a sanctuary where tourists can witness celestial spectacles, shielded from the intrusion of artificial light pollution.
- PTR became the fifth such park in Asia.
- The certification was given by the International Dark-Sky Association, a global dark-sky movement to promote astronomy.

**Key Facts about Pench Tiger Reserve (PTR)**

- **Location:** The Reserve is located in the southern reaches of the Satpura hills in the Seoni and Chhindwara districts in Madhya Pradesh and continues in Nagpur district in Maharashtra as a separate Sanctuary.
- It is named after the **Pench River**, which flows from north to south through the Reserve.
- It comprises the Indira Priyadarshini Pench National Park, the Pench Mowgli Sanctuary, and a buffer.
- The area of the Pench Tiger Reserve and the surrounding area is the real story area of **Rudyard Kipling's** famous "**The Jungle Book**".
- **Terrain:** It is undulating, with most of the area covered by small hills and steep slopes on the sides.
- **Vegetation:** The undulating topography supports a mosaic of vegetation ranging from a moist sheltered valley to an open, dry deciduous forest.
- **Flora:** The reserve boasts a diverse range of flora, including teak, saag, mahua, and various grasses and shrubs.
- **Fauna:**
  - The area is especially famous for large herds of Chital, Sambar, Nilgai, Gaur (Indian Bison), and wild boar.
  - The key predator is the tiger, followed by leopard, wild dogs, and wolf.

There are over 325 species of resident and migratory birds, including the Malabar Pied Hornbill, Indian Pitta, Osprey, Grey-Headed Fishing Eagle, White-Eyed Buzzard, etc.

**5.13 Key Facts about Aravalli Range****Overview:**

*The Supreme Court recently opined that if the **State of Rajasthan** believes that the mining activities in the Aravalli Range pose a threat to the environment, it can also **prevent mining** activities in the Aravalli Range.*

**About Aravalli Range**

- It is a **mountain range located in northwestern India**.
- It is **one of the oldest fold mountains** in the world.
- It runs approximately **670 km** (430 mi) in a **south-west direction, starting near Delhi, passing through southern Haryana and Rajasthan, and ending in Gujarat**.
- The range contains a series of ridges and peaks, which have widths between 6 miles and 60 miles, and elevations that vary between 1,000 and 3,000 feet.
- The highest point of the Aravalli range is **Guru Shikhar**, which stands at an elevation of 5,650 feet on Mount Arbuda.
  - It is 15 km from Mount Abu, which is a popular hill station in the Aravalli Range.
- **Rivers:** Three major rivers and their tributaries flow from the Aravalli, namely the **Banas and Sahibi rivers**, which are tributaries of **the Yamuna**, as well as the **Luni River**, which flows into the Rann of Kutch.
- The Aravalli acts as the edge which **separates the Thar desert from the plains and plateaus** of eastern Rajasthan.
  - In ancient times, Aravalli were **extremely high, but since have worn down almost completely by millions of years of weathering**.
- The range is rich in mineral resources like **copper, zinc, lead, and marble**.



- It is divided into **two sections**: the **Sambhar-Sirohi ranges**, taller and including Guru Shikhar; and the **Sambhar-Khetri ranges**, consisting of three ridges that are discontinuous.
- There are several national parks and wildlife sanctuaries that fall within the belt of Aravalli Hills. **Sariska National Park, Kumbhalgarh Sanctuary, and Mount Abu Sanctuary** are among them.

### 5.14 Gangetic dolphin

Overview:

*Recently, A Gangetic dolphin was rescued in Odisha. It may be an indicator of more freshwater dolphins in river.*

#### About Gangetic dolphin

- Common Name: **Susu**
- Scientific Name: **Platanista gangetica** .
- Population: **Less than 1800** (1200 to 1800).
- **Habitat**: Ganges river dolphins once lived in the **Ganges-Brahmaputra-Meghna and Karnaphuli-Sangu** river systems of Nepal, India, and Bangladesh.
- Some characteristics:
  - The Ganges river dolphin **can only live in freshwater**.
  - It is **essentially blind** and they **hunt by emitting ultrasonic sounds**.
  - It has a sturdy, yet flexible, body with large flippers and a low triangular dorsal fin.
  - Calves are chocolate brown at birth and then have grey-brown smooth, hairless skin as adults.
  - **Females are larger than males** and give birth once every two to three years to only one calf.
- Conservation status:
  - IUCN: **Endangered**
  - Wildlife (Protection) Act: Schedule-I
  - CITES: Appendix I

#### Government's conservation efforts

- In 2009, **Gangetic dolphins were declared the national aquatic animal of India.**
- The Prime Minister announced **'Project Gangetic Dolphin'** on August 15, 2023 for the conservation of the Gangetic dolphins.

### 5.15 Kanger Valley National Park

Overview:

*In a first-of-its-kind model of convergence, Kanger Valley National Park is working with a coalition of various organizations and government departments to prepare a landscape-based ecological restoration plan for the national park.*

#### About Kanger Valley National Park

- **Location**:
  - It is located in **Jagdalpur, in the Bastar district of Chhattisgarh** state.
  - It is located on the **banks of the Kholaba River (tributary of the Godavari River).**
- The National Park derives its name from the **Kanger River**, which flows in its length.

- It got the status of a national park in 1982.
- The average width of the park (north to south) is **6 km**. while the average length (west to east) is **34 km**. The area of the park is 200 square kilometers.
- The entire Park constitutes **core area** and there is no buffer zone.
- **Topography**: It is noted for its highly heterogeneous land formations, ranging from low, flat, and gentle areas to steep slopes, plateaus, valleys, and stream courses.
- It is home to **three exceptional caves**, famous for their amazing geological structures: **Kutumbasar, Kailash, and Dandak**.
- National Park is known for the presence of underground limestone caves with dripstone and flowstone. The stalagmites and stalactite formations are still increasing.
- **Tirathgarh Waterfall** is located in the park.
- The Park also has a sizable tribal population.
- **Flora**: It is a typical mixed humid deciduous type of forest in which the Sal, Sausage, teak, and bamboo trees are available in abundance.
- **Fauna**:
  - Major wild animals include tigers, mouse deer, leopards, wildcat, sambar, chital, barking deer, langurs, jackals, rhesus macaque, flying squirrel, etc.
  - The aerial fauna at the park consists of common hill myna, red jungle fowl, spotted owl, racket-tailed drongos, parrots, etc.

### Q1) Which are the main tributaries of Godavari River?

The principal tributaries of the river are the Pravara, the Purna, the Manjra, the Penganga, the Wardha, the Wainganga, the Pranhita (combined flow of Wainganga, Penganga, Wardha), the Indravati, the Maner and the Sabri.

### 5.16 Sultanpur National Park (Haryana)

Overview:

*The Union government is promoting nature tourism at 16 Ramsar sites, including Chilika Lake and Sultanpur Bird Sanctuary, to support conservation and local economies.*

#### About Sultanpur National Park

- Formerly known as Sultanpur Bird Sanctuary, it spans 1.42 sq km consisting primarily of marshy lakes and floodplains.
- Location: The Sultanpur Bird Sanctuary is located in the **Gurgaon district of Haryana**, 46 km from Delhi.
- Ramsar Site: It was recognised as a **Ramsar site**, a wetland of international importance in 2021.
- **Biodiversity**: The vegetation is characterized by tropical and dry deciduous types such as grasses, dhok, khair, tendu, jamun, neem, berberis, and species of Acacia.
  - **Over 320 bird species** have been recorded at Sultanpur, making it a vital wintering ground. Some iconic species found here are the Common Hoopoe, Purple Sunbird, Black Francolin, Little Cormorant, Indian Cormorant, Siberian Crane and Greater Flamingo.
  - Other migratory birds that flock seasonally include Common Teal, Common Greenshank and Ruff.
  - While large wild mammals are absent, the park's terrestrial fauna is represented by animals like the nilgai.

- Sultanpur National Park is an ecologically significant protected wetland that provides habitat to an array of resident and migratory birds.
- **Conservation efforts:** The Haryana government has carried out some development works at the sanctuary like the construction of mounds, widening of paths, and digging four tube wells. Efforts are being made to improve vegetation in the area by planting more trees.
- **Alternative livelihood program:** As part of the Union government's Amrit Dharohar initiative, to promote tourism at Ramsar sites, the sanctuary has been included in a pilot project for skill development of facilitators, tourism service providers, and stakeholders.

### 5.17 Key Facts about Wular Lake

Overview:

*The Wular Lake has got around four to five lakh migratory birds so far this winter, including seven new species.*

#### About Wular Lake

- It is the **largest freshwater lake in India**.
- It is located in the **Bandipore district** of Jammu and Kashmir.
- It lies at the **north end of the Vale of Kashmir**, 20 miles (32 km) north-northwest of Srinagar.
- It is spread over a total area of **200 square km covering almost 24 km in length and 10 km in breadth**.
- The lake basin was formed as a result of tectonic activity and is fed by **the Jhelum River**.
- The lake lies at an altitude of 1,580 m.
- It is also said to be a **remnant of Satisar Lake**, that existed in ancient times.
- This lake also has a small island in its centre called the **'Zaina Lank'**. This island was constructed by **King Zainul-Abi-Din**.
- In 1990, it was designated as a **Ramsar Site**.

#### Key Facts about Jhelum River

- It is a river that flows in India and Pakistan.
- It is a tributary of the Indus River.
- It is the main waterway of the Kashmir valley.
- Course:
  - **Origin:** It originates at the **Verinag Spring at Anantnag**, at the foot of the Pir Panjal range in the Kashmir Valley.
  - It then flows via **Srinagar and Wular Lake** prior to entering Pakistan.
  - The river makes a deep, narrow gorge on its way to Pakistan.
  - It joins the **Chenab River near Trimmu**, Pakistan.
- Length: It has a total length of about 725 km (450 mi).
- Major Tributaries: Kishenganga (Neelum) River, Kunhar River, Sandran River, Bringi River, Arapath River, Watlara River, Lidder River, and Veshaw River.

### 5.18 Great Indian Bustard

Overview:

*The Supreme Court recently directed the Centre to come clean on its plans to save the critically endangered Great Indian Bustard.*

### About Great Indian Bustard

- It is a bustard found on the Indian subcontinent.
- **Scientific Name:** Ardeotis nigriceps
- It is among the **heaviest of the flying birds**.
- **Distribution:** The species has a current viable population of 100- 150 individuals in India and mainly survives in the **Thar Desert of Rajasthan** that holds about 100 individuals.
- **Habitat:** It inhabits dry grasslands and scrublands.
- Features:
  - It is a large bird with a horizontal body and long, bare legs, giving it an ostrich-like appearance.
  - The sexes are roughly the same size, with the largest individuals weighing 15 kg (33 pounds).
  - It can easily be distinguished by its black crown on the forehead, contrasting with the pale neck and head.
  - The body is brownish, and the wings are marked with black, brown, and grey.
  - **They breed mostly during the monsoon season, when females lay a single egg on open ground.**
  - **Lifespan:** 12-15 years
  - These birds are **opportunistic eaters**. Their diet ranges widely depending on the seasonal availability of food. They feed on grass seeds, insects like grasshoppers and beetles, and sometimes even small rodents and reptiles.
- Conservation Status:
  - IUCN Red List: **Critically Endangered**
  - Wildlife (Protection) Act, 1972: **Schedule 1**
  - CITES: Appendix 1

### 5.19 LAKE RETBA

Overview:

*The Lake Retba's waters are virtually devoid of life is on the verge of disappearing due to **pollution and mining**.*

### About Lake Retba

- It is also known as **Lac Rose (the Pink Lake)**.
- **Location:** It is located north of the Cap Vert peninsula of Senegal, northeast of Dakar.
- The lake is isolated from the sea by sand dunes.
- Its fresh water comes from the seasonal water table in the dunes, which are higher than the lake. Thus the sea provides most of the lake's water and all of its salt.
- The Pink Lake is one of the **main tourist destinations in the Dakar region**, primarily because of the **pink colour of its waters**.
- Why it is pink?
  - The pink coloration is due to the **proliferation of halophilic green algae** (living in a salty environment), **Dunaliella salina, which contain red pigments**.

- The alga is associated with halophilic bacteria of the **genus Halobacterium**.
- This microscopic alga's resistance to salt comes from its high concentration of carotenoid pigments, which protect it from light, and its high glycerol content.
- In fact, Dunaliella salina contains at least four antioxidant pigments (beta-carotene, astaxanthin, lutein and zeaxanthin), which are rich in vitamins and trace elements.
- When salinity is high, **algae with red pigments thrive**, and when salinity is low, they give way to **other algae rich** in green pigments.

## 5.20 What is a Soda Lake?

Overview:

*Scientists have discovered that a shallow "soda lake" in **western Canada** could be a good match for **Darwin's "warm little ponds"** where life got started on the primordial Earth.*

### About Soda Lake

- It is a lake with a **pH value usually between 9 and 11**.
- **High carbonate concentration**, especially sodium carbonate, is responsible for the **alkalinity** of the water.
- It may also contain a high concentration of **sodium chloride** and other salts making it saline or **hypersaline Lake**.
- These are **highly productive ecosystems** compared to the freshwater lakes.
- These are the most productive aquatic environments on Earth because of the availability of **dissolved carbon dioxide**.
- They occur naturally in both arid and semi-arid areas.
- Geology and Genesis
  - Geological, climatic, and geographic requirements are required for a lake to become alkaline.
  - A topography that limits the outflow of water from the lake is needed.
  - An endorheic basin is formed when the water is confined without the outflow.
  - The pH of the water in the depression rises through the evaporation of the lake which requires a suitable climate like the desert climate to balance between the inflow and evaporation.
  - The rate at which carbonate salt dissolve in the lake water depends on the ecology of the surrounding area.
  - The **relative absence of magnesium and calcium** is critical in the formation of the **soda lake** since magnesium or calcium is likely to dissolve quickly and displace the carbonate ion thus neutralizing the pH of the lake water.
- Biodiversity
  - These are dominated by prokaryotes like **bacteria and archaea**, especially in lakes with higher levels of alkalinity.
  - Multicellular organisms such as **brine shrimp and fish** are found in plenty if not most of the soda lakes.
- Examples Of Soda Lakes
  - **Africa and Asia** have the highest number of soda lakes since the two continents have vast desert conditions which are perfect for the formation of soda lakes.



