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February 2024

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Table of Contents

CSAT

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NOTE:

Dear Students,

Memorisation and recollection of information in Current Affairs is as important as understanding the articles. In order to enhance the learning outcomes from the Monthly Current Affairs Magazine, we are introducing following additions:

A thematic based colors has been used in the document in the boxes, tables etc to enable easy identification and recollection of various concepts and topics.

Questions are an important tool to assess and retain information. To enable this we are adding a Smart Quiz at the end of each section in the document for practicing the questions.

A wide variety of infographics have been added to ensure smoother learning experience and enhanced retention of the information. This will also help in effective presentation of information in the answer writing as well.

Places and persons in news are being presented in an objective manner through Maps, Tables & Pictures. This will help in easier recollection of factual information.

1. POLITY AND GOVERNANCE

1.1. ELECTORAL BOND SCHEME

Why in the news?

Supreme Court in the **Association for Democratic Reforms & Anr. v. Union of India (UoI) & Ors.,** unanimously struck down the Electoral Bonds (EB) Scheme.

Electoral Bond Scheme (EBS)
- **Electoral bond** means a bond issued in the nature of **promissory note** which shall be a bearer banking instrument and shall not carry the name of the buyer or payee.
- **Features of Electoral Bonds**
  - Issued to the Purchaser on a **non-refundable basis**.
  - Could be purchased by a A citizen of India or a body incorporated in India will be eligible to purchase the bond, from **authorised branches of the State Bank of India (SBI).**
  - Could be used for donating **only to the registered political parties** which secured not less than **1% of votes polled in the last general election** to the Lok Sabha or a Legislative Assembly.
- **The rationale of the scheme was to enhance transparency** in electoral funding since electoral bond transactions can only be made through legitimate banking channels.
- Each EB had a **unique alphanumeric number** visible under ultraviolet rays.

Highlights of the judgement

Key question	SC verdict
Whether the non-disclosure of information on voluntary contributions to political parties is **violative of the right to information?**	- Electoral Bond Scheme, by anonymising contributions, **violates the right to information** traceable to **Article19(1)(a)** and thus, **is unconstitutional.** - Accordingly, **amendments made by the Finance Act, 2017** to the **Income Tax (IT) Act 1961, the Representation of Peoples Act 1951, and the Companies Act 2013**, to allow donations through Electoral Bonds have **been held to be unconstitutional.**
Whether unlimited corporate funding to political parties as envisaged by the amendment to the Companies Act **violates the principles of free and fair elections?**	**Amendment to Companies Act** permitting **unlimited corporate contributions** to political parties is arbitrary and **violative of Article 14.** - The court **emphasised the amendment's authorisation of unrestrained corporate influence in elections**, which contravenes the principles of free and fair elections and political equality.

Other Key highlight of the judgement

- **The court issued the following directions:**
  - The issuing bank shall **stop the issuance of electoral bonds**.
  - **Directed SBI (State Bank of India) to submit to the ECI (Election Commission of India)** the **following information** (within three weeks of judgment),
    - ✓ Details of **electoral bonds purchased since the court's interim order** (April 12, 2019), with details like **date of purchase, name of purchaser and denomination** of electoral bond purchased.
    - ✓ Details of **political parties which have received contributions** through Electoral Bonds since the interim order, with details like **encashment date and denomination** of Electoral Bond.
  - Directed ECI to **publish the information shared by the SBI on its official website** within one week of the receipt of the information.
  - **Valid Electoral Bonds which are not encashed** must **be returned to the issuing bank**, which would refund the amount to the purchaser's account.
- **EBS not proportionally justified to curb black money:** Relying on the Proportionality test, the court held that the government **did not adopt the least restrictive method** to achieve balance in the **rights of informational privacy** and **the right to information** of political contributions.

> **Know the term**
> - **Doctrine of proportionality:** It postulates that the nature and extent of the **State's interference** with the exercise of a **right** must be **proportionate** to the goal it seeks to achieve.

