



# **SFG Essential Current Affairs**

**Quarterly compilation**  
for Civil Services Prelims Examination

**PRELIMS 2025**

**APRIL 2024 – JUNE 2024**



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**Dear Readers,**

As the month of December starts, even the chilly winters get heated up as lakhs of aspirants begin a heated struggle to clear the first hurdle of UPSC race- PRELIMS 2025. Current Affairs portion often becomes an Achilles' heel for the aspirants in the marathon of UPSC Prelims preparation.

Now no more! Welcome to the new edition of FORUMIAS QUARTERLY, where we have carefully curated the most important current affairs in a concise but comprehensive manner. Only the most important current affairs have been selected driven by the guiding mantra of FORUM IAS – QUALITY OVER QUANTITY.

Our goal with this publication is not only to inform but to engage. We, as an organization, have always believed in the Socratic philosophy of dialectic engagement. Hence, special focus has been to provide you with ample spaces for your active engagement and personalized customization. One thing is guaranteed from our end, that each article has been carefully curated and crafted to ensure that it adds value to your preparation.

The Choice is yours now to choose between learning less and scoring more or learning more and scoring less. If your choice is the first option, flip the page and start the sprint of Current affairs preparation for UPSC PRELIMS 2025.

Stay engaged, stay informed, and stay curious!

Warm regards,

**Editorial Team**

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For any feedback or suggestions you can write to us at [academy@forumias.in](mailto:academy@forumias.in)

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**1. Article 31(C); Article 39(b) of the Constitution and Private Properties**

**News:** Supreme Court is deciding on the question whether private properties can be seen as "community resources" under Article 39(b). SC is also reviewing the validity of Article 31C after the Minerva Mills case.

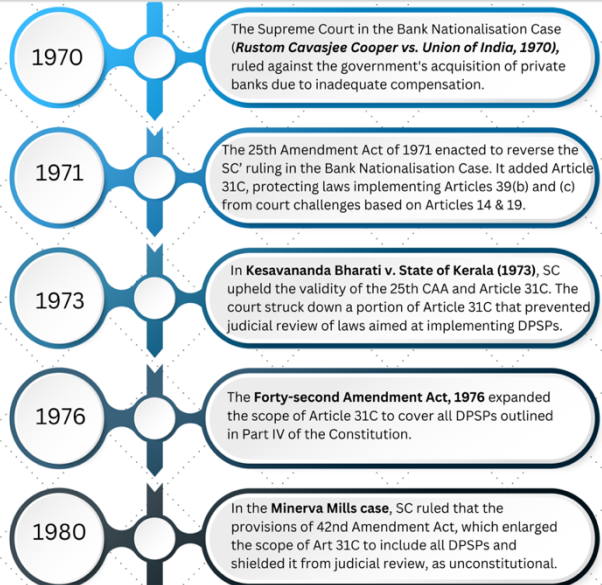
**About Article 39(b)**

- It obligates the state to develop policies that ensure the **ownership and control of community resources** are distributed to **best serve the common good**.

**About Article 31(C)**

- Article 31(C) was added to the Constitution through the **25th Amendment Act, 1971**.
- Article 31(C) states that laws passed to implement the objectives of Article 39(b) and (c) **cannot not be challenged** for violating fundamental rights under **Articles 14 and 19**.

**Timeline of 25th Amendment and Evolution of Article 31C**

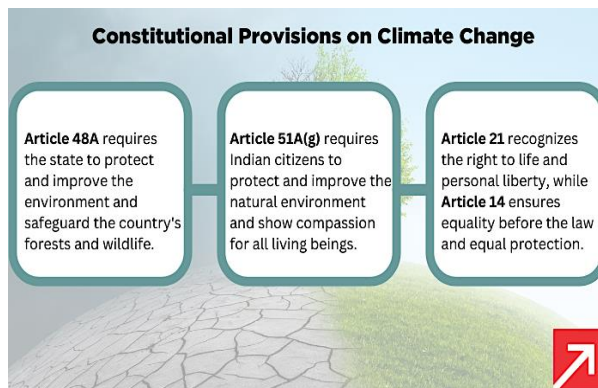


**2. Right against Climate Change as Fundamental Right**

**News:** The Supreme Court in its latest judgement has recognized the right against the adverse effects of climate change as a distinct fundamental right in the Constitution.

**About the Supreme Court Ruling**

- In *MK Ranjitsinh v. Union of India (Also known as Great Indian Bustard case) 2021*, the Supreme Court stated that the right to protection from climate change is linked to the **right to life (Article 21)** and the **right to equality (Article 14)** in the Indian Constitution.
- The Court also emphasized that the rights under Article 21 and Article 14, cannot be fully enjoyed without a clean and stable environment.





- In the 2000 case of *MC Mehta vs. Kamal Nath*, the Supreme Court declared that the right to a clean environment is an extension of the right to life under article 21.

### 3. SC on Misleading advertisement

**News:** The Supreme Court urged the government to address misleading advertisements by FMCG (Fast-Moving Consumer Goods) firms

#### About Misleading advertisement

Misleading advertising refers to any claim made in publications that creates a false impression of a product or service for the consumer.

#### Legal provisions to counter misleading advertisements

- **The Drugs and Other Magical Remedies Act (DOMA), 1954**, prohibits misleading ads in medicine, with penalties of up to six months in jail or a fine, and harsher penalties for repeat offenses
- **Under the Consumer Protection Act, 2019**, misleading ads can lead to up to two years in prison and a fine of up to 10 lakh rupees. Repeat offenses may result in up to five years' imprisonment and a higher fine.
- **Food Safety and Standards Act, 2006:** Penalties for misleading food advertisements.
- **Guidelines for Prevention of Misleading Advertisements and Endorsements for Misleading Advertisements, 2022'** issued by Central Consumer Protection authority (CCPA).

### 4. Curative Petition

**News:** The SC recently set aside the 2017 Arbitral award in the Delhi Metro-Reliance Infrastructure dispute. This has raised questions about the use of curative petition in a commercial case.

#### About Curative Petition

- It is the *final option* to seek relief from the Supreme Court.
- Curative petitions *can be filed after a review plea against the final conviction is dismissed*. The decision of Supreme Court is final in this regard. Curative petition is not an appeal.
- The aim of curative petition is to *prevent miscarriage of justice* and discourage abuse of the legal process.
- The principles governing curative petitions were established by the Supreme Court in the *Rupa Ashok Hurra v. Ashok Hurra & Another Case, 2002*.

#### Constitutional Support

- **Article 137** of the Indian Constitution broadly endorses the concept of a curative petition.

#### Criteria for admission

- It can be considered if the petitioner proves that the *principles of natural justice have been violated*.

- It can be admitted where a judge has failed to disclose facts that raise the apprehension of bias.

#### Guidelines for filing a Curative Petition

- A curative petition *requires certification from a senior advocate* listing several valid reasons for consideration.
- The petition is *first reviewed by a bench of the three senior-most judges*, along with the judges who gave the original judgment, if available.
- If majority of judges find a hearing necessary, it is scheduled, ideally before the same bench that issued the original judgment.

### 5. Ladakh demand for inclusion into Sixth Schedule

**News:** The people of Ladakh have been protesting for inclusion of Ladakh under the Sixth Schedule.

#### About Sixth Schedule

- **Article 244(2)** of the Indian Constitution provides for the Sixth Schedule that applies to the administration of tribal areas in the states of *Assam, Meghalaya, Tripura, and Mizoram*.
- The Sixth Schedule provides for the establishment of *autonomous district councils (ADCs)* or *regional autonomous councils (RCs)* to govern these areas.

#### Key features

- **Autonomous Districts and Autonomous Regions-**
  - ✓ The Governor is empowered to organize and reorganize the autonomous districts
  - ✓ He can also increase, decrease the boundaries or alter the name of any autonomous district.
  - ✓ If an autonomous district is inhabited by different Scheduled Tribes, the Governor can divide the district into separate Autonomous Regions.
- **Autonomous District Councils (ADCs) and Autonomous Regional Councils (ARCs)**
  - ✓ **Composition of ADCs-** ADCs consists of *not more than thirty members*, with *four nominated by the Governor* and the rest elected. The Bodoland Territorial Council is an exception, allowing up to forty-six members.
  - ✓ **ARC's-** A separate Regional Council shall be established for each area designated as an autonomous region.
  - ✓ **Powers-**Autonomous District Councils (ADCs) and Autonomous Regional Councils (ARCs) oversee land use, inheritance laws, and social customs. They *possess legislative, executive, and financial powers*, including the authority to collect taxes and manage local resources.
- **Exemptions and Modifications-** Acts of Parliament or state legislatures *may not apply directly or may apply with modifications*.

## 6. Allocation of Election Symbols

**News:** There has been a controversy in Maharashtra about allocation of similar symbols to a political party and an independent candidate in the General Elections 2024.

### About Allocation of Electoral Symbols

- The *Election Commission of India (ECI)* manages the allocation of symbols in elections.
- The *Election Symbols (Reservation and Allotment) Order, 1968* governs the reservation and allocation of symbols to recognized political parties.
- Symbols are **classified as either reserved** (reserved solely for recognized parties) or **'free'** (accessible to Unrecognized registered parties).
- **Recognized & Registered National and State Parties** get **Exclusive symbols**
- **Unrecognized registered parties** can select from **free** and **non-exclusive symbols**.  
**Note-** Rule 10B of the Symbols Order states that a 'registered unrecognized party' can use a common free symbol for two general elections.
- **Unrecognized & Unregistered parties** must choose **10 symbols** from the Commission's list and can suggest **3 new symbols** with designs and names for approval.
- The ECI may assign a proposed symbol as a common symbol if found suitable.
- In case of **split of a recognized political party**, the **Election Commission** determines the allocation of symbols.

## 7. Chief Election Commissioner and Other Election Commissioners (Appointment, Conditions of Service and Term of Office) Act, 2023

**News:** The President appointed Election Commissioners to fill two vacancies under the new appointment law.

### Constitutional provisions for appointment of ECs

Election Commissioners are appointed under **Article 324** of the Indian Constitution, which grants the Election Commission of India (ECI) the authority to supervise and control elections.

### Key features of the new act

- **Appointment-** The President appoints the CEC and ECs based on recommendations from a Selection Committee, which includes the Prime Minister, a Union Cabinet Minister, and the Leader of the Opposition.
- **A Search Committee**, led by the Law Minister, proposes a list of candidates to the Selection Committee.
- **Qualification of CEC and ECs:** Persons who are holding or have held posts equivalent to the rank of Secretary to the central government will be eligible to be appointed as CEC and ECs. Such people must have expertise in managing and conducting elections.
- **Salary-** The Bill provides that salary, allowance, and service conditions of the CEC and other ECs will be the same as that of the **Cabinet Secretary**.

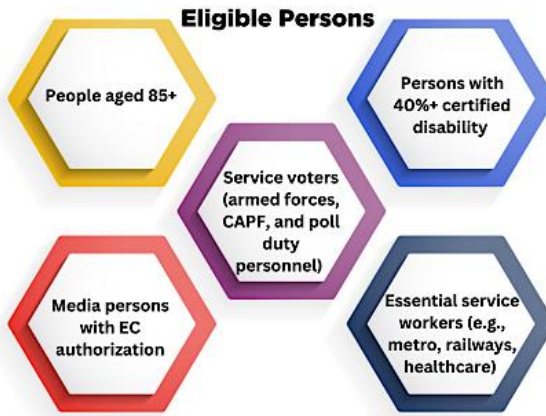
**8. Home Voting Facility**

**News:** The Election Commission of India (ECI) has introduced a home voting facility for the 2024 Lok Sabha elections.

**Procedure to Avail Facility-** Eligible voters must submit *Form 12D* to the Assistant Returning Officer (ARO), stating their inability to visit a polling station.

**Additional Initiatives by ECI for accessible voting**

- Implementing *Systematic Voter’s Education and Electoral Participation (SVEEP)* to engage and educate PwDs, their families, and officials.
- Introducing *Remote Electronic Voting Machine (RVM)* to allow migrant voters to vote from their current location.



**9. Powers of the Enforcement Directorate, Adjudicating Authority Under PMLA**

**News:** The Supreme Court recently upheld the Enforcement Directorate's broad powers under the Prevention of Money Laundering Act (PMLA) 2002.

**About PMLA**

- PMLA was enacted to *prevent money laundering and confiscating property* from illegal activities like drug trafficking, smuggling, and terrorism financing.
- The PMLA was enacted by Parliament under *Article 253*, to fulfill India’s obligations under international treaties and conventions like United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (1988), FATF recommendations.

**Key Powers of ED**

- **Probing Financial Crimes:** The ED investigates money laundering and economic offenses.
- **Freezing and Seizing Assets:** The ED can freeze and seize assets linked to illicit activities.
- **Property Attachment:** The ED can attach properties tied to money laundering for **180 days**, extendable by the Adjudicating Authority.
- **Issuing Summons:** Under *Section 50(2) of PMLA*, the ED can summon individuals to provide evidence or records.
- **Section 50(3):** Summoned persons must appear and provide truthful statements and documents.
- **Arrests:** The ED can arrest individuals for money laundering or foreign exchange violations, with or without a warrant.

Directorate of Enforcement

**About Enforcement Directorate (ED)**

- **ED** in the Department of Revenue, Ministry of Finance, is responsible for investigating the offences of money laundering and attachment of properties.

### About Adjudicating Authority under PMLA

- The PMLA provides for the establishment of an Adjudicating Authority to exercise the jurisdiction, powers, and authority granted under the Act.
- Under the PMLA, an **adjudicating authority decides within 180 days** whether the **properties attached** by the Enforcement Directorate (ED) are **linked to money laundering**.
- **Section 5** allows the seizure of property suspected to be acquired from proceeds of crime listed in the law's schedule.
- Attachment orders are issued when the ED Director suspects the proceeds may be concealed or moved.
- The provisional attachment lasts for 180 days. It **must be confirmed by an adjudicating authority** appointed by the central government within this period; otherwise, the property is automatically released.

**Right to Appeal:** The accused has the right to challenge the Adjudicating Authority's confirmation order at the PMLA's Appellate Tribunal **within 45 days**.

## 10. National Human Rights Commission (NHRC)

**News:** The Geneva-based Global Alliance of National Human Rights Institutions (GANHRI) has deferred accreditation for the National Human Rights Commission-India (NHRC) for the second consecutive year.

### About NHRC

It is a **statutory body** established under the **Protection of Human Rights Act, 1993** and in conformity with the **Paris Principles (1991)**. The Commission serves as the guardian of human rights in the country.

### Composition

- The Commission is a multi-member body with a **chairperson and five members** (excluding the ex-officio members).
- **Chairperson-** A **retired Chief Justice of India or a Supreme Court judge**.
- **Members:**
  - ✓ One member who is or has been a Judge of the Supreme Court.
  - ✓ One member who is or has been the Chief Justice of a High Court.
  - ✓ Three members appointed from individuals with knowledge of or practical experience in human rights matters.
  - ✓ **Note:** At least **one of the three members must be a woman**.
- **Ex-officio members-Chairpersons of National Commissions** viz., National Commission for Scheduled Castes, National Commission for Scheduled Tribes, National Commission for Women, National Commission for Minorities, National Commission for Backward Classes, National Commission for Protection of Child Rights; and the Chief Commissioner for Persons with Disabilities.

- **Appointment-** The chairperson and members are appointed by the President based on recommendations from a **six-member committee**, which includes **The Prime Minister (head)**, Speaker of the Lok Sabha, Deputy Chairman of the Rajya Sabha, Leaders of the Opposition in both Houses, The Central Home Minister
- **Tenure-** The chairperson and members **serve a term of 3 years or until age 70**, whichever comes first, and are eligible for reappointment.

**Powers-** NHRC has the powers of a civil court under the Code of Civil Procedure, 1908.

#### About Global Alliance for National Human Rights Institutions (GANHRI)

- It is a global network of national human rights institutions (NHRIs) that works to promote and protect human rights.
- **Members-** It has 120 members around the world. **India is also a member.**
- **The Sub-Committee on Accreditation (SCA)** evaluates National Human Rights Institutions (NHRIs) every five years, and there is an appeals process in place to promote transparency and due process.