- Most of the soda lakes in Africa are located in Eastern Africa, especially in Kenya, Tanzania, and Ethiopia.
- Lake Natron** in Tanzania is one of the most outstanding soda lakes in Africa
- India and China have the highest number of soda lakes in Asia.

Some of the soda lakes in **Asia include Lake Van, Tso Kar Salt Lake, Pangong Salt Lake, and Lake Zabuye.**

### 5.21 Key Facts about Indian Tectonic Plate

*Researchers recently unveiled new seismic data indicating that the Indian tectonic plate is splitting in two beneath the Tibetan plateau.*

#### About Indian Tectonic Plate

- It is a **minor tectonic plate** located in the north east hemisphere.
- It **is bound by four major tectonic plates**. **North** of the Indian plate is the Eurasian plate; to the **south east** is the Australian plate; to the **south-west** is the African plate; and to the **west** is the Arabian plate.
  - As the Indian plate moves northward relative to the Eurasian plate and collides with it, a **convergent boundary** is created.
  - On the opposite side, the **Indo-African** boundary is **divergent**.
  - The western Indo-Arabian boundary is lateral relative to each other, giving rise to a **transform boundary**.
  - It was **previously thought** that the **Indian and Australian plates** formed one **single plate** as there is **no clear type of boundary** but recent seismologic evidence suggests that the two plates will have a transform boundary, as the



drift velocities of these two plates are different even if the general direction of motion of the two plates is similar.

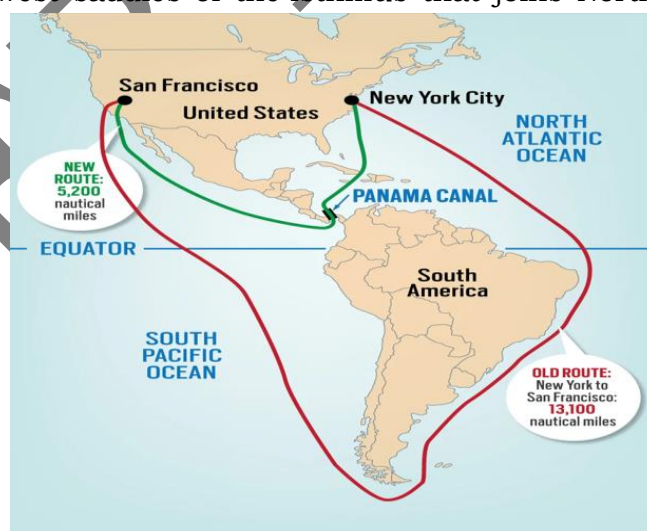
- The **collision** of the Indian plate with the Eurasian plate **about 50 million years** ago resulted in the erection of the **Himalayan Mountains**.
- As the Indian plate is **still active today** and drifts at a velocity of **about 5 cm per year**, **earthquakes** occur in the **northern part** of the plate.
- Because of the low-grade metamorphism that resulted in the collision of the Indian plate with the Eurasian plate, many **micaceous minerals** are mined in the northern part of the country; in fact, India is the greatest producer of mica blocks and splitting.

## 5.22 Key Facts about Panama Canal

*Scientists recently stumbled upon a lost forest in the Panama Canal, dating back around 22 million years.*

### About Panama Canal

- It is an **artificial waterway that connects the Atlantic Ocean with the Pacific Ocean**.
- The canal cuts across the **Isthmus of Panama** and is a conduit for maritime trade.
- It was cut through one of the narrowest saddles of the isthmus that joins North and South America.
- It is one of the **two most strategic artificial waterways** in the world, the other being the **Suez Canal**.
- It is approximately **80 kilometers** long.
- It consists of a series of locks that raise and lower the water level to facilitate the passage of ships through the continental divide.
- **History:**
  - **France began work on the canal in 1881**, but financial troubles and diseases made the initiative fail.
  - **The United States** took over the project on May 4, 1904, and opened the canal on August 15, 1914, and then **managed the waterway until 1999**.
  - On December 31, 1999, **Panama took over full operation**, administration, and maintenance of the Canal, in compliance with the **Torrijos-Carter Treaties** negotiated with the United States in 1977.



### Q1) What is the Suez Canal?

It is a **30 km** (120 miles)-long artificial sea-level waterway located in Egypt. It connects the Mediterranean Sea with the **Gulf of Suez**, a northern branch of the **Red Sea**. It provides the **shortest maritime route between Europe** and the lands lying around the Indian and western Pacific oceans. It is one of the world's most heavily used shipping lanes.



### 5.23 Key Facts about Vadnagar

*The remains of a 2,800-year-old human settlement have been recently discovered in Gujarat's Vadnagar.*

#### About Vadnagar

- Vadnagar is a town and municipality in the **Mehsana district** of the **North Gujarat** region of Gujarat state.
- It is a multi-layered and multi-cultural mercantile settlement, with its history stretching back to nearly 8th Century BCE.
- As a historical city, it was known by various names, such as **Vridhanagar, Anandapur, Anartapur, and Nagar**.
- The town represents a continuously evolving historic urban landscape/area that played a major role in the hinterland **trade network** of Western India.
- It is mentioned often in the **Puranas** and even in the travelogue of the great Chinese traveler, Hieu-en-Tsang (7th century), as a rich and flourishing town.
- Features:

- The ancient town of Vadnagar is an L-shaped town with **Sharmishtha Lake** located on its northeastern edge.
- The whole ancient town of Vadnagar is built over an ancient mound. The topography of the mound is gently rising, with **its highest point** in the middle of the settlement, also **called Darbar Ghat**.
- Vadnagar town is divided into several blocks, also called **Mohallas or Madhs**. These mohallas are named after a temple, a community, or an occupation.
- The **oldest temple, Ambaji Mata Temple**, dates back to the 10th-11th Century CE, while other important Hindu and Jain temples within the town are from 17th Century onward.
- The current residential layer of the town is from late Gaekwad period (late 18th Century CE).
- Vadnagar town is surrounded by fortifications made of bricks and partly stone, covering an area of 1km east-west and 700 m north-south.

### 5.24 Qanat system

*Some of Africa's dry areas face serious water shortages due to minimal rainfall. An ancient system of drawing water from aquifers, the "qanat system", could help.*

#### About Qanat system

- It is an **ancient type of water-supply system**, developed and still used in arid regions of the world.
- **It taps underground mountain** water sources trapped in and beneath the upper reaches of alluvial fans and channels the water downhill through a series of gently sloping tunnels.
- The qanats have been used for centuries in arid and semi-arid parts of north Africa, the Middle East and Asia, where water supplies are limited.
- It's known by a variety of names, "**foggara**" in north Africa, "**falaj**" in Oman and "**qarez**" in parts of Asia.
- Many old qanāts are still used in **Iran and Afghanistan**, chiefly for irrigation.
- It's a system that's managed by everyone and its benefits are shared.
- Some of the region's qanat systems, like those in Iran, are protected under heritage status.
- **Significance of the system**
  - The qanat is sustainable as it works with gravity and **no electricity is needed**. It can even be used to **create clean energy**.
  - Water lost to evaporation is minimal in comparison to surface water supplies.
  - It can have a wide scale impact. Qanats are **multiple kilometres long** and once this water hits a floodplain, it can irrigate multiple hectares of land.
  - It fosters social cohesion. Many people, with different skills, are involved in maintaining the system.
  - The **lifespan** of the system extends beyond that of a deep water well, which is only **about 20 years**. Tunnels do not clog as easily as wells.
  - The quality of water coming from the mountains is much better than water on the plains. It'll have lower salinity and be better for crops and people.

### 5.25 Bhitarkanika National Park



*Odisha's Bhitarkanika national park will soon be connected by rail as the proposed Jajpur Road-Dhamra railway line will pass through the park.*

### About Bhitarkanika National Park

- Location: It is located in **Kendrapara district** in the state of **Odisha**.
- It is India's **second-largest mangrove ecosystem after the Sunderbans**.
- The national park that is sprawling **across 672 km<sup>2</sup> of mangrove swamp** is situated on a delta formed by rivers, namely **Brahmani, Baitarani, and Dhamra**.
- The **national park was established in September 1998** and was built in the heart of the Bhitarkanika Wildlife Sanctuary, founded in 1975.
- Proximity to the Bay of Bengal makes the **soil** of the area enriched with **salts**; the **vegetation** and species of the sanctuary are comprised of those that are mainly found in the **tropical and subtropical intertidal regions**.
- It is home to a multitude of mud huts, creeks, backwaters, and estuaries.
- The area was designated as the **second Ramsar Site** of the state in August 2002.
- **Flora:**
  - It houses various species of mangrove spread across its forest region, marshy lands, creeks, etc.
  - **Thespia, casuarinas, sundari, and indigo** bush grasses are some of the other varieties of flora that flourish in the area.
- **Fauna:**
  - Bhitarkanika has one of the largest populations of **endangered saltwater crocodiles** in India.
  - Gahirmatha Beach, which forms the boundary of the park in the east, is the largest colony of **Olive Ridley Sea Turtles**.
  - Other mammals include monkeys, jackals, common langurs, otter, sambar deer, jungle cats, fox, Mongoose, wolves, fishing cats, hyenas, etc.

### 5.26 Indian vulture

*First in many years, a vulture was spotted in the skyline of Thane which has not been spotted over two decades in the city.*

#### About Indian vulture

- The Indian vulture (**Gyps indicus**) is an Old World vulture native to Asia.
- They are also known as **Indian long-billed vultures** due to their comparatively **longer beak**.
- It is a medium-sized and bulky **scavengers feeding** mostly on the carcasses of **dead animals**.
- **Females** of this species are **smaller than males**.
- **Distribution:** These are native to India, Pakistan, and Nepal.
- **Habitat:** They are usually found in savannas and other open habitats around villages, cities, and near cultivated areas.
- **Threats:** The Indian vulture has suffered a 97-99% population decrease due to poisoning caused by the veterinary drug diclofenac. This drug is toxic for vultures; it was given to working animals as it reduced joint pain and so kept them working for longer.
- Conservation status
  - **IUCN Red List: Critically Endangered**

### 5.27 Chandaka-Dampara wildlife sanctuary



After relocating deer from Cuttack, the Odisha state government is planning to introduce Sambar and Gaur (bison) in the Chandaka-Dampara wildlife sanctuary.

#### About Chandaka-Dampara wildlife sanctuary

- It is located in **Khurda district of Odisha** represents the north-eastern limits of Eastern Ghats.
- It is also a home to a number of **threatened wild animals** and birds.
- This landscape got sanctuary status in 1982.
- The climate of the area is tropical with three distinct and well marked seasons i.e. **summer, Rainy season and winter.**
- Vegetation: **Flora** is moderately diverse with intimate **mixture of evergreen and deciduous elements.** The area comes under semi-evergreen forest zone but the interplay of biotic factors has changed the original character of the vegetation.
- **Flora:** Dhaman (*Grewia Tiliaefolia*), Bankapasia (*Kydia calycina*), Jamu (*Syzygium Cumini*), Gandhana (*Premna mucronata*), Kansa (*Hymenodictyon excelsum*), Kusum (*Schleichera oleosa*), Marua (*Vitex pinnata*), Sidha (*Lagerstroemia parviflora*), Karanja, Thorny bamboo etc.

Fauna: **Elephants, Chital, Barking Deer, Wild Boar, Rhesus Monkey, Pangolin, Sloth Bear, Indian Wolf, Hyena and other mammals.**

### 5.28 Nilgiri Biosphere Reserve

#### Overview:

More than **300 vultures** were recorded in the recently completed synchronous vulture survey in the Nilgiri Biosphere Reserve (NBR).

#### About Nilgiri Biosphere Reserve (NBR)

- **Location:**
  - It is located in the Nilgiri Mountains of the Western Ghats.
  - It encompasses parts of Tamil Nadu, Kerala, and Karnataka.
- It was the **first biosphere reserve in India**, established in 1986.
- The total area of the reserve is **5,520 sq. km.** It is **the largest protected forest area in India.**
- The **Mudumalai Wildlife Sanctuary, Wyanaad Wildlife Sanctuary, Bandipur National Park, Nagarhole National Park, Mukurthi National Park, and Silent Valley are the protected areas present within this reserve.**
- **Vegetation:** It harbours a wide spectrum of ecosystem types, such as tropical evergreen forests, Montane sholas and grasslands, semi-evergreen forests, moist deciduous forests, dry deciduous forests, and thorn forests.
- **Climate:** The annual rainfall of the reserve ranges from 500 mm to 7000 mm, with temperatures ranging from 0°C during the winter to 41°C during the summer.
- **Tribal Population:** Tribal groups like the Todas, Kotas, Irullas, Kurumbas, Paniyas, Adiyans, Edanadan Chettis, Cholanaickens, Allar, Malayan, etc., are native to the reserve.
- It is India's first biosphere reserve under UNESCO's Man and the Biosphere Programme.
- **Flora:**
  - About 3,300 species of flowering plants can be seen here. Of the 3,300 species, 132 are endemic to the NBR.
  - Some of the plants entirely restricted to the NBR include species of *Adenoon*, *Calacanthus*, *Baeolepis*, *Frerea*, *Jarodina*, *Wagatea*, *Poeciloneuron*, etc.

- **Fauna:**

- It includes the largest known population of two endangered animal species, namely the Nilgiri Tahr and the Lion-tailed macaque and the largest South Indian population of elephant, tiger, gaur, sambar, and chital.

## 5.29 Kinnow Farming

### Overview:

*Kinnow growers in Punjab are apprehending losses this season as nearly half of the 13 lakh tonnes of the crop are yet to be harvested even as the season will end in less than two months.*

About Kinnow Farming:

- Kinnow / Mandarin, commonly pronounced as Kinoo or Kinu is a **citrus fruit**.
- It is a largely cultivated fruit of **North India**, and **Punjab holds the major share** of Kinnow/ Mandarin producing area of the country, with other states including Rajasthan, Haryana, Madhya Pradesh, Himachal Pradesh, Jammu, and Kashmir.
- It is a **hybrid of two varieties** viz. **Citrus nobilis** and **Citrus deliciosa**.
- It is commonly confused with Oranges, due to the similarity in their appearances, seasonal availability and nutritional benefits offered by both the fruits.
- It comprises a high amount of juice content, making them ideal for extracting juice and pulp.
- **Climatic conditions**
  - **Temperature:** It can be grown successfully in a temperature range of 10-35°C.
  - It has the ability to withstand soaring temperatures as high as 40°C during summer and 0°C during winter.
  - **Soil:** Sites having well drained clay-loam soils with 6.0-7.5 pH are ideal for its cultivation.
  - **Rain:** 300-400mm

### Key facts about citrus fruit

- Citrus originates in **South East Asia**.
- It comprises Kinnow, Oranges, Lime and Lemon

In India, Citrus is the third largest fruit crop after Banana and Mango. Citrus fruits are an important source of Vitamin C.