- **Right to privacy of political affiliations:** It only extends to contributions made as a genuine form of political support, the disclosure of which may curb various forms of political expression and association.
  - It does not extend to contributions which may be made to influence policies.

Change in Political Funding in India with Finance Act 2017		
Subject (Laws amended by Finance Act 2017)	Before Finance Act 2017	After Finance Act 2017
Corporate Contributions (Section 182 of the Companies Act 2013)	• Political contributions by a company in financial year (FY) **shall not exceed 7.5% of its average net profits** during the 3 preceding FYs. • Required companies **to disclose political contributions** in its profit and loss account **along with particulars of the total amount and of name** of the party.	• **Omitted the cap** on corporate funding to political parties. • **Allowed any company** incorporated or established in India to **contribute via Electoral Bonds.** • Only required **disclosure of the total amount** of political contribution and **not the particulars** of the amount contributed to each political party.
Curbing black money (Section 13A to the IT Act,1961)	• Political party to maintain **a record of voluntary contributions in excess of Rs. 20,000** along with the name and address of the contributor. • **Cash mode for political donations allowed** for individuals.	• Political parties **not required to maintain a record** of contributions from **electoral bonds.** • **Donation in excess of Rs. 2000** must be received only by a **cheque, bank draft, electronic clearing system** or through **electoral bond.**
Transparency (Section 29C of the RP Act,1951)	• Political parties to **report on all contributions above Rs 20,000 to the ECI.**	• **Parties will not have to submit records of electoral bonds** received to the ECI.

Scan the QR code to know more about **Electoral Reform.**

Weekly Focus #58: Electoral Reform: An Approach to Effective Democracy

1.2. 75 YEARS OF THE SUPREME COURT OF INDIA

Why in the News?

Recently, the Prime minister inaugurated the Diamond Jubilee celebration of the Supreme Court of India on 28th January at the Supreme Court auditorium in Delhi.

More in News

- On the occasion, PM Launched multiple technology initiatives for the Supreme Court.
  - **Digital Supreme Court Reports**: It **will make Supreme Court judgments available to the citizens** of the country free of cost and in electronic format.
  - **Digital Courts 2.0:** Application is a **recent initiative under the e-Courts** project to make court records available to the Judges of the district courts in electronic form.
    - ✓ The e-court mission, launched in 2013, **aims to modernize India's court system** by making it digital and improving access to justice.
  - **New website of Supreme Court:** The new website will be in **bilingual format in English and Hindi** and has been redesigned with a user-friendly interface.

Evolution of Supreme Court of India

Regulating Act of 1774
- Supreme Court at Calcutta established
- Subsequently, SC of Madras (1800) and Bombay (1823) established

India High Courts Act 1861
- High Courts for various provinces
- Abolished all three Supreme Courts

Government of India Act 1935
- Created Federal Court of India
- Hears appeal against Judgements from High Courts

Constitution of India
- On 28th January 1950, Supreme Court of India came into existence

> **A glance at relations between judiciary and executive**
> - **Article 50 in Part IV:** The State shall take steps to separate the judiciary from the executive in the public services of the State.
>   - However, since the inception of the constitution, these two branches have witnessed a conflict due to their encroachment upon one another.
> - **1947-1964**
>   - **Confrontation began on issues of the right to Property.**
>   - **Kameshwar Singh vs State of Bihar - The government** brought the 1st constitutional amendment Act and inserted the 9th schedule.
>   - **Political class asserted its supremacy** through amendments.
> - **1965-1993**
>   - **Due to frequent amendments to the** Constitution, the Supreme Court had to assert its position.
>   - **Golaknath Case, Kesavananda Bharati case,** etc established the dominance of SC.
>   - However, the government responded **with CAA 24th and 25th** which restricted SC power.
>   - **ADM Jabalpur Case**, and **Minerva Mills case (1980**), again asserted the position of SC.
> - **1993-2018:**
>   - Three judges' cases empowered SC in the appointment of Judges.
>   - **National Judicial Appointments Commission (NJAC)** legislation was brought by the government but struck down by the SC.