### To the Point

Report/Index	Details
<b>World Press Freedom Index, 2024</b>	<ul style="list-style-type: none"> <li>• <b>Published by Reporters Without Borders (RSF)</b></li> <li>• India has been ranked 159 out of 180 countries</li> <li>• Scandinavian countries (Norway, Denmark, Sweden) top the rankings.</li> <li>• In South Asia, India ranks lower than all countries except Bangladesh.</li> </ul>
<b>Internet Shutdowns in India, 2023: Access Now Report</b>	<ul style="list-style-type: none"> <li>• <b>India has the highest number of Internet shutdowns globally for the sixth year in a row.</b></li> <li>• In 2023, the number of internet shutdowns worldwide grew by 41%, reaching 283 from 201 in 2022.</li> </ul> <p><b>Provisions for Internet Shutdown</b></p> <ul style="list-style-type: none"> <li>• Telecom service suspensions, including internet shutdowns, are currently governed by the Temporary Suspension of Telecom Services Rules, 2017, under the Indian Telegraph Act, 1885. It allows for a temporary telecom shutdown in a region for <i>up to 15 days due to public emergency</i>.</li> <li>• Temporary telecom suspension orders can <b>only be issued by the Union or State Home Secretary</b>.</li> </ul>

Terms in News	Details
<b>Preventive Detention</b>	<ul style="list-style-type: none"> <li>Preventive detention involves <i>holding someone without trial to prevent future crimes</i>, rather than punishing past actions. Detention <i>cannot exceed three months unless an advisory board approves an extension</i>.</li> <li><b>Constitutional Provisions-</b> <i>Article 22</i> grants protection to persons who are arrested or detained.</li> </ul>
<b>Original Jurisdiction of Supreme Court</b>	<p><b>Article 131</b> of the Indian Constitution grants the Supreme Court original jurisdiction in specific dispute cases:</p> <ul style="list-style-type: none"> <li>Between the Centre and one or more states</li> <li>Between the Centre and any state or states on one side and one or more other states on the other side;</li> <li>Between two or more states</li> </ul>
<b>Form 17C</b>	<p>The Conduct of Election Rules, 1961 mandate the Election Commission to maintain two forms:</p> <ul style="list-style-type: none"> <li>✓ Form 17A</li> <li>✓ Form 17C.</li> </ul> <p>Form 17A captures the details of each voter who enters a polling booth and votes, while <i>Form 17C records the total number of votes cast</i>.</p>
<b>EVM- VVPAT</b>	<ul style="list-style-type: none"> <li>EVM stands for Electronic Voting Machine. It is a device used to <i>electronically record, and count votes cast in elections</i>.</li> <li>It is <i>manufactured and supplied to the ECI by Bharat Electronics Limited</i> (under the Ministry of Defense) and <i>Electronic Corporation of India Limited</i> (under the Department of Atomic Energy).</li> <li>EVM consists of three units: <ul style="list-style-type: none"> <li>✓ <b>Ballot Unit-</b> Functions like a keyboard using which the voters cast their votes.</li> <li>✓ <b>Control Unit-</b> It controls the operations of the Ballot Units and manages the data. It remains with the Presiding Officer or a Polling Officer.</li> <li>✓ <b>Voter Verifiable Paper Audit Trail (VVPAT) -</b> Allow the voters to verify that their votes are cast as intended. <ul style="list-style-type: none"> <li>○ When a vote is cast, a slip is printed <i>containing the serial number, name and symbol of the candidate</i> and remains exposed through a transparent window for 7 seconds.</li> </ul> </li> </ul> </li> </ul>
<b>Star Campaigners During Elections</b>	<ul style="list-style-type: none"> <li>A star campaigner is a celebrity vote seeker for a political party.</li> <li>Under the <i>Representation of People Act, 1951 (RoPA)</i>, star campaigners must be party members (the term is not defined in the Act but is commonly used).</li> </ul>

	<ul style="list-style-type: none"> <li>• Under the RoPA 1951, a recognized political party (National or State) can appoint up to 40-star campaigners, while a <i>registered unrecognized party can appoint up to 20.</i></li> <li>• Travel expenses for star campaigners <i>during general party campaigning don't count towards a candidate's election expenditure limit.</i> However, if they campaign for specific candidates or share platforms with them, the expenses are counted as part of the candidate's expenditure.</li> </ul>
<p>Article 329(b)</p>	<p style="text-align: center;"><b>Article 329(b)</b></p> <ul style="list-style-type: none"> <li>▪ Article 329(b) is part of <b>Part XV of the Constitution</b>, which specifically addresses electoral issues.</li> <li>▪ <b>Article 329(a)</b> restricts the judiciary from questioning the constitutionality of laws concerning electoral district boundaries or seat allocation.</li> <li>▪ <b>Article 329(b)</b> as amended by the <b>Constitution (19th Amendment) Act of 1966</b>, states that elections to either house of Parliament or state legislatures can only be challenged through an election petition as outlined by law.</li> <li>▪ <b>Legal Framework for Election Petitions:</b> The <b>Representation of the People Act, 1951</b>, specifies that high courts are the authorities empowered to hear and decide election petitions. Decisions from these petitions can be appealed to the Supreme Court.</li> </ul>



**International Relations**

**1. BIMSTEC Charter**

**News:** Nepal parliament endorsed the charter of the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC).

**About BIMSTEC**

- It is a regional organization *established in 1997* with the adoption of *Bangkok declaration*.
- **Aim-** To promote technical and economic cooperation among the countries of Bay of Bengal region.
- It **comprises of 7 Members-** Bangladesh, Bhutan, Sri Lanka, Nepal, Thailand, Myanmar, and India.



**BIMSTEC Charter**

- It is a foundational document outlining BIMSTEC's goals, principles, and structure.
- It was adopted in March 2022 at the 5th BIMSTEC Summit.
- **Significance of the charter**
  - ✓ BIMSTEC acquires a '*legal personality*' with the charter coming into force (Legal personality means that a person or entity has rights and duties in law).
  - ✓ BIMSTEC can enter structured diplomatic dialogue with other groupings and countries.

**2. ASEAN Future Forum**

**News:** India's External Affairs Minister recently took part in the first 'ASEAN Future Forum' held in Hanoi, Vietnam.

- It serves as a platform for ASEAN and its partners to exchange new ideas and propose policy recommendations.
- It was proposed by Vietnam at the 43rd ASEAN Summit in 2023.
- **Theme of the first forum:** Toward fast and sustainable growth of a people-centered ASEAN Community.

**Key facts about ASEAN.**

- It was *established in 1967* with the signing of the ASEAN Declaration (*Bangkok Declaration*) by its founding members.
- **ASEAN currently has 10 member states:** Indonesia, Malaysia, the Philippines, Singapore, Thailand, Brunei, Laos, Myanmar, Cambodia, and Vietnam.

- Its Secretariat is in Jakarta (Indonesia).

### 3. Indo-Pacific Economic Framework for Prosperity (IPEF)

**News:** Recently, India attended the Indo-Pacific Economic Framework for Prosperity (IPEF) Ministerial meeting.

#### About IPEF

- **IPEF-** It is an economic initiative launched jointly by the US and other partner countries of the Indo-Pacific region in 2022.
- **Members** – It **comprises of 14 Members:** Australia, Brunei Darussalam, Fiji, India, Indonesia, Japan, the Republic of Korea, Malaysia, New Zealand, Philippines, Singapore, Thailand, U.S.A. and Vietnam.
- **Objective:** It provides a platform for countries in the region to collaborate on advancing resilient, sustainable, and inclusive economic growth, and aims to contribute to cooperation, stability, and prosperity in the region.
- The IPEF is **not a Free Trade Agreement (FTA)** but provides pillars for negotiations for the member states. The IPEF **comprises four pillars of cooperation namely-** Trade (I), Supply Chain (II), Clean Economy (III) and Fair Economy (IV).
- India has **ratified Agreement on Supply Chain Resilience (Pillar II)** in February 2024 and has **maintained an observer status in Pillar-I.**
- **India recently signed** the IPEF Clean Economy Agreement (**Pillar-III**) & IPEF Fair Economy Agreement (**Pillar-IV**) in September 2024.
- **Nodal agency:** Department of Commerce for the IPEF engagements.

### 4. Colombo Process

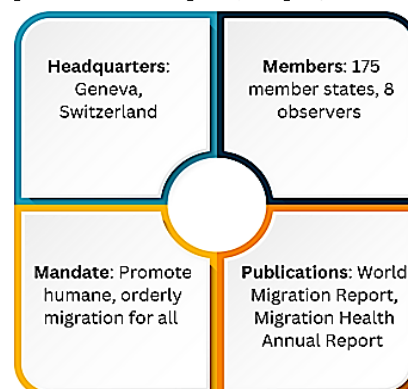
**News:** India has become the chair of the Colombo Process for the first time since it began in 2003.

#### About Colombo Process

- It is a Regional Consultative Process, providing a platform for Asia's labor-sending countries to consult on managing overseas employment and share best practices.
- The process is **non-binding, and decisions made by consensus.**
- The process is **coordinated through the Permanent Missions of Member States** at the United Nations in Geneva.
- **Members-** It comprises **12 member states** of Asia- Afghanistan, Bangladesh, China,

#### About International Organization for Migration (IOM)

It is an **intergovernmental organization** established in 1951, provides migration services and advice to governments and migrants, refugees, and workers.



Cambodia, India, Indonesia, Nepal, Pakistan, the Philippines, Sri Lanka, Thailand, and Vietnam.

✓ India has been a member of the Colombo Process since its inception in 2003.

- **The International Organization for Migration (IOM)** provides technical support and serves as the Secretariat for the Colombo Process.
- **Thematic Priority Areas**- Skills and Qualification Recognition, Fostering Ethical Recruitment, Pre-Departure Orientation and Empowerment, Remittances, Labor Market Analysis.

## 5. Antarctic Treaty

**News:** India hosted the 46th session of the Antarctic Treaty Consultative Meeting (ATCM 46) & 26<sup>th</sup> meeting of Committee on Environmental Protection (CEP-26). It is also referred to as the Antarctic Parliament.

### About Antarctic Treaty

- It is an international treaty to establish Antarctica as a region dedicated to peaceful purposes, scientific cooperation, and environmental.
- It was **signed by 12 countries in 1959 and entered into force in 1961**.
- It was initially signed by 12 countries. It now includes 57 countries. **India joined in 1983**.

### About the Antarctic Treaty Consultative Meeting (ATCM)

- It is an annual meeting of the original 12 signatories of the Antarctic Treaty, along with other parties and stakeholders.

### About Committee for Environmental Protection (CEP)

- It was **established under the Protocol on Environmental Protection to the Antarctic Treaty (the Madrid Protocol) in 1991**.
- The CEP advises the ATCM on environmental protection and conservation in Antarctica.

### India in Antarctica

India's first Antarctic research station, **Dakshin Gangotri**, was established in 1983. Currently, India operates two year-round stations: **Maitri (1989)** and **Bharati (2012)**.

## 6. Geneva Convention on Refugees

**News:** Indira Jaising, former Additional Solicitor General of India, suggested India could have signed the Geneva Convention on Refugees instead of the Citizenship Amendment Act (CAA) to protect persecuted minorities

### About the Geneva Convention on Refugees 1951

- The 1951 Refugee Convention, or Geneva Convention, is a **UN treaty for refugee protection**.

- The 1951 Refugee Convention and its 1967 Protocol are the *primary legal frameworks defining the term "refugee"* along with their rights and means of protection. *The UNHCR acts as the "guardian" of these documents.*
- The 1951 Refugee *Convention defines a refugee as someone* fleeing due to a well-founded fear of persecution based on race, religion, nationality, social group, or political opinion, and *excludes* certain groups, like war criminals.
- Based on Article 14 of the 1948 Universal Declaration of Human Rights, it *upholds the key principle of non-refoulement*, which prohibits deporting refugees to countries where they face serious threats.

#### About United Nations High Commissioner for Refugees (UNHCR)

- It protects refugees worldwide and facilitates their return home or resettlement.
- **Origin-** It was established by the UNGA in 1950 in the aftermath of the Second World War to help the millions of people who had lost their homes.
- **Headquarters:** Geneva, Switzerland

### 7. INDUS-X

**News:** The INDUS-X defense initiative between the USA and India marks its first anniversary this year.

#### About INDUS-X initiative

- **India-US Defense Acceleration Ecosystem (INDUS-X)** was launched on June 21, 2023, by the U.S. Department of Defense and the Indian Ministry of Defense.
- It is an *initiative launched under the Critical and Emerging Technologies (iCET) initiative.*
  - ✓ iCET, launched by the Indian and U.S. leaders at the QUAD summit in Tokyo on May 24, 2022, *allows India to share key technologies with the U.S. in exchange for access to American technologies.*
  - ✓ The iCET initiative is being *led by the National Security Councils of both countries.*
- INDUS-X fosters partnerships between U.S. and Indian defense companies, incubators, accelerators, investors, and universities.

#### Other Key defense and security pacts of India and USA

- Logistics Exchange Memorandum of Agreement (LEMOA) in 2016.
- Communications Compatibility and Security Agreement (COMCASA) in 2018.
- Basic Exchange and Cooperation Agreement (BECA) in 2020.

### 8. International Atomic Energy Agency (IAEA)

**News:** The UN nuclear watchdog recently called an emergency meeting to discuss attacks on the Zaporizhzhia Nuclear Power Plant.

### About IAEA

- It is an **intergovernmental organization** that seeks to **promote the peaceful use of nuclear energy** and to inhibit its use for any military purpose, including nuclear weapons.
- It was **established in 1957** as the world's "**Atoms for Peace**" organization within the UN. It operates under its founding treaty, the **Statute of the IAEA**.
- The IAEA **reports to both the United Nations General Assembly and UN security council**
- **Headquarter-** Vienna, Austria
- **Mandate-** It is the world's central intergovernmental forum for scientific and technical cooperation in the nuclear field, promoting safe, secure, and peaceful uses of nuclear science and technology.
- The IAEA **implements comprehensive safeguards agreements mandated by the Nuclear Non-Proliferation Treaty (NPT)**.
- Signature and ratification of the Nuclear Non-Proliferation Treaty (NPT) are not preconditions for IAEA membership.
- North Korea withdrew its membership from IAEA in 1994.
- The IAEA **comprises 178 member states**, with **India being one of its founding members**.


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

- The Non-Proliferation Treaty, signed in 1968, aims to:
  - ✓ prevent the spread of nuclear weapons and technology,
  - ✓ promote cooperation in the peaceful use of nuclear energy
  - ✓ advance nuclear disarmament and overall disarmament.
- Five nuclear-weapon states are parties to the Treaty.
- **Israel, India, Pakistan and South Sudan have never signed**, while North Korea withdrew in 2003.

### To the Point

IR Terms in News	Details
<b>Havana Syndrome</b>	<ul style="list-style-type: none"> <li>• It is a term used to describe a <b>set of mental health symptoms</b> reportedly experienced by US intelligence and embassy personnel in different countries.</li> <li>• In India, the first case was reported in 2021 when a US intelligence officer travelling to New Delhi with a CIA director reported its symptoms.</li> </ul>
<b>Geopolitical Recession</b>	<ul style="list-style-type: none"> <li>• Political scientist Ian Bremmer defines a geopolitical recession as a <b>situation where established global power frameworks are crumbling</b>.</li> <li>• During a geopolitical recession, it becomes much harder to respond to a crisis because political institutions are less resilient.</li> </ul>

<p><b>Diplomatic Passport</b></p>	<ul style="list-style-type: none"> <li>• Diplomatic and Official passports are issued to those with diplomatic status or on official duty abroad for the Government of India.</li> <li>• Holders of such passports are <i>entitled to certain privileges</i> and <i>immunities</i> as per the international law, including immunity from arrest, detention, and certain legal proceedings in the host country.</li> <li>• It has <i>maroon covers</i>.</li> <li>• <b>Validity</b> - 5 years or less</li> <li>• <b>Issued by</b>- MEA's Consular, Passport &amp; Visa Division</li> <li>• <b>Legal status</b> <ul style="list-style-type: none"> <li>✓ Passports and Visas are included in the Union List of the Constitution's 7th Schedule.</li> <li>✓ Passport issuance in India is governed by the 1967 Passports Act.</li> </ul> </li> </ul>
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Conflict Regions in News	Details
<p><b>Conflict in the Democratic Republic of Congo (DRC)</b></p> 	<p><b>Context</b>- Renewed clashes in eastern DRC between the Congolese army and Rwandan-backed M23 rebels have raised global concerns.</p> <p><b>About DRC</b></p> <ul style="list-style-type: none"> <li>• The DRC is <i>2nd largest country in Africa</i> and the 11th largest in the world</li> <li>• <b>Capital</b>- Kinshasa, the capital of the DRC, is <i>situated on the Congo River</i>, which is the only river in Africa that crosses the equator twice.</li> <li>• <b>Provinces in news</b>- <i>North Kivu</i> and <i>South Kivu</i>, provinces in eastern Democratic Republic of Congo, were involved in the Kivu armed conflict over natural resources.</li> <li>• <b>The Katanga Plateau</b> is a rich mining region that supplies cobalt, copper, tin, radium, uranium, and diamonds.</li> </ul>

**Mass Kidnappings in Nigeria**



**About Nigeria**

- **Capital** – Abuja
- **Bordering countries:** Benin, Niger, Chad, Cameroon
- **Water bodies:** Atlantic Ocean
- Nigeria is Africa’s most populous country (second most populous is Ghana).
- The **largest city in Nigeria is Lagos**
- Nigeria is named after the **Niger River**, which is its principal river. Niger drains into the **Gulf of Guinea**.
- Nigeria has a tropical climate with variable rainy and dry seasons.
- Active Militant Group - Boko Haram

**Nagorno Karabakh**



**About Nagorno-Karabakh**

- **Location-** Nagorno-Karabakh, called Artsakh by Armenians, is a landlocked mountainous region in the South Caucasus.
- The territory is internationally **recognised as part of oil-rich Azerbaijan**, but its **inhabitants are predominantly ethnic Armenians**.

**IR Places in News**



**Details**


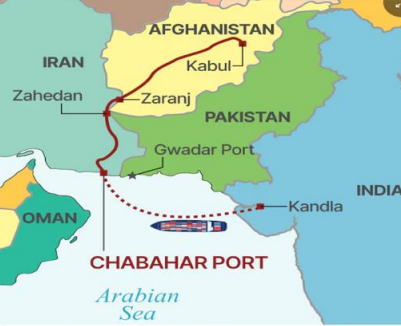

**Context-** India has gained the rights to operate its second overseas port (after Chabahar) in Sittwe, Myanmar.

**About Sittwe Port**



- It is a **deep-water port located** in Sittwe, the capital of **Rakhine State in Myanmar**.
- It is located at the **mouth of the Kaladan River**, which flows into the Bay of Bengal.
- India constructed the port as part of the Kaladan Multi-Modal Transit Transport Project.