# 6. Science & Tech

## 6.1 World's Largest Lithium Reserve:

**The U.S. Department of Energy recently discovered the world's largest Lithium reserve beneath California's Salton Sea.**

- Salton Sea is a shallow, saline lake located in the lower Colorado Desert, southern California,
- It is a geological depression tucked between mountain ranges and lying below sea level.
- The Salton Sea is an important stopping point for migratory waterfowl and serves as a critical habitat for birds moving south to Mexico and Central America.

### **Lithium:**

- It is a soft, silvery-white metal that heads group 1, the alkali metals group, of the periodic table of the elements.
- It has the lowest density of all metals.
- It is the lightest of the solid elements.
- It reacts vigorously with water.

## 6.2 Fog Pass Devices : Indian Railways

**To ensure smooth rail operations, Indian Railways have provisioned 19,742 Fog Pass Devices during the foggy weather.**

- Fog Pass Devices is a GPS based navigation device that helps the loco pilot to navigate during dense fog conditions.
- It provides on-board real-time information (Display as well as voice guidance) to Loco Pilots regarding location of fixed landmarks such as Signal, Level Crossing gate (Manned & Unmanned), Permanent Speed Restrictions, Neutral Sections etc.
- It displays approach indications of next three approaching fixed landmarks in geographical order accompanied with voice message approximately 500m on approach.
- General features of Fog Pass Device:
  - Suitable for all types of sections like single line, double line, electrified as well as non electrified sections.
  - Suitable for all types of electric and diesel locomotives, EMUs/MEMUs/DEMUs.
  - Suitable for train speeds up to 160 KMPH.
  - It has built-in re-chargeable battery back-up for 18 hrs.

## 6.3 Cigaritis meghamalaiensis

*The pristine hills of the Meghamalai in Tamil Nadu have thrown up a new species of 'silverline' butterflies.*

### **About Cigaritis meghamalaiensis**

- It is the new species of butterfly.
- It has become the first butterfly species to be described from the Western Ghats in 33 years.

- The researchers had first come across the distinct species belonging to the *Cigaritis* genus in the high elevations of Periyar in Idukki in 2018.
- Further explorations have revealed the species to be confined to the Meghamalais and the adjoining Periyar Tiger Reserve.

#### **Key facts about Periyar Tiger Reserve**

- It is located in the Western Ghats of Kerala.
- It gets its name from the River Periyar, which has its origin deep inside the reserve.
- Two main rivers, Pamba and Periyar, drain the reserve.
- It is home to many tribal communities, including the Mannans and the Palians.
- Vegetation: It consists of tropical evergreen, semi-evergreen and moist deciduous.

#### **6.4 Kochi-Lakshadweep islands submarine optical fiber connection project**

*Recently, the Prime Minister of India in Kavaratti, Lakshadweep, inaugurated Kochi-Lakshadweep islands submarine optical fiber connection (KLI-SOFC) project.*

#### **About Kochi-Lakshadweep islands submarine optical fiber connection project**

- It is the submarine cable connectivity project from Mainland (Kochi) to eleven Lakshadweep Islands namely, Kavaratti, Agatti, Amini, Kadmat, Chetlet, Kalpeni, Minicoy, Androth, Kiltan, Bangaram and Bitra has been extended.
- The project is funded by Universal Services Obligation Fund (USOF), Department of Telecommunication.
- Bharat Sanchar Nigam Limited (BSNL) was the Project Executing Agency and the work was awarded to M/s NEC Corporation India Pvt Ltd through Global Open Tendering process.
- The major activities related to the project include Marine Route Survey, Submarine Cable laying, Civil Construction of CLS stations, Installation, Testing and Commissioning of End Terminals (SLTE).
- Significance of the project
  - The KLI-SOFC project will lead to an increase in internet speed unlocking new possibilities & opportunities.

For the first time since independence, Lakshadweep will be connected through Submarine Optic Fibre Cable.

#### **6.5 What is PRITHVI Vigyan (PRITHVI) Scheme?**

Overview:

*To enhance the understanding of the Earth and its vital signs, the Union Cabinet recently approved the "PRITHVI Vigyan (PRITHVI)" scheme.*

#### **About PRITHVI Scheme**

- It is an initiative of the Ministry of Earth Sciences (MoES) to enhance the understanding of the Earth and its vital signs.
- This overarching initiative, with an allocation of Rs 4,797 crore for the period 2021-26, aims to significantly enhance research, modeling, and service delivery across crucial areas like weather, climate, oceans, and the polar regions.
- One of the primary objectives of Prithvi is to augment and sustain long-term observations across the atmosphere, ocean, geosphere, cryosphere, and solid earth.
- This will enable recording and monitoring of the Earth System's vital signs and changes.

- Additionally, the scheme focuses on developing predictive models for weather, ocean, and climate hazards, as well as advancing the understanding of climate change science.

*Japan recently landed a spacecraft called SLIM (Smart Lander for Investigating Moon) on the lunar surface, becoming the **5th country** after the Soviet Union, the US, China and India to achieve a soft landing on the moon.*

### 6.6 What is Gut Microbiota?

*Scientists are finding that the gut microbiota may be linked to heart health, some cancers, and even the colour of urine.*

#### About Gut Microbiota

- The human gut microbiota refers to **the trillions of microbes**, such as bacteria, viruses, fungi, and parasites, that live in the **human gut**.
- Previously, people referred to the gut microbiota as the **microflora** of the gut.
- The gut microbiome is the environment they live in.
- **Establishment** of the human gut microbiota:
  - **Infants** inherit their first gut microbes during **delivery or breastfeeding** (chestfeeding).
  - Later, **your diet** and other **environmental exposures** introduce new microbes to your biome.
- The gut microbiota assists in a range of bodily functions, including:
  - harvesting energy from **digested food**
  - protecting **against pathogens**
  - regulating **immune function**
  - strengthening the biochemical barriers of the gut and intestine
- Changes in microbiota composition can affect these functions.
- Disease:
  - While there are beneficial bacteria in the gut, there are also harmful bacteria that can enter the **Gastrointestinal (GI) tract** and cause **infection**.
  - These infections include **food poisoning** and other **GI diseases** that result in **diarrhea and vomiting**.
  - Research suggests that bacterial populations in the GI system play a role in developing gut conditions, including inflammatory **bowel diseases (IBD)**, such as **Crohn's** disease and ulcerative colitis.
  - Low microbial diversity in the gut also has links to **obesity and type 2 diabetes**.
  - Disturbing the microbiota with **antibiotics** can also lead to disease, including infections that become resistant to antibiotics.

### 6.7 Peregrine Lander

*The Peregrine Lunar Lander was launched aboard the United Launch Alliance's Vulcan rocket to embark on its pioneering journey to explore the Moon.*

#### About Peregrine Lander

- It is **designed to carry scientific instruments** and other payloads to the **Moon's surface**, specifically targeting the **Sinus Viscositatis region**.
- This area, also known as the Bay of Stickiness, lies adjacent to the Gruithuisen Domes near the Oceanus Procellarum, or Ocean of Storms.



- Aim: To **locate water molecules on the moon**, measure radiation and gases around the lander, and evaluate the lunar exosphere (the thin layer of gases on the moon's surface)”

### 6.8 What is Camptothecin?

*Researchers at the Indian Institutes of Technology Madras and Mandi have metabolically engineered Nothapodytes nimmoniana plant cells to increase production of anti-cancer drug camptothecin (CPT).*

#### About Camptothecin

- Camptothecin (CPT) is an **important anti-cancer drug** lead molecule for high-value drugs like **Topotecan and Irinotecan**.
- It is a potent topoisomerase I inhibitor extracted mainly from - **Camptotheca acuminata** (native to Eastern Asia) and **Nothapodytes nimmoniana** (native to India).
- It is majorly produced in the **Southeast Asian region**, with the plant being largely found only in **China and India**.
- However, the conjunction of climate change and extensive deforestation undertaken for CPT extraction has pushed these plants into the endangered species category.

#### Key facts about Nothapodytes nimmoniana

- It is an **endangered forest plant and disseminated in Sri Lanka, China, South East Asia, Taiwan, North Sumatra, Luzon Philippines and India**.
- **In India**, this plant is prevalent to **Western Ghats of Maharashtra, Goa, Tamil Nadu, and Kerala** and also found in **Assam and Jammu and Kashmir**.
- It is native to India and especially found in the Western Ghats region.
- The allopathic medicine is produced using Nothapodytes nimmoniana.
- The plant contains camptothecin (CPT) which is a renowned anticancer drug.
- It requires nearly **1,000 tonnes of plant** material to extract **1 tonne of CPT**.
- The International Union for Conservation of Nature has red-listed the plant as in the past decade alone there has been a 20% decline in the plant's population.
- Due to the very good source of CPT, this plant has been explored for its Phytochemical, Biotechnological and Pharmacological aspects.

### 6.9 What is I-STEM?

Overview:

*I-STEM (Indian Science, Technology, and Engineering facilities Map) is launching the Samavesha project at IISc., Bengaluru, on January 16 to enhance research collaboration in India by enhancing accessibility to facilities and labs.*

#### About I-STEM

- **I-STEM (Indian Science, Technology, and Engineering facilities Map)** is an initiative of the Office of Principal Scientific Advisor, Government of India.
- It is developed with the concept **“One Nation One Portal” for the scientific community, aimed at “Linking Researchers and Resources”**.
- It assists users to locate the specific facility they need for their R&D work and identify the one that is either located closest to them or available the soonest.

- The organisation, acting as custodian of the facility may charge the fee for running and maintaining the resources beyond the Project Duration.
- A panel of Experts will be formed in due course to assist the users by providing information to optimally utilise resources available through I-STEM's S&T Chat Room.
- A Digital Catalogue of Technologies and Technologies Products mandated by the Empowered Technology Group is an integral part of the I-STEM web portal.
- A platform for conducting and hosting industry challenges as mandated by the Empowered Technology Group (ETG) is being developed for Start-ups and Academia for making India **"Aatmnirbhar"**.
- Through a recent GoI directive, institutions with **R&D facilities** funded by agencies of the GoI are now mandated to list these facilities on the I-STEM Portal.
- I-STEM protects the IP involved in building the I-STEM Portal, a provisional patent application entitled, "A method and process for efficient use of geographically dispersed resources", has been filed with the Indian Patent Office.

### 6.10 What is an Isopod?

*An international team of marine biologists recently discovered a unique isopod, a form of crustacean, that has been formally identified as a new species of the genus Booralana.*

#### About Isopod

- Isopods are an **order of invertebrates** (animals without backbones) that belong to the greater **crustacean group of animals**, which includes **crabs and shrimp**.
- Scientists estimate that there are around **10,000 species of isopods** (all belonging to the order "Isopoda").
- They also live in many different types of habitats, **from mountains and deserts** to the deep sea, and they are distributed worldwide.
- **Features:**
  - They are one of the most **morphologically diverse** of all the **crustacean groups**, coming in many different shapes and sizes and ranging from micrometers to a half-meter in length.
  - Isopods often **do not look alike**, but they do have common features. For example, all isopods have two pairs of antennae, compound eyes, and four sets of jaws.
  - The body of all isopods consists of **seven segments**, each with its own pair of walking legs.
  - Isopods have a **short abdominal** section composed of six segments, called **"pleons,"** and one or more of these segments is fused into a tail section.
  - Each pleon has a set of biramous (branching in two) limbs called **"pleopods"** that are used for swimming and respiration.
  - About half of the known species of isopods live in the ocean. Others live in coastal and shelf waters, moving around on the seafloor or living in plants.
  - Most are free-living, but a number of marine species are parasitic on other animals.

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### Q1) What are crustaceans?

Crustaceans (make up a very large group of the Arthropods which include the crabs, lobsters, crayfish, shrimp, krill, barnacles, brine shrimp, copepods, ostracods and

mantis shrimp. They are invertebrates with a hard exoskeleton (carapace), a segmented body that is bilaterally symmetrical, more than four pairs of jointed appendages. Crustaceans are found in a wide range of habitats - most are free-living freshwater or marine animals, but some are terrestrial (e.g. woodlice), some are parasitic (e.g. fish lice) and some do not move (e.g. barnacles)

### 6.11 What is Chang'e 6 Mission?

*The China National Space Administration (CNSA) recently announced that the Chang'e 6 sample return mission is on track to land on the surface of the Moon in the first half of 2024.*

#### About Chang'e 6 Mission

- **The Chang'e 6 mission is a planned lander designed to return samples from the lunar south pole.**
- The mission **aims to land on the Moon, collect samples** from the lunar surface, and **return them to Earth**. This process will contribute crucial data to unravel the Moon's geological mysteries.
- Representing the first attempt to retrieve samples from **the far side of the Moon**, Chang'e 6 is set to bring back up **to two kilograms of lunar samples**, adopting a configuration similar to the successful Chang'e 5 mission.
- The mission **involves international collaboration**, with payloads from the European Space Agency (ESA) and the French space agency CNES.
  - ESA contributes a lunar surface ion tester, while CNES provides equipment for measuring radon gas and its decay products.
  - Additionally, an Italian laser corner reflector for radar instrument calibration **and Pakistan's ICUBE-Q CubeSat** will be part of the mission.
- Chang'e 6 will consist of both **a lander and a rover**.
  - The lander will touch down on the lunar surface, while the rover will explore specific regions, conduct experiments, and aid in the sample collection process.
- The returned samples will be made available to the global scientific community for study.