About Supreme Court

- According to **Article 124(1)** of the Indian Constitution, **the Supreme Court of India must have a Chief Justice of India (CJI)** and a maximum of seven additional justices unless Parliament specifies a higher number through a statute.
  - Currently, the Supreme Court comprises the Chief Justice and 33 other Judges.
- **Constitutional Provisions**: The Supreme Court's powers and jurisdiction are outlined in **Articles 124 to 147** of the Indian Constitution.

Key Features of the Supreme Court of India

- **Highest Court of Appeal:** The Supreme Court is the highest appeal court is also known as the apex court of India and even the last resort, where the citizens of India can seek justice if they are not satisfied with the judgment of the High Court.
- **Advisory Jurisdiction:** As per Article 143 of the Constitution, the SC can advise the President of India that is related to the question of law, and the nature of the matter is associated with public importance.
- **Adjudicate Federal Disputes:** The Court resolves **disputes between the Union and the states** and between different states (Article 131).
- **Judicial Review:** The Supreme Court reviews laws and actions of the executive to ensure they comply with the Constitution.
- **Protection of Fundamental Rights**: The Court protects the fundamental rights of citizens by issuing writs and orders **(Article 32).**
- **Public Interest Litigation (PIL):** The Court can take up cases on its own or on behalf of the public interest. In some matters, the Supreme Court also acts on its own and can **pass suo moto.**

Challenges Faced by Supreme Court

- **Massive Case Backlog:** As of 2023, there were over 80,439 cases pending in the Supreme Court alone.
- **Judicial Activism vs. Judicial Restraint:** This debate revolves around the appropriate role of the judiciary in policy-making and governance.
- **Uncle Judge Syndrome**: The **Law Commission of India's 230th Report** highlighted a concern about potential favouritism in the appointment of judges to the High Court and Supreme Court, impacting the impartiality and fairness of the judicial system.
- **Judicial-Executive Conflict:** The judiciary and executive have faced rising conflicts, marked by delays in judicial appointments, the Tribunalisation of justice, and public criticism of the executive during COVID-19.
- **Public Perception and Trust:** There have been concerns about the public perception of the judiciary, including issues related to transparency, accountability, and judicial independence.

Way Forward

- **Case Management and Technology:** Implementing case management systems and leveraging technology for e-filing, video conferencing, and virtual hearings can help reduce case backlog and improve efficiency.
- **Judicial Reforms:** Implementing judicial reforms, such as increasing the number of judges, improving infrastructure, and filling up vacancies promptly, can help address the backlog and ensure timely justice delivery.
- **Enhancing Transparency and Accountability**: Transparency in the appointment of judges and making judgments more accessible to the public can help improve public trust in the judiciary
- **Strengthening Judicial Independence:** Ensuring that the judiciary is free from undue influence and interference from the executive or other branches of government can help maintain the integrity of the judicial system.

1.2.1. REGIONAL BENCHES OF SUPREME COURT

Why in the news?

Recently, the **Parliamentary Standing Committee on Personnel, Public Grievances, Law and Justice** informed the Parliament about the **government's acceptance** of its recommendation to establish regional benches of the Supreme Court (SC).

More on the news

- The recommendations were made in the **133rd report** of the Parliamentary Standing Committee titled, **'Judicial Processes and Their Reform'.**
- SC of India may **invoke Article 130** of the Constitution for establishing its **regional benches at four or five locations** in the Country.
  - As per Article 130 of the Constitution of India, the Supreme Court shall sit in Delhi or such other place or places, as the Chief Justice of India, may, with the approval of the President, from time to time, appoint.
- The interpretation **of Constitution and Constitutional matters may be dealt at Delhi** and the **regional benches may decide appellate matters.**

> **Law Commission's recommendations on regional benches of SC**
>
> - **95th Report of Law Commission (1984):** SC should consist of two Divisions, namely, Constitutional Division and Legal Division.
> - **125th Report of Law Commission (1988):** Reiterated the recommendations made 95th Report, for splitting the Supreme Court into two:
>   - Constitutional Court at Delhi
>   - Court of Appeal or Federal Court sitting in North, South, East, West and Central India
> - **229th Report of Law Commission (2009):** Recommended setting up,
>   - **Constitution Bench at Delhi**
>   - **Four Cassation Benches** in the Northern region at Delhi, the Southern region at Chennai/Hyderabad, the Eastern region at Kolkata and the Western region at Mumbai.