**Kaladan Multi-Modal Transit Transport Project**

- This project links the Kolkata seaport in India to the Sittwe seaport in Myanmar by sea.

	<ul style="list-style-type: none"> <li>It links Sittwe Port to Paletwa via the Kaladan River and connects Paletwa to Zorinpui in Mizoram by road.</li> </ul>
<p><b>Agalega Islands</b></p>  <p>India has upgraded the airstrip and jetty at Agaléga Island, a strategically located Mauritian dependency in the Indian Ocean</p>	<p><b>Context-</b> Prime Minister Narendra Modi and Mauritian Prime Minister Pravind Jugnauth will inaugurate developmental projects on Agalega Island.</p> <p><b>About Agalega Islands</b></p> <ul style="list-style-type: none"> <li>The Agalega Islands are <i>located about 650 nautical miles (1,050 km) north of Mauritius.</i></li> <li>This group consists of two islands with a total area of 26 sq km and a native population of around 300 people.</li> <li><b>Significance:</b> Developing the Agalega Islands serves the socio-economic and national security interests of Mauritius and aligns with India's maritime vision.</li> </ul>
<p><b>Chabahar Port</b></p> 	<p><b>Context-</b> India and Iran signed the Chabahar port agreement which will allow India to operate and manage the strategically important Chabahar Port</p> <p><b>About Chabahar Port</b></p> <ul style="list-style-type: none"> <li>It is a <i>deep-water port, located on the Makran Coast of Iran's Sistan-Baluchistan province.</i></li> <li>It is next to the Gulf of Oman and at the mouth of the Strait of Hormuz.</li> <li>It is the <i>only Iranian port with direct access to the Indian Ocean</i> and consists of two separate ports named Shahid Kalantari and Shahid Beheshti.</li> </ul>
<p><b>South-China Sea</b></p> 	<p><b>About South-China Sea</b></p> <ul style="list-style-type: none"> <li>It is an <i>arm of the western Pacific Ocean</i> that borders the Southeast Asian mainland.</li> <li>It is <i>connected by Taiwan Strait with the East China Sea</i> and by Luzon Strait with the Philippine Sea.</li> <li>It contains numerous shoals, reefs, atolls and disputed islands. <i>For example-</i>The</li> </ul>



	<p>Paracel Islands, the Spratly Islands (between China, Vietnam and Philippines) and the Scarborough Shoal (China and Philippines)</p>
<p><b>Wadge Bank</b></p> 	<p><b>About Wadge Bank</b></p> <ul style="list-style-type: none"> <li>• It is a 10,000 square kilometers area, <i>located approximately 50 kilometers south of Kanyakumari.</i></li> <li>• It features <i>shallow waters</i>, a nearly flat bottom topography, and a continental shelf.</li> <li>• This area is rich in biodiversity and is <i>considered India's most valuable fishery resource.</i></li> </ul>
<p><b>Baltimore</b></p> 	<p><b>Context-</b> The March 26 collapse of the Francis Scott Key Bridge has brought attention to the Port of Baltimore.</p> <p><b>About Baltimore</b></p> <ul style="list-style-type: none"> <li>• It is a shipping port located along the tidal basins of the <i>Patapsco River</i> in Baltimore, Maryland, near the upper northwest shore of the Chesapeake Bay.</li> <li>• Baltimore was the 17th biggest port in the United States in 2021.</li> <li>• It's the largest vehicle-handling port in the US.</li> </ul>

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## Security

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### 1. International Narcotics Control Board (INCB)

**News:** India's Jagjit Pavadia was re-elected to the International Narcotics Control Board for a third five-year term from 2025 to 2030.

#### About INCB

- It is an *independent quasi-judicial body* that monitors the implementation of UN international drug control conventions.
- **Established** in 1968 by the *Single Convention on Narcotic Drugs of 1961*.
- **Members:** It has 13 members, each elected by the Economic and Social Council for five-year terms. INCB *members may be re-elected*.
- INCB's *functions* are outlined in the following treaties:
  - ✓ Single Convention on Narcotic Drugs (1961)
  - ✓ Convention on Psychotropic Substances (1971)
  - ✓ UN Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (1988).

### 2. Combined Maritime Forces (CMF)

**News:** Indian Naval warship INS Talwar seized 940 kg of narcotics in the Arabian Sea as part of an operation led by the Combined Maritime Forces (CMF).

#### About CMF

- It is a *multinational maritime partnership* that seeks to *promote security, stability, and prosperity* across approximately 3.2 million square miles of international waters.
- CMF is *headquartered in Bahrain* along with US Naval Central Command and US Navy Fifth Fleet.
- CMF's *membership comprises of 46 nations*, including India.
- The *participation* in CMF is purely on a *voluntary basis*. The members are not bound by either a political or military mandate.
- CMP focuses on countering narcotics and smuggling, suppressing piracy, enhancing regional cooperation, responding to environmental and humanitarian crisis.
- It upholds the *Rule Based International Order (RBIO)* by countering illicit non state actors on the high seas.

### 3. Defense Attache

**News:** India has begun to post military, and defense attaches to several countries. The objective is to expand strategic ties and push arms exports.

#### About Defense Attache

- S/he is a member of the armed forces who serves in an embassy as a representative of her/his country's defense establishment abroad.

- The duty of the Defense Attache is to **protect, develop and promote the defense interest of their country** in the nation where they are posted.
- They usually operate as the **head of the mission or a military adviser** during military deployments with organisations like NATO, the EU, or the UN.
- They can be deployed to work on **specific issues like migration**.
- DA's enjoy **diplomatic immunity** under the Vienna Convention on Diplomatic Relations, 1961. **Article 7** of the Vienna Convention defines the legal status of the DA.

#### 4. Mineral Security Partnership (MSP)

**News:** India became the 14<sup>th</sup> member of the Mineral Security Partnership (MSP) in June 2023.

##### About MSP

- It is an ambitious **collaboration of 14 countries and the European Union to secure public and private investment in responsible critical minerals supply chains globally**.
- It is aimed at **reducing dependency on China** for supply of critical minerals.
- MSP considers projects along the **full clean energy value chain**, including mining, extraction, processing, refining and recycling.
- It focuses on the **minerals and metals supply chains** that are most relevant for **clean energy technologies**. Example: lithium, cobalt, nickel etc.

#### 5. Project Akashteer

**News:** The Indian Army has initiated the induction of control and reporting systems under 'Project Akashteer' to bolster its air defense capabilities.

##### About Project Akashteer

- It is a state-of-the-art initiative aimed at automating air defense control and reporting processes through digitization.
- **Key facts about Akashteer Command and Control Systems**
  - ✓ **Developed by** Bharat Electronics Limited (BEL)
  - ✓ The system combines radar and communication systems into a unified network to provide exceptional situational awareness and control against aerial threats.
  - ✓ It will fully **automate air defense operations and improve the efficiency and integration of the Army's air defense systems**.

#### To the Point

India's Weapon Development in News	Details
<b>Indigenous Technology Cruise Missile (ITCM) Flight Tested</b>	<ul style="list-style-type: none"> <li>• It has been developed by <b>Aeronautical Development Establishment of DRDO</b> along</li> </ul>

	<p>with contributions from other laboratories and Indian industries.</p> <ul style="list-style-type: none"> <li>• It is a <i>long-range sub sonic cruise missile</i> designed to hit targets with precision.</li> <li>• It is powered by an <i>indigenous propulsion system</i>.</li> <li>✓ Subsonic cruise missile <i>flies at a speed lesser than that of sound (&gt;1 Mach)</i>.</li> </ul>
<b>Agni Prime Successfully Flight-Tested</b>	<ul style="list-style-type: none"> <li>• It is a <i>surface-to-surface ballistic missile</i>.</li> <li>• It is a <i>nuclear capable, two-stage canisterised missile</i>, with a <i>maximum range of 1,000 to 2,000 km</i>.</li> <li>• It is <i>lighter</i> than all the previous Agni series of missiles.</li> </ul>
<b>Submersible Platform for Acoustic Characterisation and Evaluation (SPACE)</b>	<ul style="list-style-type: none"> <li>• It is a <i>premier testing and evaluation hub for sonar systems</i> for the Indian Navy.</li> <li>• It has been set up by <i>DRDO</i>.</li> <li>• It consists of <i>two distinct platforms</i>: A) <i>Floating Platform</i> B) <i>Submersible Platform</i> (submersible up to 100m depth).</li> <li>• It will <i>bolster anti-submarine warfare research capabilities</i>.</li> </ul>
<b>Crystal Maze 2 (also known as ROCKS)</b>	<ul style="list-style-type: none"> <li>• It is a <i>medium range ballistic missile</i>.</li> <li>• It has been <i>developed by Israel</i>.</li> <li>• It is <i>air to surface missile</i> with a <i>strike range of over 250 kms</i>.</li> <li>• It has the capability to strike high-value stationery and relocatable targets in GPS denied environments.</li> </ul>
<b>Project 28</b>	<ul style="list-style-type: none"> <li>• <b>Objective:</b> To build <i>4 indigenous Anti-Submarine Warfare (ASW) corvettes or Kamorta class corvettes</i>.</li> <li>• These 4 ASW are: <i>INS Kamorta, INS Kadmatt, INS Kiltan, INS Kavaratti</i>.</li> <li>• These ships can be deployed in <i>nuclear, biological and chemical warfare conditions</i>.</li> <li>• <b>Ships designed by:</b> Indian Navy's Directorate of Naval Design</li> <li>• <b>Ships built by:</b> Garden Reach Shipbuilders &amp; Engineers (GRSE) in Kolkata.</li> </ul>

<p><b>Nagastra-1</b></p>	<ul style="list-style-type: none"> <li>• It is India's <i>first indigenous loitering munition suicide drone</i>.</li> <li>• It has been developed by <i>Solar Industries in Nagpur</i>.</li> <li>• It has a <i>capacity</i> to carry <i>1 kilogram warhead</i>.</li> <li>• It can carry out <i>GPS-enabled precision strikes</i> with an accuracy of up to 2 meters.</li> <li>• It has <i>indigenous content of over 75%</i>.</li> <li>• It features a <i>parachute recovery mechanism</i>.</li> </ul>
<p><b>RudraM - II Missile</b></p>	<ul style="list-style-type: none"> <li>• It is an <i>indigenously developed solid propelled air launched missile system</i>.</li> <li>• It has been designed for <i>air-to-surface operations</i>.</li> <li>• It has been developed by <i>Defense Research and Development Organisation (DRDO)</i>.</li> </ul>
<p><b>Medium Range-Microwave Obscurant Chaff Rocket (MR-MOCR)</b></p>	<ul style="list-style-type: none"> <li>• It has been developed by <i>DRDO's Defense Laboratory, Jodhpur</i>.</li> <li>• It obscures radar signals and creates a microwave shield around platforms to reduce detection possibility.</li> </ul>
<p><b>Javelin Anti-Tank Weapon System</b></p>	<ul style="list-style-type: none"> <li>• It is a <i>portable anti-tank guided missile system</i>.</li> <li>• It works on <i>fire and forget principle</i>.</li> <li>• It was designed to <i>defeat heavily armoured vehicles</i> including main battle tanks.</li> <li>• It can be <i>shoulder fired or mounted on vehicles</i>.</li> </ul>

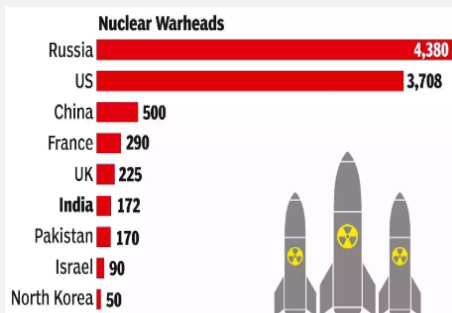
World's Weapon Development in News	Details
<p><b>Hypersonic Missile</b></p>	<ul style="list-style-type: none"> <li>• Hypersonic Missiles <i>travel at least five times the speed of sound (Mach-5 or more)</i>.</li> <li>• They are <i>difficult to detect</i> due to their speed, maneuverability and low altitude of flight.</li> <li>• The <i>two types</i> of hypersonic weapon systems are: A) <i>Hypersonic Glide Vehicle</i> B) <i>Hypersonic Cruise Missile</i></li> </ul>
<p><b>C-Dome Defense System</b></p>	<ul style="list-style-type: none"> <li>• It has been developed by <i>Israel</i>.</li> <li>• It is a <i>naval version of Israel's Iron Dome air defense system</i>.</li> <li>• It is designed to <i>shield against missile and rocket attacks</i>.</li> </ul>

	<ul style="list-style-type: none"> <li>• Unlike the Iron Dome which features its own radar, C-Dome is integrated into ship's radar to detect incoming targets.</li> </ul>
<b>Hermes-900</b>	<ul style="list-style-type: none"> <li>• It is an <i>advanced, Medium Altitude Long Endurance (MALE) unmanned aerial vehicle</i>.</li> <li>• It is of <i>Israeli origin</i>.</li> <li>• It is also known as <i>Drishti-10 drone</i>.</li> <li>• It features <i>Automatic Take Off and Landing (ATOL) capability, Terrain Avoidance Warning System (TAWS), Synthetic Aperture Radar (SAR)</i>.</li> <li>• It can be employed for <i>Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR) missions</i>.</li> </ul>
<b>Igla-S Air Defense System</b>	<ul style="list-style-type: none"> <li>• It is a <i>man-portable air defense system (MANPADS)</i>.</li> <li>• It has been <i>developed by Russia</i>.</li> <li>• It is a <i>handheld, very short range defense system (VSHORAD)</i>.</li> <li>• It has an <i>interception range of up to 6 kms</i> and can <i>destroy targets at altitudes of up to 3.5 km</i>.</li> </ul>

Reports	Details
<b>Trends in World Military Expenditure 2023 Report</b>	<ul style="list-style-type: none"> <li>• It was published by the <i>Stockholm International Peace Research Institute (SIPRI)</i>.</li> <li>• <i>India</i> was ranked as the <i>fourth largest military spender</i> in the world <i>following the United States, China and Russia</i>.</li> <li>• <i>Military expenditure by NATO member states</i> accounted for <i>55% of world spending</i>.</li> </ul>
<b>India's Rapidly Rising Defense Exports</b>	<ul style="list-style-type: none"> <li>• <i>India's defense exports</i> reached a <i>record high of Rs 21,083 crore in FY 2023-24</i>.</li> <li>• There is a <i>31 times growth</i> in defense exports in the <i>last 10 years compared to FY 2013-14</i>.</li> <li>• The <i>private sector</i> accounted for <i>60% of these exports</i>, while <i>Defense Public Sector Undertakings (DPSUs)</i> contributed <i>around 40%</i>.</li> </ul>

**SIPRI Report on Nuclear Warheads**

- The report states that *China has 500 nuclear warheads* (as of Jan' 24) triple the number of India and Pakistan.
- *India's nuclear arsenal reached 172 warheads as of Jan' 24.*
- The report mentions that *India is strengthening the undersea leg of its nuclear triad and developing long range missiles.*



Military Exercises in News	Details
<b>Tarkash Exercise</b>	<ul style="list-style-type: none"> <li>• It is <i>India-US joint counter terrorism exercise</i>, held between the <i>India's National Security Guard and the US Special Operations Forces</i>.</li> <li>• The <i>objective</i> is to <i>enhance interoperability</i> between the two forces in conducting counter terror operations.</li> </ul> <p><b>About the latest 7<sup>th</sup> Edition of Tarkash:</b></p> <ul style="list-style-type: none"> <li>• It was held in <i>Kolkata</i>.</li> <li>• It featured <i>training and mock drills in urban counter terrorism scenarios</i>.</li> </ul>
<b>Shakti Exercise</b>	<ul style="list-style-type: none"> <li>• It is a <i>biennial joint military exercise</i> between India and France.</li> <li>• It is held alternatively in India and France.</li> <li>• It <i>aims to enhance the joint military capability to undertake multi-domain operations</i> in a sub-conventional scenario under Chapter VII of the United Nations Mandate.</li> </ul> <p><b>About the latest 7<sup>th</sup> Edition of Shakti:</b></p> <ul style="list-style-type: none"> <li>• It was conducted in <i>Umroi, Meghalaya</i>.</li> <li>• It focused on <i>operations in the semi-urban and mountainous terrain</i>.</li> </ul>
<b>Japan-India Maritime Exercise (JIMEX)</b>	<ul style="list-style-type: none"> <li>• It is conducted between <i>India Navy and Japan Maritime Self Defence Force</i>.</li> <li>• Its <i>first edition</i> was held in <i>2012</i>.</li> <li>• It involves the <i>harbour and sea phases</i>.</li> </ul> <p><b>About the latest 8<sup>th</sup> Edition of JIMEX:</b></p> <ul style="list-style-type: none"> <li>• It was held in <i>Yokosuka, Japan</i>.</li> <li>• India's indigenously built <i>INS Shivalik</i> participated in it.</li> </ul>

### HOPEX Exercise

- It is a *joint military exercise* between *Indian Air Force (IAF) and Egyptian Air Force (EAF)*.
- It aims to *boost bilateral and regional cooperation*.

#### About the latest 4<sup>th</sup> Edition of HOPEX:

- It was held in *Egypt*.
- Indian Air Force's (IAF) *Rafale fighter jets, C-17 Globemaster and IL-78 tankers* participated in the exercise.