### 6.12 What is Inflammatory Bowel Disease (IBD)?

*A recent Scientific Reports study investigated the association between migraine and the development of inflammatory bowel disease (IBD).*

#### About Inflammatory Bowel Disease (IBD)

- IBD is a term that describes **disorders involving long-standing (chronic) inflammation of tissues in your digestive tract**.
- For some people, IBD is only a **mild illness**. For others, it's a debilitating condition that can lead to life-threatening complications.
- Types of IBD include:
  - **Ulcerative colitis**: This condition involves inflammation and sores (ulcers) along the lining of your large intestine (colon) and rectum.
  - **Crohn's disease**.
- This type of IBD is characterized by **inflammation of the lining of your digestive tract**, which often involves the deeper layers of the digestive tract.
- **Crohn's disease** most commonly affects the **small intestine**. However, it can also **affect the large intestine** and, uncommonly, the upper gastrointestinal tract.

- A third category, indeterminate colitis IBD, refers to IBD that has features of **both** Crohn's disease and ulcerative colitis.
- **Causes:** The exact cause of IBD is unknown, but IBD is the result of a **weakened immune system**. Possible causes are:
  - The immune system **responds incorrectly to environmental triggers**, such as **viruses or bacteria**, which **cause inflammation** of the gastrointestinal tract.
  - There also appears to be a **genetic component**. Someone with a family history of IBD is more likely to develop this inappropriate immune response.
- **Symptoms:**
  - IBD causes a range of problems in the **colon and rectum**, but it can also affect other parts of the body.
  - Both ulcerative colitis and Crohn's disease are usually characterized by **diarrhea, rectal bleeding, abdominal pain, fatigue, and weight loss**.
  - People with IBD may experience flare-ups followed by periods with no symptoms.
- **Treatment:**
  - Although there is **no curative treatment** for IBD, it's possible to reduce inflammation and address symptoms with a variety of therapies.
  - IBD treatments may include **medications, surgery, and a range of diet** and lifestyle changes that help reduce inflammation and support the immune system.

### 6.13 Japan's Moon Mission – SLIM

#### About SLIM

- SLIM was launched by the Japan Aerospace Exploration Agency (JAXA) in September 2023 aboard the H-IIA rocket from the **Tanegashima spaceport**.
- **It aims to demonstrate precision landing within 100 metres through new technologies.**
- It also carried **two mini robotic** rovers developed by **Sony** and **Tomy** for reconnaissance.
- The mission aims to revitalise Japan's space program which suffered setbacks like the failure of the flagship H3 rocket in March 2023.

#### Objectives

- The mission aims to **observe X-rays** coming from **deep space** and to identify their wavelengths with unprecedented precision.
- It will use **state-of-the-art spectroscopy** to measure changes in the brightness of celestial objects at different wavelengths.
- This range will provide astrophysicists with new information about some of the universe's hottest regions, largest structures, and objects with the strongest gravity.

#### Future Moon Missions

- **ISRO (India):** LUPEX with JAXA, Chandrayaan-4
- **NASA (USA):** Lunar Trailblazer Mission, Viper Rover, Artemis 2-6 (Manned mission).
- **ROSCOSMOS (Russia):** LUNA 26-28, ORYOL
- **CNSA (China):** Chang'e 6-8
- **JAXA (Japan):** Destiny+

### 6.14 Arogya Maitri cube

Overview:

*Recently, Arogya Maitri Disaster Management Cube has been deployed in Ayodhya to bolster medical readiness and response capabilities during the upcoming 'Pran Pratishtha' ceremony.*

#### About Arogya Maitri cube

- It is a revolutionary **mobile hospital** equipped with cutting-edge technology.
- This cube is a part of the broader initiative named **“Project BHISHM”** – Bharat Health Initiative for Sahyog, Hita and Maitri.
- **Features**
  - It is tailored to treat **up to 200 casualties**, emphasizing rapid response and comprehensive care.
  - The Aid Cube is equipped with **several innovative tools designed** to enhance disaster response and medical support during emergencies.
  - It **integrates Artificial Intelligence (AI)** and data analytics to facilitate effective coordination, real-time monitoring, and efficient management of medical services in the field.
  - The whole unit contains 72 easily transportable components that can be conveniently carried by hand, cycle, or even drone, providing unmatched flexibility.
  - In the face of **mass casualty incidents (MCIs)**, where requirements range from basic aid to advanced medical and surgical care, the Aid Cube stands out with its ability to be deployed within an astonishing 12 minutes.
  - These cubes are robust, waterproof, and light, designed for various configurations, making them ideal for diverse emergency scenarios.
  - From airdrops to ground transportation, the cube can be rapidly deployed anywhere, ensuring immediate response capability.
  - It has advanced medical equipment, RFID-tagged for efficient repacking and redeployment.
- The **state-of-the-art BHISHM software system** integrated into a provided tablet allows operators to locate items quickly, monitor their usage and expiry, and ensure readiness for subsequent deployments.

### 6.15 Scrub Typhus

Overview:

*According to a new study conducted in Tamil Nadu's Vellore, **every millimetre increase in rainfall could lead to a 0.5 to 0.7 per cent rise in monthly scrub typhus cases.***

#### About Scrub Typhus

- It is an **infectious disease caused by bacteria** called **Orientia tsutsugamushi**.
- It is transmitted through **infected mites**.
- **Symptoms**
  - The symptoms typically **include fever, headache, body ache and sometimes a rash**.



- In severe cases, the infection can lead to respiratory distress, brain and lung inflammation, kidney failure and multi-organ failure, ultimately resulting in death.
- Several factors like vector abundance, climatic factors, exposures like farming and owning domestic animals, outdoor activities and sanitation, affect its prevalence.
- This disease is **more prevalent in cooler months**.
- In Northeast India, cases of scrub typhus occur from **July to November in Manipur, July to October in Sikkim and September to November in Darjeeling**.
- **It will not spread from person to person.**
- **Treatment:** Scrub typhus should be treated with the antibiotic doxycycline. Doxycycline can be used in persons of any age.
- There is **no vaccine available** for this disease.

### Key facts about Typhus fever

- Typhus fevers are a group of diseases caused by bacteria that include epidemic typhus, scrub typhus, and murine typhus.
  - **Epidemic typhus:** It is caused due to *Rickettsia prowazeki* and it is spread to people through contact with infected body lice.
  - **Scrub typhus:** It is caused due to *Orientia tsutsugamushi* and spread by chiggers.
  - **Murine typhus:** It is caused due to *Rickettsia typhi* spread by fleas. It occurs in tropical and subtropical climates around the world

### 6.16 Havisure vaccine

Overview:

*Recently, the Indian Immunologicals Ltd (IIL) a wholly owned subsidiary of National Dairy Development Board (NDDB) launched India's first indigenously developed Hepatitis A vaccine 'Havisure' in Hyderabad.*

### About Havisure vaccine

- It is a **two-dose vaccine** — first dose administered at above **12 months of age** and the second at **least six months after the first dose**.
- The vaccine is recommended for children as part of the **routine immunization** as well as for individuals at risk of exposure or travel to the regions with high **hepatitis A prevalence**.
- In addition to this people with occupational risk of infection and suffering from chronic liver diseases also require Hepatitis A vaccination.

### Key facts about Hepatitis A

- It is **an inflammation of the liver** caused by the hepatitis A **virus** (HAV).
- The virus is primarily spread when **an uninfected (and unvaccinated) person ingests food or water that is contaminated with the faeces of an infected person**.
- Hepatitis can be an acute (short-term) infection or a chronic (long-term) infection.
- There are different types of hepatitis, with different causes:
  - **Viral hepatitis** is the most common type. It is caused by one of several viruses -- hepatitis viruses A, B, C, D, and E.
  - Alcoholic hepatitis is caused by **heavy alcohol use**.

- **Toxic hepatitis** can be caused by certain poisons, chemicals, medicines, or supplements.
- **Autoimmune hepatitis** is a chronic type in which your body's immune system attacks your liver. The cause is not known, but genetics and your environment may play a role.
- Hepatitis B, hepatitis C, and hepatitis D spread through contact with the **blood of someone** who has the disease.
- Hepatitis B and D may also spread through contact with **other body fluids**. This can happen in many ways, such as sharing drug needles or having unprotected sex.
- **Symptoms:** Some people with hepatitis do not have symptoms and do not know they are infected.
- Common symptoms include: fever, malaise, loss of appetite, diarrhoea, nausea, abdominal discomfort, dark-coloured urine and jaundice.
- Treatment: There is no specific treatment for hepatitis A. Recovery from symptoms following infection may be slow and can take several weeks or months.

### Vaccine types

#### How vaccine works

### 6.17 What is the Mpemba effect?

Overview:

*The Mpemba effect continues to captivate scientists with its complex interplay of physical mechanisms.*

#### About Mpemba effect

- It is named after Tanzanian student **Erasto Mpemba**, who brought attention to this counterintuitive phenomenon in 1969, makes for curious observation.
- **The effect is that hot water can freeze faster than cold water in similar conditions.**
- While Aristotle, Francis Bacon, and René Descartes had noticed the effect centuries earlier, the Mpemba effect caught scientists' attention only more recently.
- Different Experiments
  - Researchers have conducted numerous experiments to determine the causes of this **confusing phenomenon**, but a **consensus conclusion remains wanting**.
  - **One cause, they have posited, is microbubbles left suspended in water that has been heated by boiling.**
  - These cavities promote **convection and transfer heat faster** as the water cools.
  - **Evaporation:** as warmer water evaporates more, it also takes away some heat (evaporation is inherently endothermic, which is how sweat cools your skin). Both convection and accelerated heat transfer are enhanced in warmer water because such water is less dense.
  - Yet another factor could be the **presence of frost in cold water**. Frost is an insulator and could slow the loss of heat.
  - Scientists have also considered whether compounds in water like calcium carbonate could be precipitated by boiling, and then dissolve, thus increasing the water's freezing point.

### 6.18 What is Election Seizure Management System?

Overview:

Recently, the Election Commission of India (ECI) has conducted a training programme in virtual mode on the recently introduced Election Seizure Management System (ESMS) for the officers concerned from **Andhra Pradesh**.

### About Election Seizure Management System

- It is a dedicated technology platform designed and developed to digitize data for intercepted/Seized items (Cash/Liquor/Drugs/ Precious Metal/Freebies/Other Items) direct from the field through Mobile App.
- It also allows Banks to generate QR code based receipts for case movement.
- Key Features
  - Automate desired report in required format for all stakeholders
  - Dashboard analytics for received data from multiple agencies
  - Avoid duplicate data entry by Agencies
  - Banks may generate QR code-based receipt in PDF format and issue for legal cash transfer.
  - In this platform all the enforcement agencies such as police, transportation authorities, Central tax agencies and others share information in real time.
  - The platform is for real-time updates on seizures from the field.
- It is a system that ensures seamless coordination and intelligence sharing amongst enforcement agencies.
- It is a platform where all the central and state enforcement agencies will be onboarded.

These agencies are required to upload details of every recorded movement and seizure of illicit cash, liquor, drugs etc.

### 6.19 What is Disease X?

Overview:

Recently, the World Health Organisation (WHO) emphasized the urgent need for global preparedness against a potential new pandemic, referred to as '**Disease X**'.

### About Disease X

- It is referred to as a **hypothetical pathogen** or threat that can cause a major pandemic in future.
- It could be a **new agent, a virus, a bacterium, or a fungus without any known treatment**.
- The term coined by scientists and the World Health Organization could be any of the 25 families of viruses that have the capability to cause illness in people.
- Disease X was included in the WHO's updated Blueprint list of diseases back in 2018.
- Scientists are of the opinion that **Disease X could be 20 times more deadly than SARS-Covid virus** that caused pandemic recently.
- It represents an illness which is currently unknown but could pose a serious microbial threat to humans in the future.

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### Q1) What is a pandemic?

A pandemic is an outbreak of infectious disease that occurs over a wide geographical area and that is of high prevalence. A pandemic generally affects a significant proportion of the world's population, usually over the course of several months.

**Pandemic epidemic endemic difference**

CAREER IAS

# 7. Social Issues

## 7.1 PRERANA Program:

**The Department of School Education & Literacy, Ministry of Education has launched 'Prerana: An Experiential Learning program'**

- PRERANA program aims to offer a meaningful, unique, and inspiring experience to all participants, thereby empowering them with leadership qualities.
- It is driven by a strong commitment to integrate principles of the Indian education system and the philosophy of value-based education which is a cornerstone of the National Education Policy (NEP) 2020.
- It is a week-long residential program for selected students of class IX to XII.
- A batch of 20 selected students (10 boys and 10 girls) will attend the program, every week from various parts of the country.
- It will run from a Vernacular School, established in 1888, in one of the oldest living cities of India, Vadnagar, district Mehsana, Gujarat.
- The curriculum of Prerana School prepared by IIT Gandhi Nagar is rooted in nine value-based themes: Swabhimān and Vinay, Shaurya and Sahas, Parishram and Samarpan, Karuna and Sewa, Vividhā and Ekta, Satyanishtha and Shuchita, Navachar and Jigyasa, Shraddha aur Vishwas, and Swatantrata and Kartavya.
- The day-wise program schedule will feature yoga, mindfulness, and meditation sessions, followed by experiential learning, thematic sessions, and hands-on interesting learning activities.
- Evening activities will include visits to ancient and heritage sites, inspirational film screenings, mission life creative activities, talent shows etc. ensuring a holistic learning approach.
- Apart from this, students will engage in diverse activities, embracing indigenous knowledge systems, latest State-of-Art technologies, and learning from inspirational personalities.

## 7.2 Geographical Indication (GI) Tag

### About Geographical Indication (GI) Tag

- It is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin.
- This is typically used for agricultural products, foodstuffs, wine and spirit drinks, handicrafts and industrial products.
- The Geographical Indications of Goods (Registration and Protection) Act, 1999 seeks to provide for the registration and better protection of geographical indications relating to goods in India.
- This GI tag is valid for 10 years following which it can be renewed.

### Key facts about new GI Tagged products

- Kapdaganda Shawl
  - It is woven and embroidered by the women of the Dongria Kondh tribe, a particularly vulnerable tribal group (PVTG) in the Niyamgiri hills in Odisha's Rayagada and Kalahandi districts.
  - The shawl reflects the rich tribal heritage of the Dongria Kondhs.