- The **appellate benches' decisions should be treated as final,** and it should not be treated as another layer of the judiciary.

Need of Regional benches of SC

- **Access to justice:** Regional benches of SC would take justice to the near to common citizen thereby upholding access to justice which is a fundamental right under Articles 14 and 21.
  - **Article 39A of the Constitution** provides that 'The State shall secure that the operation of the legal system promotes justice, on a basis of equal opportunity, and shall, in particular, provide free legal aid, by suitable legislation or schemes or in any other way, to ensure that opportunities for securing justice are not denied to any citizen by reason of economic or other disabilities.'
- **Reduce geographical bias:** Delhi-centric Supreme Court causes a big hurdle for litigants coming from far-flung areas of the country. E.g. language barrier, issues in finding lawyers, the high cost of travel and stay in Delhi etc.
- **Reduce the burden of SC:** Regional benches can be the solution to the overflowing caseload of the judiciary and reduce the litigation cost to the common man.
- **Capacity Enhancement:** Permanent Regional Benches of SC would lead to an increase in the number of Judges in SC thereby increasing the Judge to Population ratio.

Challenges in the creation of regional benches

- **Opposition from SC:** The Supreme Court has been consistently rejecting the proposal for setting up the Benches of the Supreme Court at a place outside Delhi.

- **Affect the unitary character of the SC:** Multiple regional benches could lead to more divergent views within SC which may become difficult to resolve entailing time and expenditure of litigants.
- **Conflicting precedents:** Regional benches may lead to the rise of conflicting precedents resulting in increased litigation.
- **Might reduce the position of SC:** Regional benches of SC, deciding only appellate matters would reduce the position of SC.
- **Classification of the case:** Identifying and categorizing a case as being of constitutional significance poses a challenging task**.**
  - The Chief Justice of India may have exclusive power to determine which case is to be classified as a case of Constitutional importance.

Way Forward

- **Promote Hybrid/Virtual hearing:** Virtual court may help speedy disposal of cases, reduce litigation costs and address the geographical barriers in access to justice.
- **Learning from the system prevalent in other countries:** E.g. France which implements a system comprising a separate court of appeal and courts of cassation.
- **Constitutional amendment for separate court:** The government may explore the possibility of a **constitutional amendment to separate the functions of the Supreme Court** into constitutional and appellate.
- **Facilitate Judicial Reforms:** E.g. Enhancement of the number of judicial staff and judges, improve judicial infrastructure, promote judicial accountability etc. to improve the efficiency of the judiciary at all levels.

1.3. NALSA (NATIONAL LEGAL SERVICES AUTHORITY)

Why in News?

Parliamentary Standing Committee submitted its Report on **"Review of the working of Legal aid under the Legal Services Authorities Act, 1987"**

What is NALSA?

- NALSA, or the National Legal Services Authority, is **an apex organization** established under **the Legal Services Authorities Act, 1987**.
- It oversees **the implementation of legal aid policies and programs and monitors** legal aid activities across India.
- The core principle of NALSA in India **is to ensure that the impoverished and underprivileged have access to justice** through the **provision of free legal services**.
- The legal aid under it is applicable to **Courts, tribunals, and other bodies with judicial or quasi-judicial powers.**
- It also **promotes Settlement** of Disputes through **Alternate Dispute Resolution (ADR) Mechanisms.**
- **Central Government allocates annual funds to NALSA**, distributed to State and District Legal Services Authorities.
  - **State Governments cover state-level expenses, including salaries**.
- **The weaker sections covered under Section 12 of the law** include:
  - Women and Children