### 1. Credit Deposit Ratio (CDR)

**News:** Indian banks are struggling to attract deposits in 2023-24. The RBI noted that the credit-deposit ratio is at its highest in 20 years.

- CDR is a **financial measure** that evaluates the relationship between a bank's lending activities (credit) and its deposits.
- It is **determined by dividing the total loans issued by the bank by its total deposits**.
- A high CD ratio means a bank has issued many loans compared to its deposits, indicating higher risk and lower liquidity.
- A low ratio means more deposits are held in reserve or invested elsewhere.
- The **RBI does not set a specific ratio**. However, an optimal CD ratio generally falls between 80% and 90%.

### 2. Payment Aggregator

**News:** Recently, PayU received the RBI's in-principle approval for its role as a payment aggregator.

- A payment aggregator is a fintech company that streamlines the process for businesses to accept electronic payments. **E.g. Phone Pe, Google pay, Amazon Pay.**
- It serves as a middleman between businesses and financial institutions
- A payment aggregator (PA) in India is **registered under the Companies Act 2013**. It **can be either a bank or a non-bank entity**.
- Banks offer PA services without separate authorization, while non-bank PAs must obtain authorization from the RBI under the **Payment and Settlement Systems Act, 2007 (PSS, Act)**.

### 3. Reserve Bank of India (RBI) joins Project Nexus

**News:** The Reserve Bank of India (RBI) has joined Project Nexus to enable instant cross-border retail payments.

- Project Nexus is a **multilateral international initiative** to enable **instant cross-border retail payments by interlinking domestic Fast Payments Systems (FPSs)**.
- It has been conceptualized by the Innovation Hub of the Bank for International Settlements.
- It seeks to enhance **cross-border payments** by connecting multiple domestic **instant payment systems (IPS)**.
- It will **interlink the FPSs of four ASEAN countries (Malaysia, Philippines, Singapore and Thailand) with India's FPS**. **It is expected to go live by 2026**.

#### 4. Variable Repo Rate (VRR)

**News:** RBI's Variable Rate Repo (VRR) Auction, which was conducted to ease the liquidity deficit, received an encouraging response from the bank.

- VRR is a tool used by RBI to *inject short-term liquidity* into the banking system.
- It is used when banks *are not eager to borrow* from RBI at *repo rates as interest rates may be lower in the market*. In such case, RBI allows banks to *borrow at VRR decided by market*, which is generally lower than repo rate.
- The *borrowing duration* is *greater than one day and usually up to 14 days*.
- On the other hand, a *Variable Rate Reverse Repo (VRRR)* is conducted to *absorb the excess liquidity* from the system.

#### 5. Secured Overnight Financing Rate

**News:** In June 2024, SBI raised \$100 million through its London Branch by selling three-year senior unsecured floating-rate bonds, priced at a spread of 95 basis points above the Secured Overnight Financing Rate (SOFR).

- SOFR is a *benchmark interest rate for dollar denominated derivatives and loans*.
- It sets the *base for interbank transaction rates*.
- It represents the cost of borrowing overnight and is published by the New York Federal Reserve.
- It was developed as a *replacement for the London Interbank Offered Rate (LIBOR)* after concerns about LIBOR's reliability and manipulation.

#### 6. Angel Tax

**News:** The Delhi High Court has given the liberty to taxpayers to choose an option for Angel Tax valuation.

- Angel Tax is an *income tax* that is *charged by the government on funding raised by start-ups or unlisted companies* if their valuation exceeds the company's *fair market value*.
- It was introduced in **2012** under the provisions of **Section 56(2) of the Income Tax Act**.
- The primary objective of introducing angel tax was to arrest money laundering.
- In the Union Budget 2024-25, Finance Minister announced the abolition of angel tax with effect from FY2025-26.

#### 7. Universal Banking by Small Finance Banks

**News:** The eligibility criteria come amid heightened activity by Small Finance Bank (SFB) to explore opportunities for expansion and diversification after completing five years of operation.

##### About SFB

- **Small Finance Banks** are a type of niche banks (specialized banks) that provide basic banking services to unserved and underserved sections.

- The setting up of SFBs was recommended by Nachiket Mor Committee.
- They are registered as public limited company under the *Companies Act, 2013*
- They are mandated to extend **75% of their Adjusted Net Bank Credit to priority sector lending**
- They are required to open **at least 25% of their branches in unbanked rural areas.**
- They are governed by the provisions of *Banking Regulations Act, 1949, Reserve Bank of India Act, 1934 and other relevant statutes*
- Examples of SFBs are *AU Small Finance Bank, Equitas Small Finance Bank etc.*
- **Universal Banks** combine the three main banking services (wholesale banking, retail banking, and investment banking) under one roof.
- **On-Tap Licensing:** It was introduced by RBI in 2016 to enable eligible entities to apply for banking license at any time throughout the year

#### Eligibility criteria for SFBs to transitioning into UBs

- **Net worth:** SFBs must have a minimum net worth of Rs. 1000 crore.
- **Performance:** SFBs must be scheduled banks with a satisfactory track record of performance for a minimum period of 5 years.
- **Stock Listing:** Shares must be listed on a recognized stock exchange.
- **Financial Status:**
  - ✓ **Profits Generated:** Should have net profits in the last two financial years
  - ✓ **Quality of Assets:** Should have Gross Non-Performing Assets (GNPA) and Net-Non-Performing Assets (NNPA) of less than or equal to 3% and 1% respectively, in the last two financial years.
- **Priority:** SFBs with a diversified loan portfolio will be given priority.
- **Conditions on Promoters:** The existing promoters will continue as the promoters as the SFBs are not permitted to add or change their existing promoters during the transition phase.

## 8. Non-Market Economy Status

**News:** Vietnam has been urging the US government to change Vietnam's status from non-market economy to market economy. The idea is to avoid the high taxes imposed by the US on the goods imported from Vietnam.

- **US criteria to designate non-market economy:**
  - ✓ Country's currency convertibility
  - ✓ Wage rate determination by free bargaining between labor and management
  - ✓ Provision for joint ventures or other foreign investments
  - ✓ The extent of state's control over means of production, allocation of resources, price and output decisions
  - ✓ Other factors like human rights
- Currently, the US has **designated 12 countries as non-market economy**, including Russia, China and Vietnam.

- **Impact-** A non-market economy status allows the US to *impose anti-dumping duties* on the goods imported from the designated countries.

### 9. Authorised Economic Operator (AEO) Status

**News:** The Ministry of Finance has extended the Authorised Economic Operator (AEO) Status to the gem and jewelry sector.

- The Authorised Economic Operator Programme was launched under the *World Custom Organisation's (WCO) SAFE Framework of Standards*.
- It is a *voluntary programme* which was introduced in *India in 2011* by the *Central Board of Indirect Taxes and Customs (CBIC)*.
- It aims to serve the dual purpose of *enhancing international supply chain initiative and facilitating trade flows*.
- An entity with an AEO status is regarded as a secure trader and a reliable trading partner.
- Benefits associated with the AEO status include faster clearance time, faster disbursement of drawback amount and refund, lesser examinations and greater security and communications between supply chain partners.

### 10. Exchange-Traded Currency Derivatives (ETCD)

**News:** The Reserve Bank of India postponed the implementation of its new norms for exchange traded currency derivatives market to May 3, 2024, from April 5, 2024.

- An Exchange Traded Derivative is a *financial contract that is listed and traded on a regular exchange*.
- They derive their value from an underlying asset like stocks, bonds, commodities, currencies, indices or interest rates.
- They are *jointly regulated* by the *Reserve Bank of India and Security Exchange Board of India*.
- *Examples* include stock options, currency futures, options and swaps, and index futures.

### 11. Bond Buyback

**News:** The Reserve Bank of India has responded to tight liquidity conditions in the banking system by significantly lowering government's Treasury bill sales and introducing a new set of bonds for the Centre's buyback operations.

- Bond Buyback is a *financial operation* by which the financial entities *buy back their existing securities from the holders before their maturity date*.
- It is a *liability management tool* used to manage refinancing and liquidity risks.
- Its objectives include cost reduction as buying back of bonds create greater demand in the market leading to lower coupon rates to be paid by the issuing entities.
- It also *leads to liquidity infusion and debt management* in the financial market.

## 12. India's Sovereign Green Bonds

**News:** The Reserve Bank of India (RBI) has permitted the Foreign Institutional Investors (FII) to invest in India's Sovereign Green Bonds.

- Sovereign Green Bonds are **government debt instruments** designed to **raise funds for projects that have a positive impact on climate and environment.**
- Funds raised from these bonds are **exclusively meant for green projects.**
- These bonds are eligible for repurchase transactions (Repo) and qualify as investment for statutory liquidity ratio (SLR) purposes.
- These bonds usually **offer lower interest rates** compared to the **conventional government securities (G-Secs)**

### To the Point

Economic Concepts/Terms in News	Details
<b>Paradox of Thrift (PoT) Theory</b>	<ul style="list-style-type: none"> <li>• This theory was popularized by British economist <b>John Maynard Keynes.</b></li> <li>• It is an economic theory which argues that <b>higher personal savings can be detrimental to overall economic growth.</b></li> <li>• The theory is <b>based on circular flow of economy</b> in which current spending drives future spending.</li> <li>• It <b>calls for lowering of interest rates to boost spending levels</b> during an economic recession.</li> </ul>
<b>Drip Pricing</b>	<ul style="list-style-type: none"> <li>• It is a <b>pricing strategy</b> in which a firm initially <b>advertises only a portion of a product's total cost.</b> Later on, other charges revealed as the customer progresses through the purchase process.</li> <li>• It is used to attract customers with a seemingly lower price at the outset.</li> <li>• It has been categorised as a <b>dark pattern</b> under the <b>Guidelines for Prevention and Regulation of Dark Patterns, 2023.</b></li> </ul>

<p><b>Green Taxonomy</b></p>	<ul style="list-style-type: none"> <li>• It is a classification system that is used to identify and rank investments that are sustainable and environmentally friendly.</li> <li>• <b>Aim:</b> To encourage investments in green activities, assets, and prevent greenwashing.</li> <li>• It includes goals such as climate mitigation and adaptation, biodiversity conservation and other environmental objectives.</li> <li>• It may also include <b>Do No Significant Harm (DNSH) criteria</b>.</li> </ul>
<p><b>Preston Curve</b></p>	<ul style="list-style-type: none"> <li>• It was introduced by American sociologist <b>Samuel H. Preston</b> in 1975.</li> <li>• It depicts the <b>relationship between life expectancy and per capita income</b> in a country.</li> <li>• It highlights that people in developed countries generally have a <b>longer lifespan</b> than those in poorer countries.</li> <li>• As a country develops and its per capita income increases, there is an <b>increase in life expectancy initially</b>.</li> <li>• However, this positive relationship between per capita income and life expectancy <b>begins to flatten out after a certain point</b>.</li> </ul>

Investment Related Terms in News	Details
<p><b>Price-to-Earnings (P/E) Ratio</b></p>	<ul style="list-style-type: none"> <li>• It measures <b>a company's share price relative to its earnings per share</b>.</li> <li>• It indicates how much investors are willing to pay for a company's shares for each unit of earnings.</li> <li>• It is useful in comparing a company's valuation against its historical performance, against other firms within the industry and overall market.</li> <li>• A <b>higher P/E ratio</b> suggests <b>overvaluation</b> of company's stocks.</li> <li>• A <b>lower P/E ratio</b> indicates <b>undervaluation</b> of company's stocks.</li> </ul>

<p><b>Hockey Stick Effect</b></p>	<ul style="list-style-type: none"> <li>• It depicts a sharp rise or fall of data points after a long flat period.</li> <li>• It is represented using a line chart that resembles a hockey stick.</li> <li>• It can be used to study dramatic changes in various areas like revenue growth, poverty statistics, global temperature etc.</li> <li>• It may highlight the need for urgent action given the drastic shift in data points.</li> </ul>
<p><b>Reverse Flipping</b></p>	<ul style="list-style-type: none"> <li>• It refers to the phenomenon where the overseas start-ups strategically relocate their domicile to India and get listed on Indian stock exchange.</li> <li>• Reasons for reverse flipping include thriving economy, taxation benefits, greater foreign capital inflow, intellectual property protection, supportive government policies.</li> <li>• Economic Survey 2022-23 has suggested measures like simplifying tax regime, ease of capital flow, taxation of Employee Stock Ownership Plans (ESOPs) to expedite the reverse flipping.</li> </ul>
<p><b>Funding Winter</b></p>	<ul style="list-style-type: none"> <li>• It refers to the period of reduced capital inflows to startups.</li> <li>• Factors responsible: geopolitical unrest, rising interest rates, overvaluation of startups, financial irregularities etc.</li> <li>• Its duration is unpredictable and may last for a long time.</li> </ul>
<p><b>Swing Trading</b></p>	<ul style="list-style-type: none"> <li>• It is a speculative trading style where a tradable asset is held for one more days in an effort to profit from price changes or swings.</li> <li>• A swing trading is typically held longer than a day trading position but shorter than buy and hold investment strategies that can be held for months or years.</li> </ul>

<p><b>Pump and Dump Scheme</b></p>	<ul style="list-style-type: none"> <li>• It is a manipulative scheme in which fraudster <i>artificially inflates (Pump) the stock's price through false and misleading information.</i></li> <li>• Once the fraudster/manipulator sells (dump) their share, the stock price falls, leading to loss of money by investors.</li> <li>• It is prevalent in the <i>micro-cap and small-cap sectors.</i></li> <li>• <i>SEBI guidelines completely ban</i> pump and dump schemes.</li> </ul>
<p><b>Front Running</b></p>	<ul style="list-style-type: none"> <li>• Front running, <i>also known as tailgating</i>, is the practice of a broker or trader <i>buying or selling a security based on advance knowledge of non-public information</i> that may affect its price substantially.</li> <li>• It is <i>different from insider trading</i>, where company insiders use confidential information to make personal gains.</li> <li>• It is an <i>illegal practice</i> under the <i>Security and Exchange Board of India (Mutual Fund) Regulations, 1996.</i></li> </ul>

Indices/Reports in News	Details
<p><b>India Volatility Index (VIX)</b></p>	<ul style="list-style-type: none"> <li>• It is an index used to measure the <i>volatility and fluctuation expectations</i> of the market in the <i>near term (30 days).</i></li> <li>• It was <i>introduced by the National Stock Exchange.</i></li> <li>• It has <i>direct correlation with volatility</i>, higher the VIX value higher the volatility and vice versa.</li> </ul>
<p><b>Cost Inflation Index (CII)</b></p>	<ul style="list-style-type: none"> <li>• It is used to <i>measure inflation adjusted price of an asset.</i></li> <li>• It is <i>notified every year</i> under the <i>Income Tax Act 1961.</i></li> <li>• It helps taxpayers in <i>calculating capital gains</i> from sale of capital assets after adjusting for inflation.</li> </ul>



<b>Business Ready Index</b>	<ul style="list-style-type: none"><li>• It is a metric designed by the <i>World Bank</i> to provide a <i>quantitative measure of the business environment for private sector development</i>.</li><li>• It is a successor to the Ease of Doing Business rankings.</li><li>• It is based on <b>3 Pillars</b>: A) Regulatory Framework B) Public Services C) Operational Efficiency</li><li>• It considers <b>10 parameters</b> which cover a firm's lifecycle.</li></ul>
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**Environment**

**1. Green Credit Programme**

**News:** The Environment Ministry recently issued additional guidelines for its Green Credit Programme (GCP).

**About Green Credit Programme (GCP)**

- India’s Green Credit Programme is a *market-based system* to incentivize voluntary environmental actions by individuals, communities, and businesses across sectors.
- It is included under the government’s *‘Lifestyle for Environment’ or ‘LiFE’ movement (launched in COP 26 in Glasgow)*.
- The main goal is to create a system for participants to earn incentives as *‘Green Credits’* through pro-planet actions under 8 initiatives of GCP.
- These Green Credits can be used by the companies and individuals to comply with *existing forest laws & to fulfill CSR obligations*.

**Initiatives under GCP**

Tree plantation	Water Management	Sustainable agriculture	Waste management
Air pollution reduction	Mangrove conservation and restoration	Eco mark label development	Sustainable building and infrastructure

**Governance of GCP**

- GCP has been established under The Environment (Protection) Act, 1986. MoEFCC serves as the Nodal Agency.
- The *Indian Council of Forestry Research and Education (ICFRE)*, an autonomous body under MoEFCC, is the administrator of the programme.

**2. The Plastic Waste Management (Amendment) Rules 2024**

**News:** The Environment Ministry has introduced the Plastic Waste Management (Amendment) Rules 2024 to amend the Plastic Waste Management Rules 2016. The new rules make it harder for makers of disposable plasticware to label such products as ‘biodegradable’.

**Key Highlights of the Plastic Waste Management (Amendment) Rules 2024:**

- **Clear Definition of Biodegradable Plastics-** Biodegradable plastics are now defined as materials *capable of degradation by biological processes* in specific environments like soil and landfill, without leaving any microplastics.
  - ✓ However, the updated *rules on microplastics do not specify*: Which chemical tests can confirm their absence, or the extent to which microplastics must be reduced for elimination.

- **Microplastics** are defined as any solid plastic particle insoluble in water, with dimensions *between 1 micron and 1,000 microns* (1 micron is one-thousandth of a millimeter).
- **Compliance with FSSAI requirements-** The amendment *allows the production of carry bags and products made from compostable or biodegradable plastics*. These products must meet FSSAI's mandatory marking and labeling requirements for food contact applications.
- **Certification Requirement-** Manufacturers of compostable or biodegradable plastic bags *must obtain a certificate from the CPCB before selling*.
- **Expanded Definition of "Importer":** The term now includes anyone imports plastic-related materials for commercial use.
- **Inclusive Definition of "Manufacturer":** The term now covers cover manufacturers of compostable and biodegradable plastics.
- **Extended Scope of "Producer":** It now covers manufacture of intermediate material as well as in contract manufacturer.