- The shawl is worn by both men and women and the Dongrias gift it to their family members as a token of love and affection.
- Lanjia Saurpa Painting
  - It is one of the oldest tribal art forms, is also known as Idital.
  - The artworks are famous for their beauty, aesthetics, ritualistic association and iconography.
  - It belongs to the Lanjia Saura community, a PVTG largely residing in the Rayagada district. These paintings are in the form of exterior murals painted on the mud walls of homes.
- Koraput Kala Jeera Rice
  - The black-coloured rice variety, also known as the 'Prince of Rice', is famous for its aroma, taste, texture and nutritional value.
  - As the rice grains resemble cumin seeds, it is also called Kala Jeera.
  - Its consumption helps in increasing haemoglobin levels and improves metabolism in the body.
- Nayagarh Kanteimundi Brinjal
  - It is known for its prickly thorns on the stems and the whole plant.
  - The green and round fruits contain more seeds as compared to other genotypes.
  - It is famous for its unique taste and relatively short quick cooking time.
  - The plants are resistant to major insects and can be grown with minimal pesticide.
- Odisha Khajuri Guda (Jaggery)
  - It is a natural sweetener extracted from date palm trees and has its origin in the Gajapati district.
  - Traditionally, the jaggery is prepared in a trapezoidal form called 'Patali Gur' and is organic by nature. It is dark brown and has a unique taste.
- Dhenkanal Maggi
  - It is a type of sweet made from cheese from buffalo milk, with distinct characteristics in terms of appearance, taste, flavour, shape, and size.
  - It also has unique nutritional values that distinguish it from other cheese-brd sweets.

### 7.3 What is Prasadam?

*Union Minister for Health & Family Welfare recently inaugurated the country's first healthy & hygienic food street, 'Prasadam', at Neelkanth Van, Mahakal Lok, in Ujjain, Madhya Pradesh.*

#### About Prasadam

- It is the country's first **"Healthy and Hygienic Food Street"**.
- It has been opened at Neelkanth Van, Mahakal Lok, in **Ujjain**, Madhya Pradesh.
- It will connect people in every corner of the country with pure and safe local and traditional food.
- Spread over 939 square metres with **19 shops**, Prasadam offers convenient and culturally **rich dining options** for the **1-1.5 lakh devotees** who visit the **Mahakaleshwar Temple daily**.
- The food street is designed to provide various facilities, including a kids' play area, drinking water facility, CCTV surveillance, parking, public conveniences, and seating spaces.

**Key Facts about Mahakaleshwar Temple:**

- It is a **Hindu temple dedicated to Shiva**.
- Location:
  - It is located in the ancient city of Ujjain, in the state of Madhya Pradesh.
  - The temple is situated beside the **Rudra Sagar Lake**.
- **It is one of the twelve Jyotirlingams of Lord Shiva.**
- Mahakaleshwar idol is **Dakshina Mukhi**, facing south, **unlike** all the **other Jyotirlingas**.
- The temple, which is spread over five levels, sees a huge throng of devotees during the **Maha Shivaratri festival**.
- Architecture:
  - The temple complex comes with a spacious courtyard that is adorned with THE finest sculptures that are believed to be influenced by the **Chalukya, Maratha, and Bhumiya styles of structural design**.
  - The foundation and platform are built of stones. Most of the upper structure rests on the strong and well-designed pillars and plasters.
  - It is complete with impressive lingam sculptures of Mahakaleshwar.
  - The images of Ganesh, Parvati, and Karttikeya are installed in the west, north, and east of the sanctum sanctorum.

**7.4 Pravasi Bharatiya Diwas****About Pravasi Bharatiya Diwas**

- It is also known as Non-Resident Indian (NRI) Day, is celebrated on **January 9** to mark the contribution and achievements of the overseas Indian community to the development of India.
- It is the flagship event of the **Ministry of External Affairs**.
- The day also commemorates the return of **Mahatma Gandhi**, the greatest Pravasi, from **South Africa to India in 1915**, who led India's freedom struggle and changed the lives of Indians forever.
- **It was first celebrated in 2003.**
- **It was an annual event earlier, but in 2015, the government revised its format to celebrate PBD once every two years.**
- It has become a platform to connect the Indian diaspora with their roots and encourage their continued engagement with India's progress.
- It is held in different cities, to showcase the diversity and progress of different regions of India.
- Till date, 17 conventions have been held. **The last Pravasi Bharatiya Divas was celebrated in the Indore of Madhya Pradesh in 2023.**

**7.5 Henley Passport Index 2024**

*The average number of visa-free destinations has nearly doubled since 2006, according to the 2024 Henley Passport Index.*

**About Henley Passport Index**

- It is the original, authoritative **ranking of all the world's passports** according to the number of destinations their holders can access **without a prior visa**.
- It started in 2006 as the **Henley & Partners Visa Restrictions Index (HVRI)**.
- The index is based on exclusive data from the **International Air Transport Association (IATA)**, the largest, most accurate travel information database,

and enhanced by Henley & Partners' research team. (Henley & Partners is a London-based advisory firm).

- The index includes 199 different passports and 227 different travel destinations.
- The number of countries that a specific passport can access becomes its visa-free 'score'.
- Highlights of Henley Passport Index 2024:
  - **France, Germany, Italy, Japan, Singapore, and Spain hold the top spot as the world's most powerful passports, allowing visa-free entry to 194 global destinations.**
  - **The top 10 is largely dominated by European countries.**
  - The average number of destinations travellers are able to access visa-free has nearly doubled, from 58 in 2006 to 111 in 2024.
  - **India's passport ranked 80th in the list, with citizens allowed to travel to 62 countries without a visa.**
  - **Afghanistan occupies the bottom spot** on the list, with access to just 28 countries without a visa.
  - **Syria, with visa-free access to only 29 destinations**, holds the second-lowest position, followed by Iraq with 31 and Pakistan with 34.
  - The **United Arab Emirates** was the fastest climber over the past decade, jumping to **11th place** and offering access to **183 destinations** without a visa.

#### 7.6 PM-eBus Sewa Scheme

*The Union Housing and Urban Affairs Minister recently said that the Ministry has floated tenders for procuring buses under the PM-eBus Sewa scheme.*

##### About PM-eBus Sewa Scheme

- Under the PM-eBus Sewa Scheme, **10,000 e-buses** will be deployed across cities in the country.
- The scheme was introduced to give a push to the slow adoption of e-buses in public transport.
- Support for Operation:
  - Under this scheme, **city bus operations** will be done on a Public Private Partnership (PPP) model.
  - This scheme will support **bus operations for 10 years.**
  - States/Cities shall be responsible for running the bus services and making payments to the bus operators.
  - **The Central Government** will support these bus operations by providing subsidies to the extent specified in the proposed scheme.
- **Funding:**
  - It has been allocated a total funding of Rs 57,613 crore.
  - Out of this financial provision, the central government will contribute Rs 20,000 crore, while the remaining portion will be covered by the state governments.
- **Coverage:** It will cover cities with a population of 300,000 and above and will include all the capital cities of the 'Union Territories, North Eastern Region, and Hill States'.
- **There are two segments of the scheme: Augmenting the city bus services and Associated Infrastructure, and Green Urban Mobility initiatives.**
  - Augmenting the city bus services and Associated Infrastructure: Under this segment, the scheme will augment city electric bus operations by extending

Central Assistance (CA) for 10,000 electric bus operation on Public Private Partnership (PPP) model, bus depots and behind-the-meter power infrastructure.

- Green Urban Mobility Initiatives (GUMI): Under this segment, the scheme will support the implementation of GUMI projects for complementing bus services and demonstrating a reduction in Greenhouse Gas (GHG) emissions in urban areas.

The segment will include support for implementing the National Common Mobility Card (NCMC)-based Automatic Fare Collection System (AFCS), bus priority infrastructure, etc.

### 7.7 Kolam Tribes

*The Central government will extend basic facilities to the endangered Kolam tribe under the Jan Jati Adivasi Nyay Maha Abhiyan, with a focus on health and education.*

#### About Kolam Tribes

- Kolam tribes, also known as **Kolamboli, Kulme and Kolmi**, occupy a major portion of **Madhya Pradesh**.
- The main concentration of this **tribe is on the plains and in the mountainous region**.
- These tribal groups are reckoned as **scheduled tribes** and apart from Madhya Pradesh they reside in some parts **of Maharashtra and Andhra Pradesh**.
- They are listed as **Particularly Vulnerable Tribal Group (PVTG)** in the state of Maharashtra and Andhra Pradesh.
- History:
  - Around the twelfth century, the Kolam served as **priests for the Gond**, representing some of their important gods.
  - It is generally accepted that the Kolam descended from the original population in the area.
  - Since they now live near the Gond, they have adopted much of the Gond lifestyle.
- The Kolam people are divided into different **clans**, like Chal Deve, Pach Deve, Saha Deve, and Sat Deve.
- **Marriages between the same clans are not permissible.**
- The Kolams use the name of their clans as their **surnames**.
- Their society is **patrilineal**, meaning that the line of descent is traced through the **males**.
- The Kolam are mainly **farmers and forest workers**. In times past, they used shifting cultivation on the hill slopes. Today, they primarily live as settled farmers and use plow cultivation.
- They speak a Dravidian language called **Kolami**, and nearly all of the adults also speak **Marathi, Telugu, or Gondi**.
- They also speak other languages like Marathi, Telugu or Gondi.
- For writing, this Kolma tribal community uses the **famous Devnagari script**.

#### Q1) What are Particularly Vulnerable Tribal Groups (PVTGs)?

PVTGs are a more vulnerable group among tribal groups in India. These groups have primitive traits, geographical isolation, low literacy, zero to negative population growth rate and backwardness. Moreover, they are largely dependent on hunting for food and

a pre-agriculture level of technology. Currently, there are 2.8 million PVTGs belonging to 75 tribes across 22,544 villages in 220 districts across 18 states and Union Territories in India. According to the 2011 Census, Odisha has the largest population of PVTGs at 866,000.

### 7.8 Who are Shankaracharyas?

*The four Shankaracharyas recently said that they will not attend the inauguration of the Ram temple in Ayodhya.*

#### About Shankaracharyas

- Shankaracharya, literally '**teacher of the way of Shankara**', is a religious title used by the heads of the four Hindu maths (monasteries) that were established by the **eighth-century Hindu saint Adi Shankara**.
- Adi Shankara established these maths **to impart knowledge**. These maths consist of religious shrines, temples, libraries, and residences.
- These maths are located in **Dwarka (Gujarat), Joshimath (Uttarakhand), Puri (Odisha), and Sringeri (Karnataka)**.
  - Each math, called **peetha** or pitha in Sanskrit, was tasked with serving as the **custodian of one Veda** each and **keeping alive Vedic literature**.
  - **Govardhan Math in Puri** is the **custodian of the Rig Veda**, while the **Dwarka Sharada Peetham in Gujarat** is responsible for the **Sam Veda**.
  - The **Sringeri Sharada Peetham in Karnataka** is responsible for the **Yajur Veda**, and **Jyotir Math in Uttarakhand's Joshimath** for the **Atharva Veda**.
  - **Vijayanagara kingdom** was the first to patronise the **Sringeri math** in the 14th century CE.
- The Shankaracharyas also oversee the **Dashanami Sampradaya**, an order of renunciates (those who have renounced the secular way of life).

#### Who was Adi Shankaracharya?

- Adi Shankaracharya, or Shankara, as he was known, was an ancient Indian philosopher and theologian who lived in the early 8th century CE.
- Birth: He was born **in Kalady**, a village in present-day **Kerala**.
- **Revered as an avatar of Lord Shiva**, it is believed that he mastered the Vedas when he was just 16.
- **Philosophical Contributions:**
  - At a very young age, Shankara started criss-crossing the length and breadth of India to spread his commentaries on the **Brahama Sutras, Upanishads, and the Bhagavad Gita amid a rise in Jainism and Buddhism**.
  - He is best known for his role in the development and propagation of **Advaita Vedanta, a non-dualistic school of Hindu philosophy**.
- The fundamental philosophy of Advaita Vedanta lies in the **unity of atma (soul), or individual consciousness, and brahma or the ultimate reality**.
- According to this philosophy of **non-duality**, God and humans are not two and the material world is an "**illusion**".
  - His most important work is his efforts to synthesize the six sub-sects, known as '**Shanmata**.' 'Shanmata', which literally translates to '**six religions**,' is the worship of **six supreme deities**.
  - He also founded '**Dashanami Sampradaya**,' which talks about leading a **monastic life**.



- While Shankaracharya was a firm believer in ancient **Hinduism**, he **condemned the 'Mimamsa school of Hinduism'**, which was purely based on ritual practices.
- **Four Mathas**: He established four prominent monastic centers in India, each associated with one of the cardinal directions: Sringeri in the south, Dwarka in the west, Puri in the east, and Badrinath in the north.
- **Death**: Adi Shankaracharya is believed to have attained Samadhi (a state of deep meditation or realization) at the young age of **32 in Kedarnath** in the Himalayas.

### 7.9 Pulikulam Cattle breed

*Interest in indigenous cattle breeds like the Pulikulam is reviving which is famous for a local game called Jalikattu in TamilNadu.*

#### About Pulikulam Cattle breed

- It is a popular draught and **game breed of Tamil Nadu**.
- The cattle originated from **Pulikulam, a village** located in Sivaganga district of Tamil Nadu.
- It is also known as **Palingu maadu, Mani maadu, Jallikattu maadu, Mattu maadu and Kilakattu maadu**.
- These are maintained as migratory herds, and its draught and manure capabilities play a significant role in the rural livelihood of the communities rearing them for draught and organic agricultural production.
- This breed of cattle is famous for a **local game called Jalikattu** where bulls are used as a bull-taming sport.
- It is commonly seen **in Salem and Coimbatore** district of Tamil Nadu and part of Bangalore district of Karnataka.
- Pulikulam / Alambadi bulls are dark grey, almost black and cows grey or white.

#### Other cattle breeds of India

- India has **three kinds of cattle**.
- There are milch animals in northern India. Middle India has dual purpose animals while southern India has the Mysuru-type animal, mostly used for draught purposes.
- Maharashtra has the Killari, Karnataka has the Amrit Mahal and the Hallikar.
- Tamil Nadu: Pulikulam, Umbalachery, Kangayam Bargur and Alambadi.

### 7.10 Punganur Cow

The Prime Minister was recently seen feeding several Punganur cows with fodder with his own hands at his residence in New Delhi.

#### About Punganur Cow:

- Standing at just around **70-90 cm tall** and weighing **less than 200 kg**, it is **among the world's most dwarf cattle breeds**.
- It is **native to Punganur village** in the Chittoor district of **Andhra Pradesh**.
- It has **high resilience to drought** and can **adapt to low-quality feed**.