History of legal aid movement in India

Year	Initiative
1960	**Guidelines for legal aid schemes** introduced in India
1976	**Article 39A** incorporated through **42nd** Amendment of Constitution
1980	Formation of The **Committee for Implementing Legal Aid Schemes (CILAS)** under Justice Bhagwati
1987	Enactment of the **Legal Services Authorities Act,** providing a statutory framework for legal aid programs in India
1995	Establishment of the **National Legal Services Authority (NALSA),** the apex body for legal aid coordination in India
1998	Introduction of **Permanent** and **Continuous Lok Adalats,** offering an alternative dispute resolution mechanism
2000	Implementation of various legal aid initiatives, including **legal literacy programs and counselling centres**

- o   Members of Scheduled caste or Scheduled Tribes
- o   Industrial Workmen
- o   Persons with Disability
- o   Persons in Custody
- o   Victims of Human trafficking
- o   Victims of Natural Disasters, Ethnic/caste violence, industrial Disaster
- o   Persons with an annual income of less than Rs 1,00,000/- Or as notified by the Central/State Governments
- **NALSA grants authority to oversee legal aid initiatives to:**
  - o   Legal Services Authority at National/State/District Level
  - o   Taluka/Sub divisional Legal Services Committee
  - o   High court and Supreme Court Legal Services Committees

Functions of NALSA

- **Legal Aid and Assistance:** It includes advocate representation, process fee payments, document preparation, including drafting and translation, and provision of certified copies of legal documents in proceedings.
- **Participation in PILs** litigation for social justice on behalf of the marginalized **under Section 4(d) of the Legal Services Authorities Act**
  - o   The protection of fundamental rights of **the abandoned and destitute women/widows in Vrindavan. Ex: The NALSA vs. Union of India (2014)** recognizes transgenders to be the third gender.
- **Lok Adalats and Mediation:** Aimed at resolving legal disputes expeditiously and amicably, thereby reducing the burden on the formal judicial system.
- **Legal Awareness:** To promotes legal literacy through various means, including seminars, pamphlet distribution, **television and radio appearances, internships for law students, and Legal Aid Clinics in colleges etc.**
- **Victim Compensation:** Through schemes like **"Compensation Scheme for Women Victims/Survivors of Sexual Assault/other Crimes" NALSA** aims to provide compensation and support to women who are victims or survivors of sexual assault or other crimes.

Key Programmes of NALSA

Legal Aid and assistance
To eligible categories before courts/Tribunals, and assistance through Front Offices and Legal Services Clinics.

Outreach Programmes
To make people aware about their **rights and entitlements and assist** them in actualization of the same under **welfare laws** and schemes of the central and state government.

Lok Adalat and Mediation
To promote Alternative Dispute Resolution mechanism to **resolve** pending and pre- **litigation cases**

Victim Compensation Schemes
To facilitate **rehabilitation of Victims of crime by determination** and disbursement of compensation under Victim Compensation Schemes

Constitutional Provisions related to Free Legal Aid
- **Article 39A:** Mandates the State to ensure justice with equal opportunity, including free legal aid provision.
- **Article 14:** Guarantees equality before the law for all individuals within India's territory.
- **Article 22(1):** Provides protection to individuals arrested or detained, ensuring their right to legal consultation and representation.

Issues identified in report and Key recommendations

Issues	Recommendations/Observations
• **Lack of Awareness and Legal Education: India Justice Report 2019** despite over 80% eligibility, **only 15 million have used legal aid** since 1995	• **Execute mass media campaigns** for legal aid awareness • NALSA should **prioritize assisting vulnerable sections, particularly undertrial prisoners,** and study cases of prolonged detention and bail challenges.
• **Budgetary Constraints and Allocations:** India's legal aid spend **is 0.75 paise per capita annually for year 2017-18** as per **India Justice Report, 2019**	• **Increase Grant-in-aid** to NALSA substantially to bridge justice gap.