### What are Biodegradable Plastics and Compostable Plastics?

- **Biodegradable plastics** are materials that can break down through biological processes in environments like soil or landfills. The breakdown depends on factors such as temperature, microorganisms, nutrients, oxygen, and moisture.
- **Compostable plastics** are a type of biodegradable plastic that also degrade but need industrial or large municipal waste management facilities.

## 3. Fourth Global Mass Coral Bleaching Event

**News:** US National Oceanic and Atmospheric Administration (NOAA) Confirms the fourth global mass coral bleaching event. Nearly 54 countries, from Florida to Saudi Arabia and Fiji, have reported bleaching, driven by higher ocean temperatures.

### About Corals

- Corals are small (0.25-12 inches), soft-bodied marine invertebrates (not possessing a spine) which *belong to the group cnidaria*. These are sessile animals which permanently attach themselves to the ocean floor.
- Each individual coral animal is known as *a polyp* and it lives in groups of hundreds to thousands of genetically identical polyps that form a '*colony*'.

**Types of Corals-** There are two types of corals- *Hard coral and soft coral*

- **Hard corals-** These corals also called *hermatypic* or '*reefbuilding*' corals which extract *calcium carbonate from the seawater* to build hard, white coral exoskeletons.
- **Soft Corals-** Soft corals are flexible and resemble plants or trees. Unlike stony corals, they don't have hard skeletons and are *non-reef-building corals*.

### About Coral reefs

- Coral reefs are diverse underwater ecosystems formed by colonies of living corals

- Coral reefs are **formed by hard coral polyps** that have a symbiotic relationship with microscopic algae called zooxanthellae, giving them their characteristic color.
- **Growth conditions**- Warm (23–29°C), saline (32-42 ppt), clear, shallow marine waters featuring stable temperatures and plenty of sunlight.
- Most of the world’s coral reefs are in **tropical waters**.
- Coral reefs host far a greater number of **animal phyla** than those hosted by tropical rainforests.
- More than **one-third of the world’s coral reefs** are in the **territories of Australia, Indonesia and Philippines**.
- **Australia’s Great Barrier Reef** is the largest in the world, stretching across 2,028 kms.
- **Coral reefs in India** are in seven regions namely Goa coast, Kerala coast, Palk Bay, Gulf of Kutch, Gulf of Mannar, Lakshadweep islands and Andaman and Nicobar Islands.

### What is Coral Bleaching and Coral Deaths?

- **Coral bleaching** happens when corals are stressed by changes in temperature, light, or nutrients. In response, they expel the symbiotic algae (zooxanthellae) living in their tissues, causing them to turn completely white.
- **Coral Death**-Bleached corals can survive if the bleaching is not too severe, and sea temperatures return to normal. If heat and pollution levels decrease, the zooxanthellae can return to the corals and restart their relationship. However, **prolonged stress and severe bleaching can lead to coral death**.

### Mass Coral Bleaching Events

<b>First Mass Bleaching</b>	It occurred in <b>1998</b> when the El Niño weather pattern caused sea surfaces in the <b>Pacific Ocean to heat up</b> . This event led to the <b>death of 8% of the world’s coral</b> .
<b>Second Mass Bleaching</b>	This event took place in <b>2010</b> . It led to increased destruction of <b>35% coral reefs</b> .
<b>Third Mass Bleaching</b>	The event that took place between <b>2014-17</b> and affected reefs in Guam in the <b>Western Pacific region, the North, South-Pacific, and the Indian Ocean</b> . It affected <b>56%</b> of coral reefs around the world.

## 4. Status of Leopards in India

**News:** The Environment Ministry launched the fifth cycle of leopard population estimation in India.

### Key findings

1. **Population Estimate:** India’s leopard population is **estimated at 13,874**, showing stability compared to the previous count.
2. **Region-wise Trends:** **Central India and Eastern Ghats registered largest growth**, while **Shivaliks and Gangetic plains registered decline** in leopard population.




### State-wise distribution


- The **highest number of leopards were reported in Madhya Pradesh** (3,907), followed by Maharashtra (1,985), Karnataka (1,879) and Tamil Nadu (1,070).
- The **tiger reserves with the highest leopard populations include Nagarajunasagar Srisailem in Andhra Pradesh**, followed by Panna and Satpura in Madhya Pradesh.

### About Leopards

- It is the **smallest of the Big Cat family** (of genus Panthera namely the Tiger, Lion, Jaguar, Leopard, and Snow Leopard).
- It is known for its ability to adapt in a variety of habitats.
- **Behaviour**- It is a solitary, elusive and nocturnal Big Cat.
- **Melanism** is common occurrence in leopards, where their entire coat, including the spots, turns black.

### Types of Leopard species in India

<p><b>Common Indian Leopard</b></p> 	<p><b>Key characteristics:</b></p> <ul style="list-style-type: none"> <li>• Indian leopard <b>males are typically larger and taller</b> than females.</li> <li>• It is a solitary predator that stays well- hidden at night but <b>hunts during the day</b> by coming down from the trees.</li> </ul> <p><b>Places to find</b>- Bera, Jhalana leopard safari park in Rajasthan, Pench, Satpura &amp; Panna in Madhya Pradesh</p>
<p><b>Snow Leopard</b></p> 	<p><b>Key Characteristics:</b></p> <ul style="list-style-type: none"> <li>• It has a huge, fluffy, spotted coat and tail.</li> <li>• It is an <b>alpine cat</b> that inhabits the high, snowy mountains of central and south Asia.</li> <li>• They are commonly referred to as '<b>ghost of the hills</b>' due to their tendency to remain in shadows.</li> </ul> <p><b>Places to find</b>- Hemis National Park and Ulley Valley, Leh, Indian Himalayas</p>
<p><b>Clouded Leopard</b></p> 	<p><b>Key Characteristics:</b></p> <ul style="list-style-type: none"> <li>• It can use its tail for balance and climb down tree trunks headfirst with ease.</li> <li>• During the day, it sleeps in the trees and <b>goes hunting on the forest floor at night</b>.</li> </ul> <p><b>Places to find</b>- Northeastern Indian Himalayan foothills- <b>Clouded National Park in Tripura</b>, Namdapha National Park in Arunachal, <b>Balphakram National Park in Meghalaya</b> etc.</p>

<p><b>Black Leopard</b></p> 	<p><b>Key Characteristics:</b></p> <ul style="list-style-type: none"> <li>• It has dark brown (or black) fur with black Rosettes.</li> <li>• This is a panthera of a <i>melanistic</i> variety.</li> </ul> <p><b>Places to find-</b> Nagarhole National Park, Tadoba National Park, and Kabini Wildlife Sanctuary.</p>
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## 5. Carbon Removals and Carbon Farming (CRCF)

**News:** European Parliament adopted the provisional agreement on the Carbon Removals and Carbon Farming (CRCF) Regulation

### About the CRCF Regulation

- It is the first EU-wide voluntary framework for *certifying carbon removals, carbon farming, and carbon storage* in products throughout Europe.
- The CRCF Regulation will promote investment in innovative carbon removal technologies and sustainable carbon farming solutions while combating greenwashing.
  - ✓ **Greenwashing** refers to companies making false or misleading claims about the sustainability of their products or services.

### About Carbon Farming

- Carbon Farming is an agricultural method that *integrates the management of carbon capture and storage into farming practices*.
- It is designed to *reduce greenhouse gas emissions*, enhance the carbon content of soil, and improve overall agricultural productivity and ecosystem health.

**Carbon Farming Practices-** Agroforestry, conservation Agriculture (*Zero Tillage, Crop Rotation and Cover Cropping*, Crop Residue Management), integrated nutrient management, Livestock Management etc.

## 6. Green Steel Policy

**News:** The Steel Ministry has begun working on a comprehensive green steel policy aimed at reducing carbon emissions.

### About Green Steel

- Green steel is the *environmentally friendly production of steel* that generates lower greenhouse gas emissions.
- This is achieved by utilizing energy from renewable sources, producing less carbon dioxide, and improving waste management.

### India's Initiative

- A fourteenth task force has been established to explore the use of *biochar or biomass* (as alternatives in blast furnace operations) in steel-making, thereby bringing down carbon emissions during the manufacturing process. to reduce carbon emissions.

- India is investigating its own *pure-hydrogen Direct Reduction of Iron (DRI) technology*.
  - ✓ Industrial-scale hydrogen iron-making, or Direct Reduction of Iron (DRI), *uses hydrogen instead of carbon-emitting fossil fuels*, producing *water as the only waste product*.
  - ✓ Direct reduced iron (DRI) *also called sponge iron*, is then fed into an electric furnace, where electrodes generate a current to melt the sponge iron to produce steel.

### Status of Greenhouse Gas Emissions in the Steel Sector

- India's domestic steel sector *contributes 12% of the country's greenhouse gas emissions*.
- Its emission intensity is about 2.55 tonnes of CO<sub>2</sub> per tonne of crude steel, which is higher than the global average of 1.9 tonnes.

**Pollutants from Steel Industry-** Air emissions (CO, SO<sub>x</sub>, NO<sub>x</sub>, PM<sub>2.5</sub>), wastewater pollutants, hazardous waste, and solid waste.

## 7. Global Biofuel Alliance

**News:** The Ministry of Petroleum and Natural Gas has stated that the Global Biofuel Alliance (GBA) has initiated a work plan for formulating policy frameworks

### About the Global Biofuel Alliance

- It was *launched on the sidelines of the 2023 G20 summit in New Delhi* in September 2023.
- The alliance was launched with nine initiating members: *India, the US, Brazil, Argentina, Bangladesh, Italy, Mauritius, South Africa, and the United Arab Emirates*.
- The Alliance is focused on securing the supply of biofuels, ensuring affordability and sustainable production of biofuels.
- It aims to *facilitate global trade in biofuels* and provide technical support for national biofuel programmes.

### About Biofuels

Biofuels refers to renewable fuels derived from biomass: plants or agricultural, animal, domestic, and industrial biowaste. Biofuels are **significantly cleaner than conventional fossil fuels**.

### Different Generations of Biofuels

- **First Generation:**
  - ✓ Made from sugar, starch, or oils; includes bioalcohols, biodiesel, and biogas.
  - ✓ Higher carbon content and emit greenhouse gases.
- **Second Generation:**
  - ✓ Produced from leftover food crops like rice husk, wood chips. Examples include such as biohydrogen and biomethanol.
  - ✓ Greenhouse content less than 1st generation biofuel
- **Third Generation:**

- ✓ Derived from microorganisms like algae. Examples- Butanol.
- ✓ Carbon Neutral (CO<sub>2</sub> emitted=CO<sub>2</sub> sequestered)
- **Fourth Generation:**
  - ✓ Produced from genetically engineered crops like GM crops.
  - ✓ Carbon Negative

## 8. Critical Wildlife Habitat and Critical Tiger Habitat

**News:** The Supreme Court has directed the Government of Rajasthan to close 68 mines operating within a 1-kilometer radius of the Critical Tiger Habitat (CTH) of the Sariska reserve.

### About Critical Wildlife Habitat (CWH)

- **Critical Wildlife Habitats (CWHs)** are designated areas within National Parks and Sanctuaries that must *remain undisturbed for wildlife conservation*.
- These areas are *scientifically identified* to be maintained as inviolate zones for wildlife conservation, ensuring that the rights of the Scheduled Tribes and other forest dwellers are not affected.
- They are established under **Section 2(b)** of the **Schedule Tribes and Other Forest Dwellers** (Recognition of Forest Rights) Act, 2006 (Forest Rights Act), and notified by the Ministry of Environment, Forest and Climate Change.

### Process for determining CWH

- These areas are declared on a *case-to-case basis*.
- Displaced forest dwellers *must be rehabilitated with secure livelihoods*.
- **Expert Committee** (formed by Chief Wildlife Warden of a state) to identify critical wildlife habitats (CWH) in a national park or sanctuary.
- The committee will submit the CWH proposal to the Chief Wildlife Warden. The decision on the proposal will be taken by the Standing Committee of the National Board for Wildlife
- **State Governments cannot divert CWHs for purposes other than wildlife conservation**, and the *consent of the Gram Sabha is required* for resettlement plans.

### Critical Tiger Habitat (CTH)

- Critical Tiger Habitat is defined under **Section 38V of the Wildlife Protection Act, 1972**.
- According to **Section 38V (4)** a Tiger Reserve consists of 2 parts: **Core or Critical Tiger Habitat and a Buffer or Peripheral Area**.
- According to a clarification by the Ministry of Environment, Forest and Climate Change, **'Core or Critical Tiger Habitat' (CTH) is different from the 'Critical Wildlife Habitat' (CWH)**.
  - ✓ Tigers are territorial big cats, hence considering their social land tenure dynamics, the 'CTH' has been viewed separately from the 'CWH', which is applicable to other wild animal species.



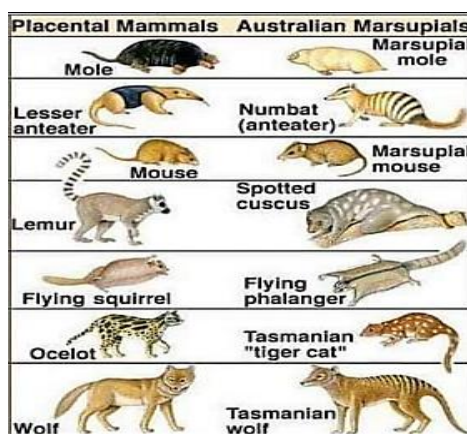
- The *Nagarjunsagar-Srisailem Tiger Reserve* in Andhra Pradesh has the largest area under critical tiger habitat in India.

## 9. Placental Mammals

**News:** Researchers at Stockholm University have found that brown fat, the typical mammalian heater organ, has evolved exclusively in modern placental mammals.

### What is Placenta?

- The placenta is a special organ that *forms during pregnancy in female mammals (except monotremes and marsupials)*.
- It is made from both the mother's and the foetus' tissues.
- The placenta performs functions of:
  - ✓ **Transporting nutrients** from the mother to the foetus.
  - ✓ **Removing waste products** from the foetus.



### About Placental Mammals

- Placental mammals, classified under the subclass *Eutheria*, are animals that have a placenta.
- Placental mammals *carry the foetus in the uterus* until it is born at an advanced stage.
- The placenta permits a long period of fetal growth in the uterus. As a result, the fetus can become large and mature before birth.
- Placental mammals include all living mammals *except marsupials and monotremes* (egg-laying mammals).
  - ✓ Marsupials and monotremes have a less-developed and less-efficient placenta that limits gestation.

### About Marsupials

- Marsupials are a group of mammals that *give birth to relatively undeveloped young* which then continue to grow and develop outside the womb, *typically in a pouch*.
- Examples of marsupials include *Kangaroos, Koalas, Opossums, etc.*

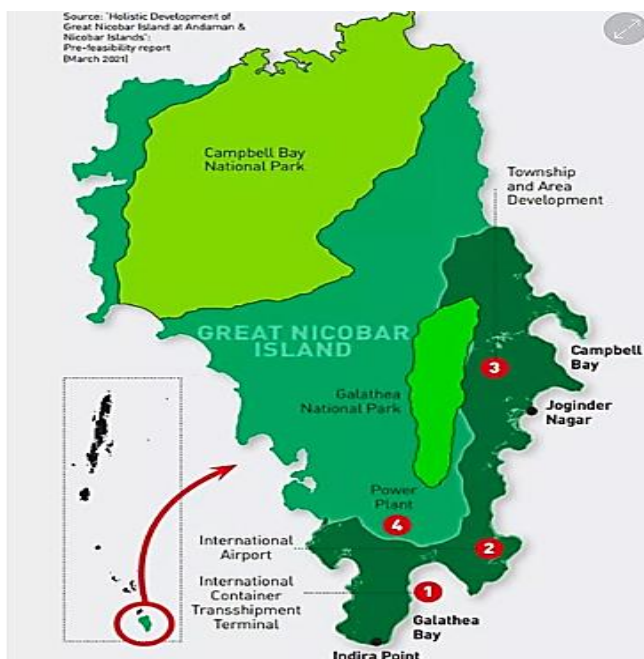
## 10. Great Nicobar Project

**News:** The Great Nicobar Island Development Project by NITI Aayog is back in the news amid protests and calls to halt it for environmental reasons.

### About Great Nicobar Project

- The Great Nicobar Island Development Project entails a ₹72,000-crore infrastructure upgrade over 16,610 hectares.

- It is *led by the Andaman and Nicobar Islands Integrated Development Corporation (ANIIDCO)*.
- It aims to utilize the island's strategic position near the Malacca Strait and includes:
  - ✓ An International Container Transshipment Terminal (ICTT)
  - ✓ A greenfield international airport
  - ✓ Two greenfield cities
  - ✓ A coastal mass rapid transport system
  - ✓ A free trade zone



### Geographical Overview

- **Location:** Great Nicobar Island is the southernmost island in the Andaman and Nicobar group, situated south of the Andaman Islands across the Ten Degree Channel. It *includes Indira Point*, India's southernmost point
- **Ecosystem:**
  - ✓ The island features tropical wet evergreen forests and beaches host numerous *endangered and endemic species* including the *giant leatherback turtle*, the *Nicobar megapode*, the *Great Nicobar crane*, the Nicobar crab-eating macaque, and the *Nicobar tree shrew*.
  - ✓ *It hosts one biosphere reserve- Great Nicobar Biosphere Reserve*. The reserve *incorporates two national parks* (Campbell Bay National Park & Galathea National Park)
- **Tribal Population:** The island is home to the Shompen, a hunter-gatherer tribe, and the Nicobarese.