- It is also **prized for its milk**, which boasts a **higher fat content**, making it ideal for producing ghee.
  - A Punganur cow can give **around 1 to 3 litres a day**, and the milk **fat content is 8 percent** as **compared to 3 to 4 percent in other native breeds**.
  - The milk is also **rich in nutrients** such as Omega fatty acids, calcium, potassium, and magnesium.
- **Body colour:** It is **white, grey, or light brown** to **dark brown or red in colour**. Sometimes, animals with white colour mixed with red, brown, or black patches are also seen.
- It has a **broad forehead and short horns**. The **horns are crescent-shaped** and often lose curving backward and forward in males and lateral and forward in females.
- Punganur cows are **considered eco-friendly, requiring less water, feed, and space** compared to hybrid breeds.
- **Cultural Significance:** Even today, **many temples in Andhra Pradesh, including the famous Tirupati Tirumala Temple, use the milk of a Punganur cow for Ksheera Abhishekam** (milk offering to the deity).



### 7.11 Pradhan Mantri Rashtriya Bal Puraskar 2024

*The President of India conferred Pradhan Mantri Rashtriya Bal Puraskar 2024 to 19 children for their exceptional achievement in six categories.*

#### About Pradhan Mantri Rashtriya Bal Puraskar

- **The awards are given to children in the age group 5 – 18 years for their excellence in seven categories for Bravery, Art & Culture, Environment, Innovation, Science & Technology, Social Service and Sports.**
- **Objective:** Encourage children who had shown exceptional achievement in any field including academics, arts, culture and sports etc.
- The two categories covered under these Awards are as follows:
  - **Bal Shakti Puraskar (earlier called National Child Award) –**
    - These awards are to be given as recognition to children with exceptional abilities and outstanding achievement in the fields of **innovation, scholastic achievements, sports, arts & culture, social service and bravery which deserves recognition.**
    - Each awardee will be given a medal, a cash prize of **Rs. 1,00,000/-**, book vouchers worth Rs. 10,000/-, a certificate and citation.
  - **Bal Kalyan Puraskar (earlier called National Child Welfare Award)**
    - **Individual-** These Awards are given as recognition to individuals who have made an outstanding contribution **towards service for children in the field of Child Development, Child Protection and Child Welfare for not less than 7 years and have a positive impact on the lives of children.**
    - The number of awards would be three. The award consists of a cash prize of **Rs. 1, 00,000/ - (one lakh)**, a citation and a certificate to each awardee.

- **Institution-** These awards are given to institutions who have done exceptional work for the cause of children in any field of child welfare. The number of awards would be three.
- The award for institution consists of a prize of Rs. 5,00,000/- each and a citation and a certificate.

### 7.12 Soligas and Yeravas

*The recently launched Forgotten Trails: Foraging Wild Edibles, authored by Malemleima Ningombi and Harisha RP, chronicled the foods that Soligas and Yeravas tribes forage from the forests.*

#### About Soligas and Yeravas

- Indigenous groups Soligas and Yeravas have been living in the Cauvery Basin and the surrounding hills of peninsular India for thousands of years.
- Soligas, one of the oldest indigenous communities in the country, are the original inhabitants of Karnataka and live mostly in the Chamarajanagar and Mandya districts.
- Honey is an important part of the diet for the Soliga people, who still forage large parts of their food from the biodiversity-rich Ghats.
- They reside in the peripheral forest areas near Biligiri Rangana Hills and Male Mahadeshwara.
- They are the first tribal community living inside the core area of a tiger reserve in India to get their forest rights officially recognised by a court of law.
- Soligas use Silver cockscomb as a nutritious leafy green vegetable, as it is high in nutrients such as beta-carotene and folic acids, and has vitamin E, calcium and iron.
- Also the scientific community has named a new genus (*Soliga ecarinata*) of wasp after this community.

#### Who are Yeravas?

- The Yeravas, on the other hand, came to the state from Wayanad district in Kerala and settled in Kodagu district of the state.
- Yeravas use more tubers than Soligas.
- Language: They speak their own language of Ravula.
- Mushrooms become part of the Yerava diet during monsoons
- Issues: The food that Soligas and Yeravas depend on for survival is now affected by changes in land use and shifting policies. Worse, traditional knowledge is steadily being lost as young people are migrating out.

### 7.13 Global Alliance for Global Good - Gender Equity and Equality

Overview:

*India successfully established a "Global Alliance for Global Good - Gender Equity and Equality" to promote women's empowerment and gender equality.*

#### About Global Alliance for Global Good - Gender Equity and Equality

- It is a new alliance for global good, gender equity, and equality established by India on the sidelines of the **54th annual World Economic Forum (WEF)** meeting in Davos.

- The alliance will bring together worldwide best practices, knowledge sharing, and investment opportunities in women's education, health, and enterprise.
- This initiative marks a significant stride toward achieving **multiple Sustainable Development Goals (SDGs)**, including SDG 3 (Good Health and Well-Being), 4 (Quality Education), 5 (Gender Equality and Empowerment), 17 (Global Partnership for Development) and more.
- It has garnered support from industry leaders such as **MasterCard, Uber, Tata, TVS, Bayer, Godrej, the Serum Institute of India, IMD Laussane, and over 10,000 partners** from industry through the Confederation of Indian Industry (CII).
- Supported by the Bill and Melinda Gates Foundation, the alliance will be housed and anchored by the CII Centre for **Women Leadership**.
- The WEF has come on board as a 'Network Partner' and Invest India as an 'Institutional Partner'.

### Key Facts about World Economic Forum (WEF)

- It is an international organization headquartered in **Geneva, Switzerland**, that brings together individuals and political and business leaders each year to discuss significant issues that impact the global economy.
- These include, but are not limited to political, economic, social, and environmental concerns.
- The WEF is best known for its annual WEF Meeting at Davos, the Swiss ski resort.
  - The event regularly draws business and political leaders from around the world for a series of discussions about global issues.
- The WEF has no independent decision-making power but seeks to influence people to make decisions that benefit the global community.
- WEF meetings introduce new issues, trends, and organizations to members and the public for discussion and are commonly believed to influence corporate and public sector decision-making.
- The organization is funded through its membership, which includes many prominent business and political figures.

### 7.14 Gir and Kankrej cattle

Overview:

*India has imported 40,000 doses of bull semen from Brazil for the first time to boost milk output via artificial insemination of Gir and Kankrej cattle breeds.*

#### About Kankrej

- It is also **called Wadad or Waged, Wadhiar**.
- It originated from Southeast **Rann of Kutch** of Gujarat and adjoining **Rajasthan (Barmer and Jodhpur district)**.
- Colour of the **animal varies from silver-grey to iron-grey or steel black**.
- It is valued for fast, powerful, draught cattle and also useful in **ploughing and carting**.
- Kankrej, famously known as **Guzerat in Brazil**, is being maintained in large numbers as a pure breed in that country.

#### Key facts about Gir breed

- It is a famous Indian-born dairy cattle breed.

- It is also known as “**Bhodali**”, “**Desan**”, “**Gujarati**”, “**Kathiawari**”, “**Sorthi**”, and “**Surati**”.
- Its native tract is Gir hills and forests of Kathiawar in Gujarat.
- It is a world-renowned breed known for its tolerance to stress conditions and resistance to various tropical diseases.
- This breed has been imported by countries like Brazil, USA, Venezuela and Mexico.

**Why from Brazil?**

- Brazil has preserved the original breed of Gir cows that was gifted by the Maharaja of Bhavnagar to Brazil in the 18th century.
- Indian cattle like Gir and Kankrej, which were exported centuries back, have been suitably modified to yield large quantities of milk in Brazil.
- Both countries are working on training and capacity building, including technology transfer.

CAREER IAS



# 8. Art & Culture

## 8.1 Kateel Yakshagana mela

*A century-old Yakshagana mela in Dakshina Kannada will resume its all-night performances following approval from the Karnataka High Court.*

### About Kateel Yakshagana mela

- It is a famous **Yakshagana troupe started in the mid-19th century.**
- The Yakshagana troupe, Kateel Sri Durgaparameshwari Yakshagana Dashavatara Mandali, popularly known as Kateel Mela is an important 'Harake Seva' (hosting the Yakshagana show for God fulfilling a wish) troupe.
- It performs on request by devotees who have taken a vow (Harake) to arrange a show of Yakshagana for fulfillment of a desire or as a service.

### Key facts about Yakshagana

- It is a **traditional folk dance form popular in Coastal Karnataka.**
- It is a rare combination of dance, music, song, scholarly dialogues and colourful costumes.
- Traditionally, men portray all roles, including the female ones, though women are now part of Yakshagana troupes.
- A typical troupe consists of 15 to 20 actors and a **Bhagawatha**, who is the master of ceremonies and the main storyteller.
- Elements of Yakshagana
  - **The Act:** Each performance typically focuses on a small sub-story (known as 'Prasanga') from ancient Hindu epics of Ramayana or Mahabharata.
  - The show consists of both **stage performances** by talented artists and **commentary** (performed by the lead singer or Bhagawatha) accompanied by traditional music.
  - **The Music:** Musical instruments used in Yakshagana include Chande (drums), Harmonium, Maddale, Taala (mini metal clappers) and flute among others.
  - **The Dress:** Costumes used in Yakshagana are very unique and elaborate. Large size headgear, coloured faces, elaborate costumes all over the body and musical beads on the legs (Gejje).

## 8.2 Aligarh Muslim University (AMU)

*The Supreme Court recently said that over the last hundred years, Aligarh Muslim University (AMU) has continued to be an institute of national importance, without the minority tag, and asked how it matters for the people whether it is a minority institution or not.*

### About Aligarh Muslim University (AMU)

- It is a **government-run education institution situated in Aligarh, Uttar Pradesh.**
- **History:**

- It was originally established by social reformer **Sir Syed Ahmad Khan as the Mohammedan Anglo-Oriental College in 1875.**
- In the aftermath of the 1857 Indian War of Independence, the College was built on Khan's conviction that it was important for Muslims to gain education and become involved in public life and government services in India.
- **Raja Jai Kishan helped Sir Syed establish the college.**
- From its very inception, it has kept its door open to members of **all communities** and from all corners of the country and the world. The university is open to all irrespective of **caste, creed, religion, or gender.**
- AMU is recognised by the University Grant Commission (UGC) and the Association of Indian Universities (AIU).
- AMU offers more than **300 courses** in the traditional and modern branches of education.
- It has **three off-campus** centres: AMU Malappuram Campus (Kerala), AMU Murshidabad Centre (West Bengal), and Kishanganj Centre (Bihar).

### 8.3 Netaji Subhas Chandra Bose

Overview:

*Leaders like Netaji Subhas Chandra Bose are "immortal" and do not need bestowing of a recognition through a judicial diktat, the Supreme Court said recently.*

#### About Netaji Subhas Chandra Bose

- He was an Indian nationalist leader who was a key figure in the Indian independence movement against British colonial rule.
- He was born on January 23, 1897, in Cuttack, Orissa.
- In 1920, he passed the civil service examination, but in April 1921, after hearing of the nationalist turmoil in India, he resigned from his position.
- Bose then joined the Indian National Congress and actively participated in the Indian independence movement.
- Bose at first worked with C.R. Das in Bengal, under whose mentorship he flowered.
- He was a close associate of Mahatma Gandhi and Jawaharlal Nehru.
- Bose was elected president of the Indian National Congress for two consecutive terms but resigned from the post following ideological conflicts with Mahatma Gandhi.
- In 1939, he formed the Forward Bloc, an organization aimed at unifying all the anti-British forces in India.
- Netaji was strongly influenced by Swami Vivekananda's teaching and was known for his patriotic zeal as a student.
- At the outset of the Second World War, he fled from India and traveled to the Soviet Union, Germany and Japan, seeking an alliance with the aim of attacking the British in India.
- With Japanese assistance, he reorganized and later led the Indian National Army, formed from Indian prisoners-of-war and plantation workers from Malaya, Singapore, and other parts of Southeast Asia, against British forces.
- With Japanese monetary, political, diplomatic, and military assistance, he formed the Azad Hind Government in exile, and regrouped, and led the Indian National Army in battle against the allies at Imphal and in Burma.

He is believed to have died on August 18, 1945, in a plane crash over Taiwan. The exact circumstances of his death are still shrouded in mystery and controversy.

#### 8.4 Parakram Diwas

Overview:

*The Prime Minister of India has extended greetings to the people of India on Parakram Diwas.*

##### About Parakram Diwas

- It is celebrated on **January 23** to commemorate the birth anniversary of freedom fighter **Subhas Chandra Bose**.
- This year marks the **127th birth anniversary of Bose**, fondly known as 'Netaji'.
- Parakram Diwas aims to instil fearlessness and patriotism, especially among the youth, inspiring them to stand strong in the face of challenges.

##### Key points about Subhas Chandra Bose

- He was born on January 23, 1897, in Cuttack, Orissa.
- In **1920**, he passed the **civil service examination**, but in April 1921, after hearing of the nationalist turmoil in India, he resigned from his position.
- He was an **Indian nationalist leader** who was a key figure in the Indian independence movement against **British colonial rule**.
- Bose then joined the Indian National Congress and actively participated in the Indian independence movement.
- **President of Indian National Congress**: Bose was elected president of the Indian National Congress for two consecutive terms but resigned from the post following ideological conflicts with Mahatma Gandhi.
- In 1939, he formed the Forward Bloc, an organization aimed at unifying all the anti-British forces in India.
- At the outset of **the Second World War**, he fled from India and traveled to the Soviet Union, Germany and Japan, seeking an alliance with the aim of attacking the British in India.
- With Japanese assistance, he reorganized and later led the Indian National Army, formed from Indian prisoners-of-war and plantation workers from Malaya, Singapore, and other parts of Southeast Asia, against British forces.
- Also with Japanese monetary, political, diplomatic, and military assistance, he formed the Azad Hind Government in exile, and regrouped, and led the Indian National Army in battle against the allies at Imphal and in Burma.