• **Role of Lawyers and Compensation:** Lawyers refrain from pro bono due to fee caps; receive nominal honorarium ranging from 1,500 to 7,500 rupees.	• **Ensure Fair Compensation** • **Mandate lawyers** to engage in annual pro bono work. • **Senior Advocate Panels for pro bono services** in District Judiciary, High Courts, and Supreme Court. • **Merit Certificates to Recognize lawyers'** pro bono contributions for judicial career advancement.
• **Challenges faced by Lok Adalats:** Limited powers and procedural constraints, inability to compel parties to appear causing delays and Insufficient infrastructure and resources.	• To **Revise powers and procedures** of Lok Adalats and equip them **with modern technology, adequate resources, and training to streamline processes** and minimize delays.
• **Under-utilisation of Para-Legal Volunteers (PLVs)**	• **Train PLVs** comprehensively**, provide resources, and fair compensation**. • **Conduct awareness campaigns and appreciate PLVs'** contributions to enhance motivation.
• **Shortage of staff and unfilled vacancies:** As of December, 2022, NALSA operated with only 20 staff members out of its sanctioned 34 positions.	• **Fill vacant positions promptly** and **consistently** to prevent accumulation of unfilled vacancies.

Government Initiatives for legal aid
- **"Designing Innovative Solutions for Holistic Access to Justice in India (DISHA)"**
- **Nyaya Bandhu Platform: Facilitate connection between Pro Bono Advocates and registered beneficiaries,** encouraging Pro Bono culture among law students, advocates, and law schools.
- **Tele-Law Service: C**onnect beneficiaries with lawyers via tele/video conferencing, available in 2.5 lakh Gram Panchayats across 766 districts.
- **Legal Aid Defence Counsel System (LADCS):** Initiated by NALSA, ensures efficient legal aid in criminal cases by engaging full-time lawyers across 676 districts nationwide, mirroring public defender systems in developed countries.
- **Nyaya Mitra programme: Facilitate disposal of 15-year-old pending cases at the district level through its Nyaya Mitra programme** and to empower citizens through Pan India legal literacy and legal awareness programme.

1.4. ARTICLE 142

Why in the News?

The Supreme Court recently nullified the outcome of the Chandigarh Mayor election**, exercising its power under Article 142 of the Constitution to ensure "complete justice"**.

What is Idea of Complete Justice?
- The **"idea of complete justice"** is derived from the **Article 142 of the Constitution.**
- It means to **ensure justice by filling gaps in the law and overriding legal provisions** when necessary. This entails interpreting and applying laws considering broader constitutional principles, societal needs, and evolving standards of justice.

About Article 142

- The Supreme Court in **the exercise of its jurisdiction may pass such decree** or make such order as is necessary for doing complete justice in any cause or matter pending before it.
- Enables the **Supreme Court to exercise executive and legislative functions in specific scenarios,** including issuing guidelines, directives, or orders to governmental bodies or other authorities.
- **Permits the Supreme Court to intervene in matters concerning public interest, human rights, constitutional values, or fundamental rights**, safeguarding them against any form of violation or infringement.
- Elevates the Supreme Court's role **as the protector of the constitution and ultimate interpreter of the law,** serving as a catalyst for judicial activism and innovation.

Positive Impacts of Article 142:

- **Address urgent issue with legislative vacuum:** Proactive approach enables courts to provide remedies and resolutions in cases where **absence of legislation can hinder the delivery of swift justice and lead to irreparable harm**.