## 11. Climate Technology Centre and Network (CTCN)

**News:** The Climate Technology Centre and Network (CTCN) recently marked its 10-year anniversary.

### About Climate Technology Centre and Network (CTCN)

- **Headquarter-** Copenhagen, Denmark
- Established in 2014, it serves as the operational arm of the Climate Change Technology Mechanism *under the United Nations Framework Convention on Climate Change (UNFCCC)*.

- It was established to *accelerate the development and transfer of environmentally sound technologies* for low-carbon and climate resilient development at the request of developing countries.
- It is *hosted by UN Environment Programme (UNEP)* in collaboration with the United Nations Industrial Development Organization (UNIDO)

## 12. Green Ammonia

**News:** Recently, Solar Energy Corporation of India initiated Competitive Bidding for Green Ammonia Production.

### About Ammonia

Ammonia (NH<sub>3</sub>) is a chemical compound made from nitrogen and hydrogen, commonly used in the production of fertilizers and industrial chemicals.

### Types:

- **Grey Ammonia:** Produced by synthesizing hydrogen and nitrogen gases. The hydrogen primarily derived from fossil fuels like natural gas, petroleum, and coal.
- **Green Ammonia:** Ammonia created *using renewable energy* through electrolysis, often referred to as renewable ammonia.

### About Green Ammonia Production

- The Haber-Bosch process is one the most efficient processes for production for ammonia on an industrial scale.
- **Government Initiatives for Promoting Green Ammonia in India**
  - ✓ **National Green Hydrogen Energy Mission**
    - Launched and implemented by the Ministry of New and Renewable Energy.
    - The mission aims to achieve a Green Hydrogen production capacity of at least 5 MMT per year while adding around 125 GW of renewable energy capacity in India.

## 13. Captive Elephant (Transfer or Transport) Rules, 2024

**News:** The Centre has notified a set of rules called the Captive Elephant (Transfer or Transport) Rules, 2024.

### Captive Elephant (Transfer or Transport) Rules, 2024

**Aim-** To liberalise the conditions under which elephants may be transferred within or between States.

### Circumstances under which captive elephants can be transferred

- When an *owner is no longer able to maintain the elephant*.
- When the elephant will likely have a better upkeep than in the present circumstances.
- When a *State's Chief Wildlife Warden "deems it fit and proper"* in the circumstances of the case for better upkeep of the elephant.

### Pre-requisite for transfer

- A **veterinarian must approve** the elephant's health before transferring it within the State.
- The **Deputy Conservator of Forests** must confirm that both the current and future habitats are suitable.
- The **Chief Wildlife Warden can approve or reject the transfer** after reviewing the documents.  
(Note: The same conditions apply for transferring the elephant outside the State.)
- The elephant's **genetic profile must be registered** with the Ministry of Environment, Forest and Climate Change before transfer.
- A **mahout and an assistant must accompany the elephant**, along with a health certificate and a quarantine period before the transfer.

### To the Point

Terms/Concept in News	Details
<b>Keeling Curve</b>	<ul style="list-style-type: none"> <li>• It is a <b>graph showing the ongoing changes in carbon dioxide concentration in Earth's atmosphere</b>, based on continuous measurements taken at the Mauna Loa Observatory.</li> <li>✓ MLO is a station in Hawaii on the side of Mauna Loa (the world's largest active volcano) that measures atmospheric elements contributing to climate change.</li> </ul>
<b>Biocover</b>	<ul style="list-style-type: none"> <li>• It is a <b>porous material layer</b> laid directly on top of a landfill which is then covered by an oxidizing layer of mature compost.</li> <li>• It creates ideal conditions for <b>methanotrophic bacteria (methane-utilizing)</b> to thrive and function as biofilters, hence effectively controlling methane emissions by converting methane into CO<sub>2</sub>.</li> <li>• <b>Potential applications-</b> Mitigating landfill gas (LFG) emissions, Road construction</li> </ul>
<b>Catatumbo Lightning</b>	<ul style="list-style-type: none"> <li>• It is a natural phenomenon in which there is a <b>continuous and striking electrical discharge in the atmosphere over the Catatumbo River in Venezuela</b>.</li> <li>• The strikes occur for up to 160 nights in a year, with an average of 28 lightning strikes per minute at its peak.</li> </ul>

	<ul style="list-style-type: none"> <li>This phenomenon primarily happens at the mouth of the Catatumbo River, where it meets <b>Lake Maracaibo</b>, the largest lake in Latin America.</li> <li>✓ Its proximity to the Andes Mountains and the Caribbean Sea creates a unique geographical setup that plays a crucial role in the frequency of lightning in the region.</li> </ul>
<b>Zero Shadow Day</b>	<ul style="list-style-type: none"> <li>It is a phenomenon where the <b>sun is exactly overhead</b>, and <b>vertical objects appear to cast no shadow</b>.</li> <li>It <b>happens twice a year</b> for every point on Earth between the Tropic of Cancer and the Tropic of Capricorn.</li> <li><b>Causes</b>- It occurs due to the <b>tilt of the Earth's axis</b> and its orbit around the Sun</li> </ul>
<b>Direct Air Capture and Storage (DAC+S) Technology</b>	<ul style="list-style-type: none"> <li>DAC+S technology <b>captures carbon dioxide (CO<sub>2</sub>) directly from the air</b>, unlike traditional methods that target industrial emissions.</li> <li>The captured CO<sub>2</sub> can be permanently stored underground or used in various industrial applications, helping to reduce greenhouse gas emissions.</li> </ul> <p><b>CDR Technology</b>- Carbon Dioxide Removal (CDR) refers to anthropogenic activities that remove CO<sub>2</sub> from the atmosphere and store it in geological, terrestrial, or oceanic reserves.</p>
<b>Alternate Wetting and Drying Technique</b>	<ul style="list-style-type: none"> <li>It is a <b>water-saving technology</b> that rice farmers can apply to reduce the water usage in irrigated fields. AWD is also called controlled irrigation or intermittent irrigation</li> <li>In AWD, water is added to flood the field a few days after the ponded water has dried up, <b>creating a cycle of flooding and drying</b>.</li> <li>Drying periods can <b>vary from 1 to over 10 days</b>, depending on soil type and rice variety</li> </ul>
<b>Biomining</b>	<ul style="list-style-type: none"> <li>Biomining is the <b>scientific process of excavation, treatment, segregation and gainful utilisation</b> of aged municipal solid waste lying in dumpsites typically referred to as legacy waste.</li> <li><b>Methods of biomining</b> include Bioleaching, Bio-oxidation, Dump Leaching, and Agitated Leaching.</li> </ul>

	<ul style="list-style-type: none"> <li>• Biomining is used to <b>clear oil spills</b> in the sea and pollution from the soil, ground and surface water and air</li> </ul>
<b>Hydrogel</b>	<ul style="list-style-type: none"> <li>• It is a <b>3D network of hydrophobic polymers</b> formed by crosslinking water-soluble polymers.</li> <li>• Hydrogels <b>can absorb and retain large amounts of water.</b></li> </ul>
<b>Rangelands</b>	<ul style="list-style-type: none"> <li>• Rangelands primarily consist of <b>natural grasslands</b> utilized by livestock and wild animals for grazing and foraging.</li> <li>• The <b>vegetation found in rangelands includes</b> tallgrass prairies, steppes (shortgrass prairies), desert shrub-lands, shrub woodlands, savannas, chaparrals etc</li> </ul>

Initiatives in News	Details
<b>Clean Energy Transitions Programme</b>	<ul style="list-style-type: none"> <li>• Launched in 2017 it is a key initiative of <b>International Energy Agency (IEA) seeking</b> to accelerate progress towards a global net-zero energy system.</li> <li>• The program uses the Agency's expertise and influence to provide analysis, technical support, and capacity building to help developing countries transition to clean energy.</li> <li>• Its goals <b>align with the 2015 Paris Agreement</b> and the <b>UN's Sustainable Development Goals.</b></li> </ul>
<b>Global Soil Partnership (GSP)</b>	<ul style="list-style-type: none"> <li>• It was <b>established in 2012 by the Food and Agriculture Organization (FAO).</b></li> <li>• It is a mechanism to develop a strong interactive partnership and enhance collaboration and synergy of efforts between all stakeholders.</li> <li>• Its aim is to <b>highlight the importance of soil globally</b>, support inclusive policies and governance, and promote sustainable soil management.</li> </ul>
<b>One Million Youth Actions Challenge (1MYAC)</b>	<ul style="list-style-type: none"> <li>• <b>Aim-</b> To mobilize <b>youth aged 10 to 30</b> to take concrete actions for a sustainable future, with a goal of reaching 1,000,000 youth actions.</li> <li>• The initiative focuses on promoting four Sustainable Development Goals (SDGs), namely: <ul style="list-style-type: none"> <li>✓ <b>SDG 6: Clean water and sanitation</b></li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>✓ SDG 12: Responsible consumption and production</li> <li>✓ SDG 13: Climate action</li> <li>✓ SDG 15: Life on land</li> </ul>
<p><b>Climate Promise Initiative</b></p>	<ul style="list-style-type: none"> <li>• It is the United Nations Development Programme's (UNDP) <i>initiative to support developing countries on their climate action</i>.</li> <li>• It is the <i>world's largest offer of support to developing countries on NDC</i> enhancement and implementation.</li> <li>• UNDP's Climate Promise 2025 supports over 125 developing countries in updating their NDC's to align with the 2015 Paris Agreement goals.</li> </ul> <p><b>Nationally Determined Contributions (NDCs)</b></p> <ul style="list-style-type: none"> <li>• An NDC is a <i>non-binding climate action plan</i> aimed at reducing emissions and adapting to the impacts of climate change.</li> <li>• Each party to the Paris Agreement <i>must establish an NDC</i> and <i>update it every five years</i>.</li> </ul>

Species in news	Details
<p><b>Baobab Tree</b></p>	<ul style="list-style-type: none"> <li>• These are long-lived <i>deciduous trees</i>, ranging from 5 to 30 meters (20 to 100 feet) tall, with broad trunks and <i>compact tops</i>.</li> <li>• Also <i>Known as the "upside-down tree"</i> for their unusual appearance.</li> <li>• There are nine types of baobab trees, mostly in Africa, Madagascar, and a few in Australia.</li> <li>• In India, they are mainly found in <i>Mandu, Madhya Pradesh</i>, where the Bhil tribe has historically preserved them</li> </ul>
<p><b>Golden Langur</b></p>	<ul style="list-style-type: none"> <li>• <b>Protection status:</b> <ul style="list-style-type: none"> <li>✓ IUCN: Endangered</li> <li>✓ CITES: Appendix I</li> <li>✓ <b>Wildlife Protection Act, 1972:</b> Schedule I</li> </ul> </li> <li>• <b>Habitat-</b> It is endemic to western Assam, India, and southern Bhutan.</li> <li>• <b>Characteristics:</b> <ul style="list-style-type: none"> <li>✓ They are most easily recognized by the colour of their fur, after which they are named.</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>✓ Known as leaf monkeys, they depend on trees and live in the upper canopy of forests.</li> </ul>
<b>Black Softshell Turtle</b> ( <i>Nilssonina nigricans</i> )	<ul style="list-style-type: none"> <li>• It is a species of freshwater turtle.</li> <li>• <b>Protection Status:</b> <ul style="list-style-type: none"> <li>✓ <b>IUCN STATUS:</b> Critically Endangered</li> <li>✓ <b>CITES:</b> Appendix I</li> <li>✓ <b>Wildlife (Protection) Act, 1972:</b> No legal protection</li> </ul> </li> <li>• <b>Habitat-</b> It is found in India and Bangladesh.</li> </ul>
<b>Butterfly Cicada</b>	<ul style="list-style-type: none"> <li>• A <i>new species of cicada</i> discovered in <b>Meghalaya</b>.</li> <li>• It belongs to <i>the genus Becquartina</i> and marks the <b>first-ever record of this genus in the country</b>.</li> <li>• The cicada's colorful wings gave it the nickname "butterfly cicada," and its species name "bicolour" shows its two color forms.</li> </ul> <p><b>About cicada</b></p> <ul style="list-style-type: none"> <li>• Cicadas (family Cicadidae) are insects known for their ability to produce sound.</li> </ul>
<b>Vasuki Indicus</b>	<ul style="list-style-type: none"> <li>• Researchers have found fossils of one of the largest snakes ever, named Vasuki indicus, <i>in Kutch, Gujarat</i>.</li> </ul> <p><b>About Vasuki Indicus</b></p> <ul style="list-style-type: none"> <li>• <b>Length-</b> 36-49 feet (11-15 meters)</li> <li>• It lived in the <i>Middle Eocene period (roughly 47 million years ago) in India</i>.</li> <li>• It <i>belonged to the now-extinct Madtsoiidae snake family</i> that appeared roughly 90 million years ago but went extinct about 12,000 years ago.</li> <li>• It <i>spread from India through southern Eurasia and into north Africa</i> after the Indian subcontinent collided with Eurasia around 50 million years ago,</li> </ul>

National Park in News	Details
<b>Yellowstone National Park</b>	<p><b>Context-</b> Yellowstone N.P. recently celebrated its 151st anniversary</p> <ul style="list-style-type: none"> <li>• <b>Location-</b> It an American national park located in the western United States.</li> <li>• <b>Key features:</b> <ul style="list-style-type: none"> <li>✓ It was the first national park in the U.S. and is also <i>considered the world's first national park</i>.</li> </ul> </li> </ul>



	<ul style="list-style-type: none"> <li>✓ It is known for its wildlife and its many geothermal features, especially <i>Old Faithful geyser</i>.</li> <li>✓ The park hosts the Grand Canyon of the Yellowstone River.</li> <li>✓ It became a <i>UNESCO World Heritage Site</i> in 1978</li> </ul>
<p><b>Kalesar Wildlife Sanctuary</b></p>	<p><b>Context-</b> The Supreme Court stayed the construction of four proposed dams inside Kalesar Wildlife Sanctuary.</p> <ul style="list-style-type: none"> <li>• <b>Location-</b> It is situated within the Yamunanagar District of <i>Haryana</i></li> <li>• <b>Status-</b> It was declared as a national Park in 2003.</li> <li>• <b>Topography-</b>The landscape is characterized by narrow valleys known as '<i>khols</i>' and seasonal rivulets called '<i>soats</i>,' which remain dry for most of the year.</li> <li>• <b>Flora-</b> Sal trees, Semul, Bahera, Amaltas, Shisham, Khair, Sain, Chhal and Jhingan.</li> <li>• <b>Fauna-</b> leopards, Ghoral, Barking deer, Sambar, Chital, Python, King Cobra, Monitor lizard etc.</li> </ul>
<p><b>Pench Tiger Reserve</b></p>	<p><b>Context-</b> An advanced AI system for early forest fire detection has been launched at Pench Tiger Reserve.</p> <ul style="list-style-type: none"> <li>• <b>Location-</b> Spread across Maharashtra and Madhya Pradesh in the southern Satpura hills.</li> <li>• <b>Status-</b>: Awarded status of National Park in 1975, and Tiger Reserve in 1992.</li> <li>• <b>Vegetation-</b> The forests in Pench tiger reserve are classified into three types: <ul style="list-style-type: none"> <li>✓ South Indian Tropical Moist Deciduous (slightly moist)</li> <li>✓ Southern Tropical Dry Deciduous Teak Forests and</li> <li>✓ Southern Dry Mixed Deciduous Forest</li> </ul> </li> <li>• <b>River-</b> The Pench River flows through the middle of the park.</li> <li>• <b>Flora-</b> Mahua, Palash, Teak, Neem, Bijiyasal, Dhaora, Amaltas</li> <li>• <b>Fauna-</b> Tiger, leopard, Gaur (Indian Bison), Sambar, Barking deer, Chousingha, Chinkara and Wild boar.</li> </ul>

	<ul style="list-style-type: none"><li>• <b>Other key Details:</b><ul style="list-style-type: none"><li>✓ The Pench Tiger Reserve and its neighborhood is the original setting of <i>Rudyard Kipling's most famous work, The Jungle Book</i>.</li><li>✓ A description of its natural wealth and richness also mentions in <i>Ain-i-akbari</i>.</li></ul></li></ul>
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## Science and Technology

### 1. Hubble Tension

**News:** In a recently published study, scientists from Germany and the U.K. proposed a groundbreaking explanation for the Hubble tension.

#### About Hubble Constant

- The Hubble constant ( $H_0$ ) is the *rate of expansion of the universe*.
- It is used to confirm the age of the universe and make future predictions.
- Hubble constant is *estimated by researchers using two main methods*: the Cosmic Distance Ladder (CDL) and the Cosmic Microwave Background (CMB).
  - ✓ **Cosmic Distance Ladder (CDL)** measures the rate of universe expansion by observing the distance of objects in the nearby universe and their movement away from the earth.
    - It is measured by Hubble Space Telescope and ESA's Gaia Astrometry.
  - ✓ **Cosmic Microwave Background (CMB)** measures the fluctuations in the cosmic microwave background (heat left after the big bang) in the distant universe.
    - It is measured by ESA's Planck Mission.