#### 8.5 Chandubi Festival

*Recently, the Chandubi Festival was celebrated along the **Chandubi Lake** in the state of **Assam**.*

##### About Chandubi Festival

- It is organised every year for **five days starting from the first day of the New Year along the Chandubi lake**, which is situated in the state of Assam.
- The main attractions of the Chandubi festival are the **local folk culture, ethnic cuisine, local handloom and dresses, boating, etc.**
- The major aim of the Chandubi Festival is to **promote eco-tourism** in this biodiversity hotspot of Assam.

- **Preserving the waterbody**, the water level of which has rapidly been lowering over the years, has been the motive for organising the festival every year.
- The festival has been providing an opportunity to generate livelihood to different **tribes – Rabhas, Garos, Gorkhas and tea tribes** – living in the area by selling different food items and homemade beverages, and traditionally woven attire.

### Key points about Chandubi lake

- It was created during a massive **earthquake in the year 1897**.
- The name Chandubi is derived from two words where **Chand** means **five** and **Dubi** means **sinking in Khasi language**.
- This freshwater lake was turned to an economically viable water body that would sustain different communities living around the lake.
- It is a very prosperous wetland of the state that houses numerous species of aquatic flora and fauna.

### 8.6 Key Facts about Saqqara

*Archaeologists in Egypt recently unearthed tombs containing mummy masks and a 'god of silence' statue at Saqqara.*

#### About Saqqara

- It is part of the **necropolis (burial place) of the ancient Egyptian city of Memphis**.
- It is located on the **western bank of the Nile, 40 kilometers south of Cairo**, the capital of Egypt.
- Saqqara's name derives from the name of **the burial god Sokar**.
- It was an active burial ground for more than 3500 years and is Egypt's largest archaeological site.
- It is where the transition from the use of the mastaba (ancient Egyptian tombs, in the form of a massive brick or stone mound with battered walls on a rectangular base) as a burial site to the pyramid design that is more popularly known today took place.
- **Sakkara is best known for the Step Pyramid, the oldest of Egypt's 97 pyramids.**
  - It was built in 2700 BC for King Djoser (Zoser) of the 3rd Dynasty by the architect and genius Imhotep, who was the first to build stone tombs in honor of the king's majesty.
  - Today, it is considered one of the oldest stone structures built by man, and it was the first time the Ancient Egyptians would attempt to use limestone.
  - Zoser's Pyramid is entirely built of limestone, small bricks of limestone, and not of the best quality, and yet it has remained for more than 4700 years.

### 8.7 Who was Guru Gobind Singh?

*Guru Gobind Singh Jayanti, or the Prakash Parv of the tenth Sikh Guru, is celebrated on January 17 this year.*

#### About Guru Gobind Singh

- He was the **10th and last** human Guru of the Sikhs.
- Born as Gobind Rai on December 22, 1666, in **Patna, Bihar**, Guru Gobind Singh was the **son of the ninth Guru of Sikhism, Guru Teg Bahadur**.

- He became the **spiritual and temporal leader of the Sikhs** on November 11, 1675, at the age of nine, following the martyrdom of his father, **Guru Tegh Bahadur, at the hands of the Mughal emperor Aurangzeb in 1675.**
- He was renowned as a warrior, a poet, and a prophet.
- He is fondly remembered by Sikhs as a **defender of the faith** and a champion of equality and justice.
- Among his notable contributions to Sikhism are founding the Sikh warrior community called **Khalsa in 1699.**
  - He introduced the **Five Ks**, the five articles of faith that Khalsa Sikhs wear at all times. These are **Kesh**: uncut hair, **Kangha**: a wooden comb, **Kara**: an iron or steel bracelet worn on the wrist, **Kirpan**: a sword, and **Kacchera**: short breeches.
- Throughout his life, he engaged in numerous battles against the Mughal Empire and their allies, totaling **21 battles.**
  - Some of the notable battles include the **Battle of Bhangani, the Battle of Nadaun, the Battle of Anandpur, the Battle of Chamkaur, the Battle of Muktsar, and the Battle of Khidrana.**
- He authored numerous literary works in various languages. Among his famous works are **Jaap Sahib, the Tav-Prasad Savaiye, and the Benti Chaupai.**
- He further **codified Sikh law**, wrote **martial poetry and music**, and was the reputed author of the Sikh work called the **Dasam Granth ("Tenth Volume").**
- Guru Gobind Singh proclaimed that he was the **last of the personal Gurus.** From that point forward, the Sikh Guru was to be the holy book, the **Guru Granth Sahib (Sikh Holy Book).**
- He was **assassinated in 1708, at the age of 41.**
- His birth anniversary is called **Guru Gobind Singh Jayanti**, and his death anniversary is called **Guru Gaddi Diwas.**

### 8.8 Pakke Paga Hornbill Festival

*The 9th edition of the Pakke Paga Hornbill Festival (PPHF), a state festival of **Arunachal Pradesh**, will take place at Seijosa in the Pakke Kessang district from January 18-20, 2024.*

#### About Pakke Paga Hornbill Festival

- The first-ever PPHF was held in **2015.**
- **The aim was to recognise the role played by the Nyishi tribal group in conserving hornbills in Pakke Tiger Reserve (PTR).**
- Other objectives were to raise alternative sources of income for the region and to create awareness in the rest of India about the wonders of PTR and its surrounding areas.
- This year, the festival's theme is Domutoh Domutoh, Paga hum Domutoh. It translates to 'Let Our Hornbills Remain' in the Nyishi language.
- This year's festival aims to underscore the critical need for preserving these iconic birds.

#### Key points about Pakke Tiger Reserve

- It is located in the **East Kameng district of Arunachal Pradesh.**
- It is surrounded by the **Tenga Reserve Forest to the North**, Doimara Reserve Forest on the **West**, Nameri National Park and Tiger Reserve (Assam) on the **South.**



- The landscape has high species diversity and endemism as it forms the transition zone between the Indian and Malayan eco-regions.
- It is situated North of the river Brahmaputra in the transition zone between the Assam plains and the hilly forests of Arunachal Pradesh.
- Vegetation: It consists of tropical evergreen and semi-evergreen forest.
- Flora: Polyalthia simiarum, Pterospermum acerifolium, Sterculia alata, Stereospermum chelonoides, Ailanthus grandis and Duabanga grandiflora. About eight species of bamboo occur in the area.
- Fauna: Tiger, Elephant, predators like Leopard and Clouded leopard etc.

### 8.9 THIRUVALLUVAR DAY

*Recently, the Prime Minister of India paid tributes to Saint Thiruvalluvar on Thiruvalluvar Day.*

#### About Thiruvalluvar Day

- **Thiruvalluvar Day was first celebrated on May 17 and 18 in 1935.**
- In the present time, it is usually observed either on **January 15 or 16 in Tamil Nadu and is a part of Pongal celebrations.**
- The occasion is named after and honours the poet, Thiruvalluvar

#### Who is Thiruvalluvar?

- He was a **poet and philosopher, is regarded as a cultural icon by Tamils.**
- He is fondly referred to as **Valluvar by Tamils.**
- His most popular work is Thirukkural, a collection of couplets on ethics, politics, economy and love.
- Thiruvalluvar's primary work Thirukkural contains 1330 couplets (kurals) that are divided into 133 sections of 10 couplets each.
- The text is divided into three parts with teachings on dharma, artha, and kama (virtue, wealth and love).
- Each section covers a wide range of topics and imparts moral, ethical, and practical guidance to the readers.
- The couplets are composed in a concise and poetic form, making them easily memorable and quotable.

### 8.10 Guruvayur Temple

*The Prime Minister, who is on a two-day visit to Kerala, offered prayers at Sreekrishna Temple, Guruvayur, recently.*

#### About Guruvayur Temple

- Guruvayoor Sree Krishna Swamy Temple, also known as the Dwarka of the South, is dedicated to Lord Vishnu and the young form of Lord Krishna.
- It is located in the small town of Guruvayur, in the Thrissur District of Kerala.
- The earliest temple records date back to the 17th century, but other literary texts and legends indicate that the temple may be around 5000 years old.
- Features:
  - Lord Krishna, or Guruvayoorappan, is the chief deity of this temple.
  - The temple is built in the traditional Kerala architectural style.
  - The central shrine is believed to have been rebuilt in 1638 C.E.

- Structures like the Nalambalam (temple structure surrounding the sanctum sanctorum), Balikkal (sacrificial stone), and Deepastambam (pillar of lights) are situated on the temple premises.
- The wall of the sanctum sanctorum is decked with ancient 17th-century murals.
- Another famous sight here is the Dwajasthamba. It is a flagstaff, around 70 feet tall, fully covered with gold.
- One of the most popular offerings at Guruvayoor temple is Thulabharam, where devotees are weighed against bananas, sugar, jaggery, and coconuts equivalent to their weight on a giant pair of scales.
- The temple is also noted for being home to a large population of captive male Asian elephants.
- The Punnathur Kotta elephant sanctuary, where 56 elephants live, is very close to the temple.

### 8.11 Jagannath Temple

*Recently, the Chief Minister of Odisha unveiled a sprawling heritage corridor around the Jagannath Temple in Puri.*

#### About Jagannath Temple

- It is located in Puri, Odisha.
- It is one of the most famous and sacred Hindu temples in the world.
- It is dedicated to Lord Jagannath, a form of the Hindu deity Vishnu.
- It is believed to have been built during the reign of King Anantavarman Chodaganga Deva, of the Eastern Ganga dynasty, in the 12th century.
- This temple is called 'Yamanika Tirtha' where, according to the Hindu beliefs, the power of 'Yama', the god of death, has been nullified in Puri due to the presence of Lord Jagannath.
- Architecture: The Jagannath Temple is a striking example of Kalinga architecture, a distinct style prevalent in the Odisha region.
- The temple's main structure, the sanctum sanctorum, or the garbhagriha, houses the idols of Lord Jagannath, Balabhadra, and Subhadra.
- Ratha Yatra is a Hindu festival associated with Lord Jagannath held at Puri in Odisha.
- The festival commemorates Jagannath's annual visit to Gundicha Temple via Mausī Maa Temple (aunt's home) near Balagandi Chaka, Puri.
- The most famous Rath Yatra festival begins on the second day of the bright half of the lunar month of Ashadha (June–July) and lasts for nine days.
- During this time, the deities are taken out of the Jagannath Puri Temple and placed on three massive chariots.

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#### Q1) What is the Kalinga architectural style?

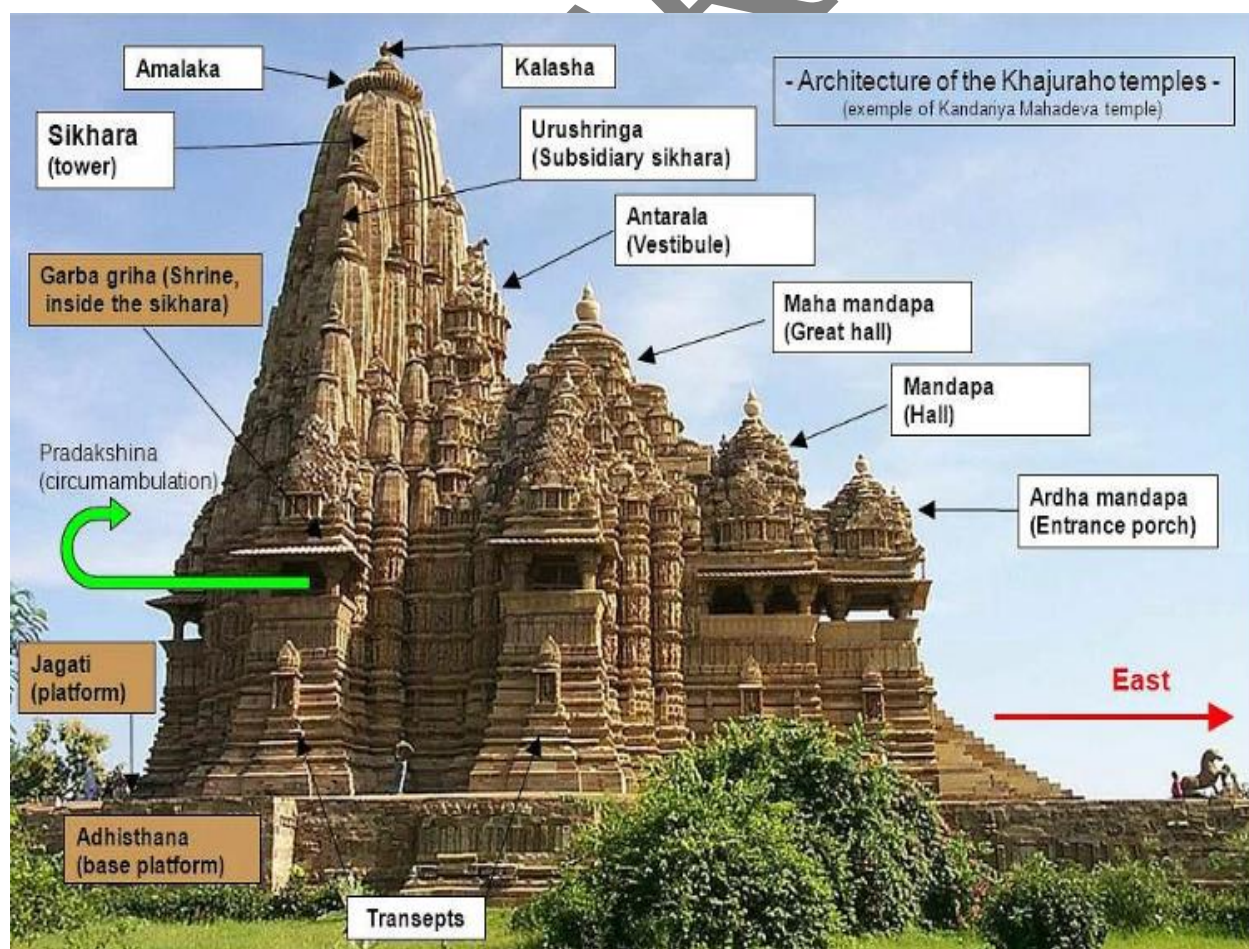
It is a style of Hindu architecture which flourished in the ancient Kalinga previously known as Utkal and in present-day eastern Indian state of Odisha. The style consists of three distinct types of temples: Rekha Deula, Pidha Deula and Khakhara Deula.