#### About Hubble Tension

- The Hubble Tension refers to the *discrepancy between measurements of the universe's expansion rate* by the Cosmic Distance Ladder (CDL) and Cosmic Microwave Background (CMB).
- As per the CDL, the nearby universe is expanding at the rate of 73-74 km/s/megaparsec, whereas the CMB states that the distant universe is expanding at the rate of 67-68 km/s/megaparsec.

### 2. IceCube Neutrino Observatory

**News:** Scientists at the IceCube Neutrino Observatory in Antarctica believe they may have found the first evidence of astrophysical tau neutrinos, known as "ghost particles."

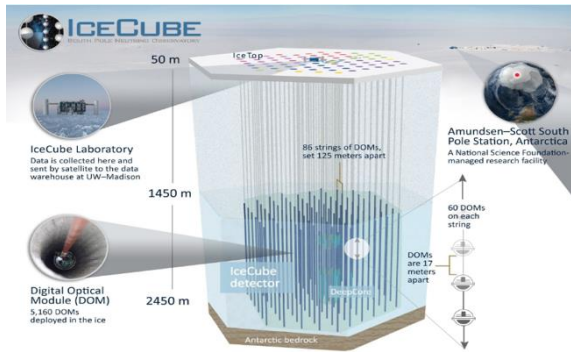
#### About IceCube Neutrino Observatory

- IceCube is a *device designed to detect subatomic particles known as neutrinos*.
- It is the *world's biggest 'neutrino telescope'*; its sensors are distributed throughout a cubic kilometre of ice.
- **Location-** Amundsen–Scott South Pole Station in *Antarctica*.
- **Construction-** It was built and is maintained by the *IceCube Collaboration*. IceCube Collaboration consists of many universities worldwide led by the University of Wisconsin, Madison.

#### About Neutrinos

- Neutrinos are extremely *small, subatomic particles having very little mass*.
- They are *neutral in charge*.

- Neutrinos are the most abundant particles having mass in the universe.
- Coming together of atomic nuclei (like in the sun) or breaking apart (like in a fission reactor or particle accelerator) produces neutrinos.
- Once produced, these ghostly particles almost never interact with other matter. Tens of trillions of neutrinos from the sun stream through your body every second.
- **Source of Neutrinos:** Stars, Supernovae, Galaxies, Nuclear reactions.



### About Indian Neutrino Observatory

- It is an initiative to create a **state-of-the-art underground laboratory** to research fundamental scientific concepts.
- The project **aimed to study neutrinos** using an underground Iron Calorimeter (ICAL) detector in a 1,200-meter-deep cave.
- The project is **proposed to be set up at Pottipuram village in Theni district in Tamil Nadu.**
- This project is **jointly funded by the Department of Atomic Energy and the Department of Science and Technology.**
- This project involves approximately 26 institutes, with the **Tata Institute of Fundamental Research in Mumbai serving as the host.**

### 3. ISRO's zero orbital debris milestone

**News:** ISRO's PSLV-C58/XPoSat mission successfully launched the XPoSat satellite and changed the final stage of the PSLV into the POEM-3 module, leaving no debris in Earth's orbit.

#### About POEM-3 (PSLV Orbital Experimental Module-3).

- It is a platform designed to **conduct in-orbit experiments using the final stage of the Polar Satellite Launch Vehicle (PSLV).**
  - ✓ The PSLV is a four-stage rocket, with the first three stages falling into the ocean, while the final stage (PS4) typically becomes space junk. However, in POEM, the spent final stage will be used as a stabilized platform for experiments.
- **Developed by-** Vikram Sarabhai Space Centre (VSSC)
- It was first utilized in the PSLV-C53 mission in June 2022. ISRO deployed POEM to orbit the Earth and conduct in-orbit scientific experiments with several payloads on board.

#### Zero orbital debris milestone

- To avoid space junk, POEM-3's orbit was lowered from 650 km to 350 km.

- On March 21, 2024, it re-entered the Earth's atmosphere and burned up. Due to careful deorbiting, the PSLV-C58/XPoSat mission left almost no debris in orbit.

### Space debris

- Space debris in low Earth orbit (LEO) mainly *includes parts of spacecraft, rockets, defunct satellites, and fragments from anti-satellite missile tests.*
- LEO extends from 100 km to 2000 km above the Earth's surface.
- **Kessler syndrome:** Space debris poses two significant risks:
  - ✓ It creates unusable areas in orbit due to the accumulation of debris.
  - ✓ It can trigger the "Kessler syndrome," where a single collision causes a chain reaction of more collisions, leading to even more debris.

### How are space agencies dealing with debris?

#### Legal provisions:

There are currently *no international laws on LEO debris*. However, most space-faring nations *follow the Space Debris Mitigation Guidelines* established by the Inter-Agency Space Debris Coordination Committee (IADC) and *endorsed by the U.N. in 2007*.

## 4. God's Particle- Higgs Boson

**News:** Nobel prize-winning physicist Peter Higgs has passed away at the age of 94. He proposed the existence of the "God particle", also known as the Higgs boson.

### About Higgs Boson

- The Higgs boson is the *fundamental force-carrying particle of the Higgs field*. It is a field that gives mass to other fundamental particles such as electrons and quarks.
- The *Higgs boson was ultimately discovered on July 4, 2012, by scientists at the Large Hadron Collider (LHC) at CERN in Switzerland*, the world's most powerful particle accelerator.
- The LHC confirmed the existence of the Higgs field and the mechanism that gives rise to mass and thus completed *the standard model of particle physics*.
- According to the Standard Model of particle physics, particles gain their mass by interacting with a field called the Higgs field.
- Higgs Boson is *one of the 17 fundamental particles that constitutes the Standard Model of Physics*, which describes the physics of how the universe is constructed.
  - ✓ The Standard Model consists of 17 fundamental particles, with only the electron and photon known a century ago. These 17 fundamental particles are divided into two groups: *fermions* and *bosons*.
- **Features of Higgs Boson:**
  - ✓ The Higgs boson has a mass of 125 billion electron volts, making it 130 times more massive than a proton.
  - ✓ It has *no charge with zero spin*, making it the only elementary particle without spin.

## 5. GPS Spoofing

**News:** Israel reportedly used GPS Spoofing to protect itself against the missiles attack by Iran.

### About GPS Spoofing

- GPS spoofing, or GPS simulation, is the *practice of tricking a GPS receiver with false GPS signals*.
- False signals deceive the receiver, *leading to incorrect location readings*. This cyberattacks compromises GPS data reliability, impacting navigation, time synchronization, and other applications.

### How it works?

- GPS satellites send signals that receivers use to find their location based on signal timing.
- GPS spoofing exploits the weak satellite signals by sending stronger fake ones, causing incorrect location data.
- Attackers copy real GPS signals to deceive the receiver.

## 6. Shallowfakes

**News:** The social media has been flooded with misinformation amidst the ongoing General Elections. Most of the misinformation has been spread through Shallowfakes.

### About Shallowfakes

- Shallow fakes, like deepfakes, involves altering people's images, videos, and voice clips for malicious purposes.
- Shallowfake is also called as **cheapfake**.

### Differences between Deepfakes and Shallowfakes

- **Technology:** *Deepfakes use advanced AI and machine learning algorithms*, while *Shallowfakes involve lower-quality image and video editing* that can be made with common editing software and typically *don't require AI or machine learning*.
- **Accessibility:** Shallowfakes are easier for regular users to create and are therefore more common than deepfakes.

## 7. Network-as-a-Service (NaaS)

**News:** India's NaaS market is projected to grow from \$1.18 billion in 2024 to \$7.32 billion by 2029.

### About NaaS

- It is a cloud service model where *customers lease networking services from cloud providers*.
- It is a flexible, scalable, and affordable option for organizations since it enables them to allocate network resources as needed.

- NaaS *allows customers to operate their own networks without maintaining their own networking infrastructure.*
  - ✓ The traditional network model requires capital expenses (CapEx) for physical networks with switches, routers, and licensing.
- NaaS can replace other networking systems that often require more work and provide less agility, such as *virtual private networks (VPNs)* and *multiprotocol label switching (MPLS)*.
- NaaS offerings *include services such as managed software-defined wide area network (SD-WAN)* and network access. For example, *this may encompass wireless, security, or unified communications (UC) services in a public cloud* or on virtualized customer premises equipment (vCPE).

## 8. Bitcoin Halving

**News:** Crypto traders and Bitcoin miners are eagerly awaiting their quadrennial event known as Bitcoin halving.

### About Bitcoin Halving

- Bitcoin halving is a *50% reduction in the reward given to Bitcoin miner.*
  - ✓ Bitcoin miners are people *who successfully process other people's cryptocurrency transactions* so that they can be added to the public digital ledger known as the *blockchain.*
  - ✓ To grow Bitcoin's blockchain and keep the ecosystem running, Bitcoin miners *rely on advanced computer equipment* to solve a complex mathematical puzzle through a process known as '*Proof of work*'
- It is an event which *takes place every four years.*
- **Impact-** BTC halving *slows down the creation of new bitcoins, reducing supply and often driving prices higher as demand grows.* However, it makes mining less profitable for bitcoin miners since rewards are cut in half, which may force less efficient miners to stop and lead to industry consolidation.

### About Bitcoin

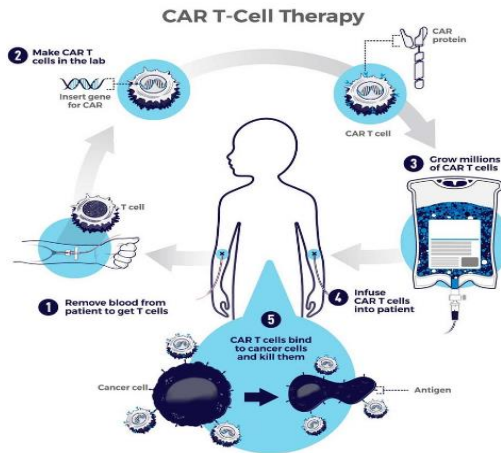
- Bitcoin is a *first decentralized cryptocurrency* that allows instant payments to anyone.
- Introduced in 2009, it *operates on an open-source protocol* and is not controlled by any central authority.
- **Record of Bitcoins-** All transactions are recorded in a public; encrypted ledger called the blockchain.

## 9. NexCAR19: India's Own CAR-T cell therapy

**News:** The President of India has launched India's first indigenous anti-cancer CAR-T Cell Therapy, NexCAR19.

**About NexCAR19**

- It is India’s first indigenously developed CAR-T cell therapy.
- Developed by IIT Bombay, Tata Memorial Centre, and ImmunoACT, a start-up from IIT Bombay.
- It targets cancer cells with the **CD19 protein**.
- The **treatment is for individuals with B-cell lymphomas** who have not responded to standard treatments like chemotherapy, resulting in relapse or recurrence.
- ✓ Initially, the therapy is approved for patients aged 15 years and older.



**About CAR-T cell therapy**

- CAR-T is a revolutionary therapy that **modifies immune cells, specifically T-cells**, by turning them into potent cancer fighters known as CAR-T cells.
- T-cells are special cells (white blood cells that find and fight illness and infection) whose primary function is cytotoxic, meaning it can kill other cells.
- These cells are genetically engineered to target and kill cancer, particularly in blood cancers like leukemia and lymphoma.
- Once modified, the supercharged cells are reintroduced into the body to attack cancer cells.

**10. Xenotransplantation**

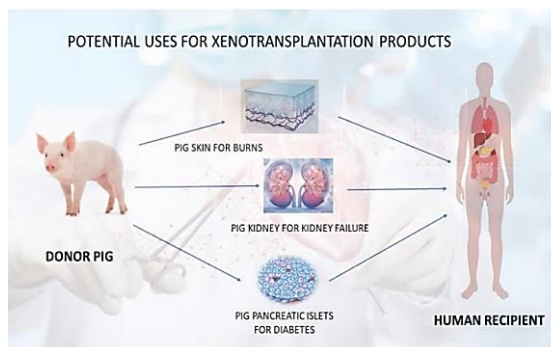
**News:** Recently, the first recipient of a modified pig kidney transplant passed away around two months after the Xenotransplantation surgery was carried out.

**About Xenotransplantation**

- It involves **using non-human cells, tissues, or organs, like pig kidneys, to treat human medical conditions**.
- Xenotransplantation involving the heart was **first tried in humans in the 1980s**.
- The animal organ selected must undergo genetic modifications, so that the human body does not reject it.

**Why are pigs commonly used in xenotransplantation**

- **Similar Body Structure as Humans:** Pigs are often chosen because their body structure and functions are like humans. Pigs are easy and cost-effective to breed.





- **Enhanced possibility of Organ Size Matching:** Different pig breeds offer a variety of organ sizes. This makes it easier to find a match for human recipients.

### To the Point

Mission in News	Details
<b>Dragonfly Mission</b>	<p>It is the fourth mission in NASA's New Frontiers Program, alongside New Horizons, Juno, and OSIRIS-REx</p> <ul style="list-style-type: none"> <li>• <b>Objective-</b> It is an astrobiology <i>mission to Titan aimed at evaluating its potential for microbial life</i> and examining its prebiotic chemistry at multiple sites.</li> <li>• It marks the first time NASA will fly a vehicle for science on another planetary body.</li> <li>• It <i>will reach Titan in 2034</i>.</li> </ul> <p><b>Technical Specifications</b></p> <ul style="list-style-type: none"> <li>• <b>Design:</b> Dragonfly is a "<i>dual quadcopter</i>" about the size of a car, capable of traveling tens of kilometers on Titan in under an hour.</li> <li>• <b>Power Source:</b> Dragonfly will use a radioisotope power system, like the one used by the Curiosity rover on Mars.</li> </ul> <p><b>About Titan</b></p> <p>It is <i>Saturn's largest moon</i>, featuring an Earth-like cycle of liquid flowing across its surface and being the only moon with a dense atmosphere.</p>
<b>ISRO'S RLV LEX-02 Mission</b>	<p><b>About Reusable Landing Vehicle (RLV) LEX 02 developed by ISRO</b></p> <ul style="list-style-type: none"> <li>• It is the second in a series of test flights designed to <i>showcase the autonomous landing capability</i> of a reusable launch vehicle (RLV).</li> <li>• The mission featured a <i>winged vehicle named Pushpak</i>, which was lifted to an altitude of 4.5 kilometers by an Indian Air Force Chinook helicopter.</li> <li>• Pushpak was released and had to autonomously execute a series of maneuvers to land accurately on the runway.</li> </ul> <p><b>About Reusable Landing Vehicle</b></p>

	<ul style="list-style-type: none"> <li>The reusable launch vehicle is essentially a <i>spaceplane with a low lift-to-drag ratio</i>, which means it must approach at steep glide angles and <i>land at high speeds of 350 km/h</i>.</li> </ul>
<p><b>Lunar Polar Exploration Mission (LUPEX) Mission</b></p>	<ul style="list-style-type: none"> <li>It is a <i>joint mission of Japan Aerospace Exploration Agency (JAXA) and Indian Space Research Organisation (ISRO)</i>.</li> <li><b>Objective-</b> To explore the <i>moon's southern polar region</i> for water and other elements, possibly in the form of surface ice.</li> <li><b>Contributions:</b> For the LUPEX mission, the <i>launch vehicle and rover are supposed to be contributed by the Japanese agency</i> while the <i>lander will come from ISRO</i>. It will also carry instruments from NASA and the European Space Agency (ESA).</li> </ul>

Topic	Details
<p><b>BHISHM Portable Cubes</b></p>	<ul style="list-style-type: none"> <li>BHISHM cubes, a state-of-the-art indigenous mobile hospital were <i>developed under Project BHISHM (Bharat Health Initiative for Sahyog Hita and Maitri)</i> to provide rapid and effective medical assistance during emergencies and disaster situations.</li> <li><b>Key features:</b> <ul style="list-style-type: none"> <li>✓ It can <i>support up to 200 patients</i>. These cubes are lightweight, waterproof, and durable.</li> <li>✓ <i>Advanced medical equipment, RFID-tagged</i> for efficient repacking and redeployment.</li> <li>✓ The whole unit contains 72 easily transportable components.</li> </ul> </li> </ul>
<p><b>Nephrotic Syndrome</b></p>	<p>Nephrotic syndrome is a kidney disorder that causes your body to pass too much protein in your urine.</p> <p><b>Key Symptoms:</b></p> <ul style="list-style-type: none"> <li>✓ <b>Proteinuria:</b> High levels of protein in urine.</li> <li>✓ <b>Hypoalbuminemia:</b> Low levels of albumin (a protein) in the blood.</li> <li>✓ <b>Edema:</b> Swelling, especially in the feet, ankles, and around the eyes.</li> <li>✓ <b>Hyperlipidemia:</b> Elevated levels of fats and cholesterol in the blood.</li> </ul>

<p><b>AFLATOXIN Contamination</b></p>	<ul style="list-style-type: none"> <li>• Aflatoxins are <i>toxins produced by certain fungi</i> which are generally found in agricultural crops like maize, peanuts, cotton seed and others.</li> <li>• They are <i>carcinogenic in nature</i>.</li> </ul>
<p><b>Weight Loss Drugs</b></p>	<p><b>Functioning:</b></p> <ul style="list-style-type: none"> <li>✓ Weight loss drugs mimic the action of a gut hormone called <i>glucagon-like peptide 1 (GLP-1)</i>.</li> <li>✓ GLP-1 is <i>secreted from three main tissues in humans</i>: enteroendocrine L-cells in the distal intestine, <math>\alpha</math> cells in the pancreas, and the central nervous system.</li> </ul>
<p><b>Endosymbiotic Theory</b></p>	<ul style="list-style-type: none"> <li>• The endosymbiotic theory posits that <i>some organelles in modern eukaryotic cells</i>, particularly mitochondria and chloroplasts <i>originated from prokaryotic microbes</i>.</li> <li>✓ <i>Eukaryotic cells have a membrane-bound nucleus</i> for storing genetic information.</li> <li>✓ In prokaryotes, <i>DNA is bundled together in the nucleoid region</i>, but it is not stored within a membrane-bound nucleus.</li> <li>• In this theory, the first eukaryotic cell was probably an amoeba-like cell.</li> <li>• Some of these amoeba-like organisms ingested prokaryotic cells that then survived within the organism and <i>developed a symbiotic relationship</i>.</li> </ul>

## 1. Janani Suraksha Yojana

**News:** The Janani Suraksha Yojana has achieved notable success, with over 88 percent of deliveries now occurring in hospitals.

### About Janani Suraksha Yojana

- **Objective-** Promoting institutional delivery among low-income pregnant women to reduce maternal and neonatal mortality.
- **Launched in-** 2005
- **Type of Scheme-** Centrally Sponsored Scheme
- **Nodal Ministry-** Ministry of Health and Family Welfare
- **Beneficiaries-** Pregnant women especially with weak socio-economic status i.e. women from Scheduled Castes, Scheduled Tribes and BPL households.
- **Key Features:**
  - ✓ It is a safe motherhood intervention under the *National Health Mission*.
  - ✓ It is implemented across all states and UTs, with a *particular focus on low-performing states*.
  - ✓ It integrates *cash assistance with delivery and post-delivery care*
  - ✓ *Pregnant women 19 years of age or older are eligible* to register and receive benefits under Janani Suraksha Yojana.
  - ✓ The scheme *provides performance-based incentives to ASHA* (Accredited Social Health Activist) volunteers to encourage institutional deliveries among pregnant women.

## 2. Lakhpati Didi Initiative

**News:** The interim budget for 2024-25 includes an expansion of the 'Lakhpati Didi' initiative, raising the target from 2 crore to 3 crore beneficiaries.

### About Lakhpati Didi Initiative

- Lakhpati Didi is *not a scheme but an output of the Deendayal Antyodaya Yojana – National Rural Livelihoods Mission (DAY-NRLM) scheme* of the Ministry of Rural Development (MoRD).
- **Aim-** To drive economic empowerment and financial independence for women in rural areas.
- **Launched in –** 2023
- **Nodal Ministry-** Ministry of Rural Development with Multistakeholder ministerial coordination
- **Key features of the initiative**
  - ✓ The program focuses on training women in self-help groups (SHGs) to achieve a sustainable annual income of at least Rs 1 lakh per household.

- ✓ Women will receive training in various skills and be given opportunities to earn income afterward.
- ✓ **Component of the program**
  - **Drone Didi:** This initiative will provide drones to about 15,000 women SHGs for agricultural activities.
  - **Skill training:** Women participating in this initiative receive training in various skills, including LED bulb production, plumbing, and more.

#### Who is a Lakhpati didi?

A Lakhpati Didi is a **Self-Help Group member with an annual household income exceeding Rs. 1 lakh** and a sustained monthly income of Rs. 10,000 or more for at least four agricultural seasons or business cycles.

#### What are the criteria for identifying potential Lakhpati Didis?

- A SHG member who has completed a minimum of two years and has availed of the Community Investment Fund (CIF).
- A beneficiary of livelihood intervention through the mission and **practising at least two livelihood activities.**

### 3. Food Safety and Standards Authority of India (FSSAI)

**News:** The Union Consumer Affairs Ministry has directed the FSSAI to investigate allegations against major Fast Moving Consumer Goods companies.

#### About Food Safety and Standards Authority of India (FSSAI)

- It is an autonomous statutory body **established under the Food Safety and Standards Act, 2006.**
  - ✓ The Food Safety and Standards Act, 2006 replaced the Prevention of Food Adulteration Act, 1954.
- **Ministry of Health & Family Welfare**, Government of India is the administrative Ministry of FSSAI.
- **Headquarters-** Delhi.
- **Functions**
  - ✓ The main role of the authority is to regulate and monitor the manufacturing, processing, distribution, sale and import of food while ensuring safe and wholesome food to the consumers.
  - ✓ It **establishes food standards and guidelines** and **provides licensing, registration, and accreditation for food business operators.**

### 4. Ayushman Bharat Health Accounts (ABHA)

**News:** Ayushman Bharat Health Accounts (ABHA) has become a key initiative aimed at improving healthcare access and data management in India.

#### About ABHA

- It is a unique **14-digit number** used to link all the health records of a person.

- **Aim-** To *establish a digital health ecosystem and promote the digitization of healthcare.*
- Any individual can enrol in *Ayushman Bharat Digital Mission (ABDM)* to generate a Health ID or ABHA, free of cost.
- **Features:**
  - ✓ **Electronic Health Records (EHR):** ABHA integrates electronic health records for efficient storage and retrieval of patient information, aiding in medical history maintenance and streamlining healthcare delivery.
  - ✓ **Portability:** The accounts are portable across healthcare providers under the Ayushman Bharat scheme, enabling beneficiaries to access services seamlessly, regardless of location.
  - ✓ **Transparency and Accountability:** By encouraging digital transactions and maintaining electronic records, ABHA improves transparency and accountability in the healthcare system.

## 5. Uttar Poorva Transformative Industrialization Scheme (UNNATI)

**News:** Ministry of Commerce and Industry, Department for Promotion of Industry and Internal Trade proposed Uttar Poorva Transformative Industrialization Scheme, 2024 (UNNATI – 2024).

### About UNNATI Scheme

- **Aim-** Developing industries and generating employment in the *Northeast Region* to foster productive economic activities in manufacturing and services.
- **Launched in-** 2024
- **Duration-** Till 2034- 10 years from the date of notification along with 8 years for committed liabilities
- **Type of Scheme-** Central sector scheme
- **Corpus-** 10, 037 crore
- **Implementing Agency-** Department for Promotion of Industry and Internal Trade.
- **Features:**
  - ✓ **Commencement of Production or operation:** All eligible Industrial Units to commence their production or operation within 4 years from the grant of registration.
  - ✓ **Districts are categorized in two zones:** Zone A (Industrially Advanced Districts) & Zone B (Industrially Backward Districts)
  - ✓ **Earmarking of funds:** 60% of the outlay of Part A has been earmarked to 8 NE states and 40% on First-In-First-Out (FIFO) basis.
  - ✓ All new Industrial units and Expanding units would be eligible for the respective incentives.

**To the Point**

Report	Details
<p><b>Global Food Policy Report 2024</b></p>	<p><b>Released by-</b> International Food Policy Research Institute (IFPRI)</p> <p><b>Key findings</b></p> <ul style="list-style-type: none"> <li>• More than two billion people, many of them in Africa and South Asia, cannot afford a healthy diet.</li> <li>• At least <b>38 percent of India's population consumed unhealthy foods.</b></li> <li>• As a result, the proportion of the population suffering from malnutrition increased from 15.4% in 2011 to 16.6% by 2021.</li> </ul> <p><b>About IFPRI</b></p> <ul style="list-style-type: none"> <li>• It was established in 1975.</li> <li>• IT is a <i>research center of The Consultative Group on International Agricultural Research (CGIAR)</i>, the world's largest agricultural innovation network</li> </ul>
<p><b>Global Gender Gap Report 2024</b></p>	<p><b>Released by-</b> World Economic Forum</p> <ul style="list-style-type: none"> <li>• It's an annual index measuring gender equality across four key dimensions- <i>economic participation and opportunity, educational attainment, health and survival, and political empowerment.</i></li> </ul> <p><b>Key findings</b></p> <ul style="list-style-type: none"> <li>• <b>Top countries-</b> Iceland, followed by Finland, Norway, New Zealand and Sweden in the top 5 rankings.</li> <li>• <b>India Position-</b> India fell from 127th in 2023 to <b>129th in 2024</b> among 146 countries</li> <li>• The global gender gap score in 2024 for all 146 countries is 68.5%.</li> <li>• At the current pace, it will take another 134 years to achieve full gender parity.</li> <li>• <i>The largest gender gaps are in Political Empowerment (77.5%) and Economic Participation (39.5%).</i></li> </ul>
<p><b>Child Nutrition Report 2024</b></p>	<p><b>Published by:</b> UNICEF.</p> <ul style="list-style-type: none"> <li>• The report <i>highlights severe child food poverty (CFP)</i>, which refers to children's lack of access to a nutritious and varied diet during their first five years of life.</li> </ul>

Child food poverty is measured using the UNICEF and World Health Organization (WHO) dietary diversity score. To meet the *minimum dietary diversity* for healthy growth and development, children need to consume foods from **at least five out of the eight** defined food groups.

If children are fed:	0-2 food groups/day they are living in	3-4 food groups/day they are living in	5 or more food groups/day they are
	<b>severe child food poverty</b>	<b>moderate child food poverty</b>	<b>not living in child food poverty</b>



### Key findings

- **Prevalence of CFP:** 27% of children globally; 40% in India (2nd highest in South Asia) live in severe CFP.
- **Poor Diet:** Unhealthy foods are becoming entrenched in children's diets replacing nutrient-rich foods.
- **Income and CFP:** Severe child food poverty (CFP) impacts children in both low-income and higher-income households, showing that income alone is not the determining factor.



### 1. World Craft City (WCC)

**News:** Recently, Srinagar has earned the World Craft City (WCC) tag from the World Crafts Council (WCC). It has become the fourth Indian city to be recognized as a 'World Crafts City' by the World Craft Council.

#### About World Craft City Programme:

- **Launched in 2014** by the World Crafts Council
- **It creates a vibrant network of craft cities worldwide**, in line with the principles of the creative economy.
- Under the World Craft City Programme, **Jaipur (Rajasthan), Mammalapuram (Tamil Nadu) and Mysore (Karnataka)** have been added as craft cities from India.

**Some of the famous crafts from Srinagar-** Papier-mâché, pashmina and Kani shawls, Jalakdozi (chain stitch rugs), Namda (handmade rug), Basholi Painting (depicting Vaishnavism)

#### About World Crafts Council International

- It is a Kuwait-based organisation working on the recognition and preservation of traditional crafts across the globe.
- It was founded in 1964 and Smt Kamaladevi Chattopadhyay, being one of the founding members, attended the 1st WCC General Assembly.

### 2. Padta Bet

**News:** Archaeologists from Kerala University have recently discovered a 5,200-year-old Harappan settlement at Padta Bet.

**Location-** It is located approximately 1.5 km from Juna Khatiya, biggest Early Harappan cemetery, in the Kutch district of Gujarat.

#### About Juna Khatiya:

- It is one of the largest Harappan burial sites, potentially containing 500 graves.
- The burials date from 3,200 BCE to 2,600 BCE, predating Dholavira and other Harappan sites in Gujarat.

#### Important Harappan Civilization Sites in Kutch, Gujarat

- **Dholavira:** It is the *UNESCO World Heritage Site* at Khadirbet in Bhachau Taluka of Kutch District. Its location is on the Tropic of Cancer.
- **Desalpar and Khirsara, Kotda Bhadli and Nadapa:** These are the other well-known Harappan sites in western Kutch.

### 3. Water logging in Kesariya Stupa

**News:** Kesariya stupa is said to be the tallest and largest Buddhist stupa in the world.

### Kesariya Stupa Key Points

- **Location**- East Champaran, Bihar.
- **Design**- Constructed in a circular shape, the structure is made of bricks, mud, and lime mortar, with a height of 104 feet
- **Construction**- Built in 3rd Century BC by Mauryan emperor Ashoka
- **Foreign traveller accounts**- Chinese travelers *Fa-Hien (5th century CE)* and *Hiuen Tsang (7th century CE)* also referenced this stupa in their accounts of India
- The stupa is believed to have been ***built to commemorate the spot where Lord Buddha delivered his 22nd sermon*** and announced his impending death



### 4. Namda Art of Jammu and Kashmir

**News:** The Namda Art of Kashmir, a dying craft, has been successfully revived through the Skill India project under the Pradhan Mantri Kaushal Vikas Yojana (PMKVY).

#### About Namda Art

- Namda is a traditional Kashmiri craft that involves making felted carpets from sheep wool and hand embroidery.
- This craft originated in the 16th century, ***introduced by the Sufi saint Shah-e-Hamdan to the Kashmiris.***
- The art form gained popularity India during the reign of the ***Mughal emperor Akbar.***
- The distinct feature of this Kashmiri craft is that ***wool is felted and not woven.***
- Namda rugs offer warmth and serve as floor coverings and decorative pieces for the home.



### 5. Kalyani Chalukyas

**News:** A 900-year-old Kannada inscription from the Kalyana Chalukya dynasty has been found at Gangapuram, a temple town, in Telangana.

#### About Kalyani Chalukyas (Western Chalukyas)

- The Chalukyas of Kalyani were a Kannadiga dynasty named after their ***capital, Kalyani,*** located in present-day Bidar district, Karnataka.
- Established by ***Tailapa II,*** the empire expanded over its 300-year rule in the western Deccan and southern Indian peninsula, reaching its peak of power.
- The most successful period of the later Chalukya rulers in Karnataka's history is often referred to as the '***Chalukya Vikrama era***' with Vikramaditya VI (1076-1126 CE) playing a key role.

- After Vikramaditya VI's death, ongoing conflicts with the Chola dynasty led to the decline of the Western Chalukya empire.

### Art and Architecture

- The Chalukyas significantly contributed to Kannada and Telugu literature.
- Their architecture, known as the '*Gadag*' style, connected Badami Chalukya architecture of the 8th century with Hoysala architecture of the 13th century.
- They minted *punch-marked gold coins called pagodas with Kannada inscriptions*.
- Temples from their era are rich in detailed carvings and ornate sculptures, featuring themes like *kirtimukha makaras* and *mithuna (erotic) figures*.

## 6. Mahima Dharma

**News:** The President of India paid her tributes to Santha Kabi Bhima Bhoi, a saint reformer belonging to the Mahima Dharma.

# Mahima Dharma

**Founder** Mahima Gosain | He is believed to have lived in the 19th century

### Teachings and Philosophy

- ☐ **Monism:** Mahima Dharma emphasizes the concept of monism, asserting the oneness of the ultimate reality
- ☐ **Simplicity and Equality:** The movement encourages a simple and egalitarian way of life, promoting equality among its followers
- ☐ **Rejects Idol Worship:** Mahima Dharma rejects traditional idol worship and focuses on the worship of the formless, attributeless divine.

### Fairs & Festivals

- ☐ **"Magha Mela"**, popularly known as Mahima Mela and Joranda Mela, is held in the month of Magha (Jan-Feb) for seven days

### Sects of followers

- ☐ Kumbhipatias
- ☐ Kanapatias
- ☐ Ashritas

### Spread and Influence

Primarily concentrated in the state of Odisha, Mahima Dharma has followers in various parts of India.

### Bhima Bhoi

- ☐ He was the second disciple of Mahima Gosain, the first being Govinda Das alias Jagannath Das of Balasingha of Boudh. He often referred to as the "Santha Kavi" meaning the "Saint Poet".
- ☐ **Popular works** :Brahma Nirupana Gita, Nirveda Sadhana, Poorna Samhita, Shunya Rahas, Adi Samhita, Nirgun Mahatmya, Bhabisya Gupta Malika and Stuti Chintamani
- ☐ He belonged to the less privileged **Kondh** tribe.
  - Bhima Bhoi, set up his ashram in Khaliapali

## To the Point

Tribes in News	Details
<b>Soligas Tribe</b>	<ul style="list-style-type: none"> <li>• The Soligas are an indigenous community <i>residing in the Cauvery Basin</i> and the surrounding hills of peninsular India.</li> <li>• They are the <i>original inhabitants of Karnataka</i>, primarily residing in the Chamarajanagar and Mandya districts. They live in the forest outskirts near <i>Biligiri Rangana Hills</i> and <i>Male Mahadeshwara hills in Chamarajanagar district</i>.</li> </ul>

	<ul style="list-style-type: none"> <li>• <b>Language-</b> They speak <i>Sholaga</i>, which belongs to the Dravidian family</li> <li>• <b>Religion-</b> The Soliga people follow a mix of naturism, animism, and Hindu practices, with <i>Madeshwara as their primary deity</i>.</li> <li>• <b>Other details:</b> <ul style="list-style-type: none"> <li>✓ Their settlements are known as '<i>haaDi</i>' and '<i>pooDu</i>'</li> <li>✓ Honey plays a vital role in the Soliga diet.</li> <li>✓ Soligas became the <i>first tribal community living inside a tiger reserve to get legal rights</i> to the forest in 2011.</li> </ul> </li> </ul>
<p><b>Shompen Tribe</b></p>	<ul style="list-style-type: none"> <li>• They are classified as a <i>Particularly Vulnerable Tribal Group (PVTG)</i> and are among the most isolated tribes in the world.</li> <li>• They are the indigenous people reside in the dense tropical rain forest of <i>Great Nicobar Island</i>.</li> <li>• Belong to the <i>Mongoloid group</i>.</li> <li>• According to the Census (2011), the estimated population of Shompen is 229.</li> <li>• They are <i>semi-nomadic hunter-gatherers</i>, and their main sources of livelihood are hunting, gathering, fishing, and a little bit of horticultural activities in a rudimentary form.</li> </ul>



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