### 8.12 Nagara style

*The Ram temple in Ayodhya will be inaugurated on January 22. The complex is in the Nagara style of temple architecture, designed by 81-year-old Chandrakant Sompura and his 51-year-old son Ashish.*

#### About the Nagara style

- Nagara architecture is a classical architecture of temple design in northern India, contrasted with Dravida architecture in southern India.
- Nagara temples have a shikhara (mountain peak) over the garbha griha (sanctum sanctorum), a circumambulatory passage around it, and one or more mandapas (halls).
- Shikhara is a symbolic representation of the cosmic order and the divine presence.
- There are five modes of shikhara design: Valabhi, Phamsana, Latina, Shekhari, and Bhumija.
  - Valabhi and Phamsana are Early Nagara modes, derived from barrel-roofed wooden structures.
  - Latina is a single, slightly curved tower with four equal sides, dominant for three centuries.
  - Shekhari and Bhumija are composite Latinas with attached sub-spires or miniature spires, creating a complex and ornate appearance.
- These modes are scholastic classifications, not rigid categories. There is much variation and innovation within and across these modes.



### 8.13 Madhika language

Overview:

*In the remote colony of Kookanam, near Karivellur grama panchayat in Kerala, the Chakaliya community is grappling with the imminent loss of its unique language Madhika.*

### About Madhika language

- It is a language spoken by the **Chakaliya community**.
- **It does not have a script.**
- Despite sounding similar to Kannada it can still **bewilder listeners** due to its diverse influences.
- **It is a blend of Telugu, Tulu, Kannada, and Malayalam.**
- It is largely influenced by **Havyaka Kannada, an old form of Kannada.**
- It is fast becoming extinct with the younger generation opting for Malayalam.

### Key facts about Chakaliya community

- The community was nomadic and worshippers of **Thiruvengattaramana and Mariamma**.
- They migrated to northern Malabar from the hilly regions of Karnataka centuries ago.
- Initially they were recognised as **Scheduled Tribe**, but were later included in the Scheduled Caste category in Kerala.
- The mention of the community can be found in the book Caste and Tribes of Southern India.

### Government of India's Initiative to preserve languages

- The Government of India has initiated a Scheme known as "Scheme for Protection and Preservation of Endangered Languages of India" (SPPEL).
- Under this Scheme, the Central Institute of Indian Languages (CIIL), Mysore works on protection, preservation and documentation of all the mother tongues/languages of India spoken by less than 10,000 people which are called endangered languages.

### 8.14 What are Grantha Inscriptions?

Overview:

*A team of archaeologists recently discovered two stone inscriptions of 'Grantha' and Tamil dating 11th and 16th centuries respectively at Pazhnchervazhi village near Kangayam.*

### About Grantha Inscriptions

- Grantha is an important historical script that was once used to write Sanskrit throughout South East Asia and greater Tamil Nadu.
- The word Grantha denotes in Sanskrit 'a literary work'. Evidently, the script used for writing the Sanskrit works obtained the same name.
- At one time, it was prevalent throughout South India.
- When the Malayalam language began to freely borrow words as well as the rules of grammar from Sanskrit, this script was adopted for writing that language and was known as Arya Ezhuthu.
- Both Grantha and Tamil scripts appear alike in modern forms. The evolution of both scripts from Brahmi was also more or less similar.



- The development of the Grantha script in Tamil Nadu may be divided into four periods. The archaic and ornamental, the transitional, the medieval, and the modern.
- Archaic and ornamental variety is commonly known as Pallava Grantha. Mahendravarman's Tiruchirappalli rock cut cave and other cave temple inscriptions, Narasimhan's Mamallapuram, Kanchi Kailasanatha, and Saluvankuppam temple inscriptions, Mutharaiyar's Senthalai inscriptions are examples of this variety.
- The transitional variety of Grantha inscriptions roughly belong to three centuries between 650 CE and 950 CE. Later Pallava's (Nandivarman's Kasakudi, Udayendram plates, etc.) and Pandyan Nedunjadaiyan's Anaimalai inscriptions are samples of this.
- The medieval variety dates from about 950 CE to 1250 CE. Inscriptions of the imperial Cholas of Thanjavur are examples of this.
- The modern variety belongs to the later Pandya's and Vijayanagarar periods.
- It was popular in Tamil Nadu until the early 20th century.
- After the introduction of printing machines, many Sanskrit books transcribed from palm leaves were printed in Grantha script.

After Independence, the popularity of Hindi in Deva Nagari script influenced all printing works, and Grantha script went out of vogue.



# 9. Sports

## 9.1 National Sports and Adventure Awards 2023

*Recently, the President of India presented the National Sports and Adventure Awards 2023 at a function in Rashtrapati Bhavan.*

### About National Sports and Adventure Awards 2023

- National Sports Awards are given every year to **recognize and reward excellence in sports.**
- Categories of National Sports Award
  - **Major Dhyan Chand Khel Ratna Award:** It is considered India's highest sporting honour, the Khel Ratna was established in 1991-92.
  - The award is named after the Indian hockey legend, Major Dhyan Chand
  - The award is given for outstanding performances in sports spanning over a period of four years and the **Khel Ratna** winners receive a medallion, certificate and a cash prize.
  - **Arjuna Award:** It is awarded for consistent good performance over a period of four years. The winners of the Arjuna Award receive a statuette of Arjuna, a certificate and a cash prize.
  - **Dronacharya Award:** It was instituted in 1985, is India's highest sports honour for coaches. It is awarded to individuals for producing medal winners at prestigious international events. Awardees receive a bronze statue of Dronacharya, a certificate and a cash prize.
  - **Major Dhyan Chand Award:** This award represents India's highest honour for lifetime achievements in sports. Presented for good performance and contributing towards the promotion of sports in an individual capacity since 2002, the winners get a Dhyan Chand statuette, a certificate and a cash prize.
  - **Maulana Abul Kalam Azad Trophy (MAKA):** It was instituted in 1956-1957. It is given to an institution or university for top performance in inter-university tournaments over the last one year.
  - **Rashtriya Khel Protsahan Puraskar:** Awarded to organisations or corporates (both private and public) and individuals for playing a role in the area of sports promotion and development over the last three years, the Rashtriya Khel Protsahan Puraskar has been a fixture in the National Sports Awards list since 2009.

## 9.2 Khelo India Youth Games- 2023

*Recently the Prime Minister inaugurated the Khelo India Youth Games and expressed the government's commitment to hosting the 2029 Youth Olympics and the 2036 Olympic Games in the country.*

### About the Khelo India Youth Games- 2023

- Tamil Nadu is hosting the sixth edition of the Khelo India Youth Games. This is the first time that Khelo India Youth Games are being held in South India.
- The Games will be played across four cities of Tamil Nadu, namely Chennai, Madurai, Trichy and Coimbatore from 19th to 31st January 2024.

- This edition of Khelo India Youth Games will see participation from over 5600 athletes with over 275 competitive events across 26 sports disciplines and 1 demo sport.
- Silambam, a traditional sport of Tamil Nadu, is being introduced as a demo sport for the first time in the history of Khelo India Youth Games and the sport of Squash shall be organised for the first time in this edition of the Games.
- The Mascot: 'Veera Mangai'. Rani Velu Nachiyar, fondly known as Veera Mangai, was an Indian queen who waged a war against British colonial rule.
- The logo: The figure of poet Thiruvalluvar.

**Background**

- Objective: To revive the sports culture in India at the grass-root level by building a strong framework for all sports played in our country and establish India as a great sporting nation.
  - It is an annual event. The first edition was held in 2018 in Delhi.
- Organised by: Ministry of Youth Affairs & Sports.

# 10. Miscellaneous

## 10.1 Amrit Bharat Station Scheme (ABSS)

The **Udupi station under the Konkan Railway Corporation Ltd. (KRCL) network** was recently included in the Railway Ministry's Amrit Bharat Station Scheme (ABSS) for redevelopment.

### About Amrit Bharat Station Scheme (ABSS)

- It is an **ongoing Indian Railways mission** launched in February 2023 by the Ministry of Railways **to redevelop 1,309 stations nationwide**.
- The scheme aims to transform railway stations into modern, well-equipped hubs with improved passenger amenities, better traffic circulation, inter-modal integration, and enhanced signage.
- It is based on Master Planning for the long term and the implementation of the elements of the Master Plan as per the needs and patronage of the station.
- The scheme shall cater for the introduction of new amenities as well as the upgradation and replacement of existing amenities.
- The ultimate goal is to transform these stations into vibrant city centres over the long term.
- Key Features:
  - **Modern passenger amenities:** This includes providing clean and hygienic waiting areas, restrooms, Special amenities for the disabled, and food and beverage outlets.
  - **Improved traffic circulation:** This includes creating separate entry and exit points for passengers and vehicles, widening roads and footpaths, and providing adequate parking facilities.
  - **Inter-modal integration:** This includes providing seamless connectivity between railway stations and other modes of transport, such as buses, taxis, and auto-rickshaws.
  - **Upgraded signage:** This includes providing clear and visible signage in multiple languages to guide passengers.
  - **Sustainability:** This includes using energy-efficient lighting and appliances.
  - **Eco-friendliness:**
    - **Rainwater harvesting** systems and green spaces
    - Ballastless tracks, which reduce noise and vibration
    - Roof plazas, where available, provide additional space for commercial activities and passenger amenities.

## 10.2 ANUBHAV Awards

The submission deadline for ANUBHAV Awards Scheme 2024 is March 31, 2024.

### About ANUBHAV Awards

- It recognizes the contribution made by **Retired Officials** to Nation building while working in Government and to document the administrative history of India by written narratives.

- The ANUBHAV Portal, established in March 2015, serves as an online platform for retiring and retired government employees to share their experiences.
- The portal was launched by the Government of India, **Ministry of personnel, Public Grievances & Pensions, Department of Pension & Pensioners' welfare.**
- Objectives
  - **It aims to create a database of significant suggestions and work experiences.**
  - It channelise the human resource of retiring employees for nation building.
  - Enable Ministries/ Departments to take crucial steps while considering useful and replicable suggestions.
- **Eligibility:** To participate in the scheme, retiring Central Government employees/pensioners are required to submit their Anubhav write ups, 8 months prior to retirement and up to 1 year after their retirement.
- Thereafter, the write-ups will be published after assessment by concerned Ministries/Departments. The published write-ups will be shortlisted for Anubhav Awards and Jury Certificates.
- Each ANUBHAV Awardees will be felicitated with a medal and certificate and a Prize of **10,000 rupees**, whereas a **Jury certificate** Winner will be presented with a medal and a certificate.
- Till date, 54 ANUBHAV awards have been conferred from 2016 to 2023.

### 10.3 Lentil Production

*India is set to become the world's largest producer of lentil (masoor) during the 2023-24 crop years on account of higher acreage.*

#### About Lentil

- It is a valuable human food, mostly consumed as dry seeds.
- In India, it's mostly consumed as '**Dal**' by removal of outer skin and separation of cotyledons.
- Lentil is also called **Masur and Malka** (bold seeded).
- Climatic condition
  - Lentil requires a cold climate.
  - It is very hardy and can tolerate frost and severe winter to a great extent.
  - It requires cold temperature during its vegetative growth and warm temperature at the time of maturity.
  - Temperature: The optimum temperature for growth is 18-30°C. Its range of cultivation extends to an altitude of 3,500 m in north-west hills.
  - Soil: Well drained, loam soils with neutral reaction are best for lentil cultivation. Acidic soils are not fit for growing lentil.
- It is widely cultivated throughout Europe, Asia, and North Africa.
- The Lentil growing states in India are Madhya Pradesh, Uttar Pradesh, Bihar, Chattisgarh, Haryana, Punjab, Maharashtra, Rajasthan, etc
- It is easy to cook and easily digestible with high biological value. Dry leaves, stems, empty and broken pods are used as valuable cattle feed.
- According to the Food and Agriculture Organization (FAO), the world's top lentil growers in 2022 were Canada, India, Australia, Turkey and Russia.
- Despite being the second largest producer of lentil, India has so far been importing mainly from Australia, Canada, Russia, Singapore, and Turkey.

- During the current year, it also imported some quantities of lentil from UAE, USA, Sri Lanka and Nepal.

#### **10.4 e-SAKSHI Application**

*Recently, the Minister of State (Independent Charge) of the Ministry of Statistics and Programme Implementation (MoSPI) launched the MPLADS e-SAKSHI Mobile Application.*

##### **About e-SAKSHI Application**

- It was launched for revised fund flow procedure under Members of Parliament Local Area Development Scheme (MPLAD) Scheme.
- It will bring forth a myriad of benefits, revolutionizing the way Members of Parliament engage with and manage development projects in their constituencies.
- It would offer convenience and accessibility, allowing MPs to propose, track, and oversee the projects at their fingertips.
- This real-time access enhances decision-making processes, enabling swift responses to emerging needs or issues.
- The application will streamline the communication between MPs and relevant authorities, facilitating a more efficient exchange of information.
- It will promote transparency by providing MPs with instant updates on the status and progress of their proposed projects.
- It has the features for budget management, ensuring MPs can monitor expenditures.

##### **Key points about MPLAD Scheme**

- It was first introduced in 1993.
- Initially, the Ministry of Rural Development was the Nodal Ministry for this scheme. In October, 1994 this scheme was transferred to the Ministry of Statistics and Programme Implementation.
- The Scheme is fully funded by the Government of India under which funds are released in the form of grants-in-aid directly to the district authorities.
- The funds released under the Scheme are non-lapsable, i.e., the entitlement of funds not released in a particular year is carried forward to the subsequent years, subject to eligibility.
- At present, the annual entitlement per MP/ constituency is 5 crore rupees.
- The role of the Members of Parliament is limited to recommend works. Thereafter, it is the responsibility of the district authority to sanction, execute and complete the works recommended within the stipulated time period.
- The elected Lok Sabha Members can recommend works in their respective constituencies.
- The elected members of the Rajya Sabha can recommend works anywhere in the state from which they are elected.
- Nominated Members of the Parliament can recommend works for implementation, anywhere in the country.
- MPLADS works can be implemented in areas affected by natural calamities like floods, cyclone, hailstorm, avalanche, cloudburst, pest attack, landslides, tornado, earthquake, drought, tsunami, fire and biological, chemical, radiological hazards, etc.



In order to accord special attention to the development of areas inhabited by Scheduled Castes (SCs) and Scheduled Tribes (STs), 15 per cent of MPLADS funds are to be utilized for areas inhabited by SC population and 7.5 per cent for areas inhabited by ST population.

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