- In **Bhanwari Devi and Ors. vs State of Rajasthan (2002)**, the SC provided **"the Vishaka Guidelines"** to address workplace sexual harassment, eventually resulting in **"the Prevention of Sexual Harassment Act, 2013"**.
  - **Cleaning of Taj Mahal, Release of undertrials, and the Union Carbide case** are few more examples of judicious use of article 142.
- **Strengthen Democracy:** It protects the rights of minorities and ensures that all voices are heard and respected within the democratic process.
  - **K.S. Puttaswamy (Privacy) vs. Union of India (2017)** established guidelines for safeguarding individual privacy.
- **Provides Checks and Balances:** It serves as a **crucial check on government branches, preventing overreach** and protecting citizens.
  - **In 2014, the SC canceled all but four of the 218 coal block allocations** deemed illegal and arbitrary.
- **Civil rights and social justice**: By addressing issues overlooked or avoided by the legislative and executive branches.
  - In **Vineeta Sharma vs. Rakesh Sharma & Ors. (2020)** SC addressed conflicting judgments on daughters' coparcenary rights under Hindu Succession Act.
- **Promotes equality:** By challenging discriminatory laws and practices, ensuring equal protection under the law irrespective of race, gender, sexual orientation, or other characteristics.
  - In **The Secretary, Ministry of Defense vs. Babita Puniya** case SC granted permanent commission to women officers in the Indian Army.

Major Judicial Cases Regarding Complete Justice

Indira Sawheny V. Union of India (1992)
Capped 50% limit on reservation and introduced concept of creamy layer

T.M. Pai Foundation V. Union of India (2003)
State cannot make reservation of seats in admissions in privately run educational institutions

Janhit Abhiyan case (2022)
Upheld the EWS Reservation granted thorugh 103rd constitutional amendment

Ashok Kumar Thakur V. Union of India (2008)
Article 15 (5) added through 93rd amendment was upheld by the SC

Issues with of Article 142

- **Subjectivity in the definition**: While using article 142, court has wide discretion, and this allows the possibility of its arbitrary exercise or misuse due to the absence of a standard definition for the term "complete justice".
  - Defining "complete justice" is a **subjective exercise that differs in its interpretation from case to case.**
- **Blurs the Lines Between Branches:** Judicial activism may sometimes blur boundaries between judiciary and legislature, causing confusion in roles, leading to jurisdictional conflicts.
  - **S.R. Bommai vs. Union of India (1994**): The SC's intervention in Karnataka's political crisis with a floor test blurred judiciary-executive lines, sparking concerns of overreach.
- **Unaccountability**: Article 142 grants the judiciary, unlike the executive and legislative branches, **immunity from easy scrutiny or challenge for its decisions.**
  - The power has also been criticised on **grounds of the separation of powers doctrine**.
- **Lack of Consistency:** Inconsistent legal rulings under Article 142 complicate litigation planning and operations for individuals and businesses.

Way Forward

- **Addressing Arbitrariness:** Judges should ensure that decisions made under Article 142 are **based on relevant facts and considerations, avoiding arbitrary use of power.**
  - While Article 142 provides a flexible approach to remedy shortcomings in legislation, it should not be misused.
- **Defining 'complete justice':** The ambiguity of the term 'complete justice' should not be exploited to justify arbitrary decisions.
  - **Clear guidelines or principles can help mitigate misuse of power under the guise of achieving 'complete justice'.**

- **Establishing a regulatory framework:** To prevent misuse of Article 142 decisions should be subject to scrutiny and accountability, ensuring that all relevant parties are heard before invoking Article 142.
- **Referral to Constitution Bench:** Referral of all cases invoking Article 142 to a Constitution Bench of at least five judges.

1.5. CRIMINAL DEFAMATION

Why in the News?

The Law Commission in its report No. 285 titled "**The Law of Criminal Defamation**" has recommended **that the offence of criminal defamation should be retained in the new criminal law.**

About Criminal Defamation

- As per the **Black's Law Dictionary**, defamation means "The offence of injuring a person's character, fame, or reputation by false and malicious statements".
- **Defamation is categorised into two types** written of liber and oral or slander:
  - Libel is an untrue defamatory statement that is made in writing. Slander is an untrue defamatory statement that is spoken orally.
  - According to Indian Law libel and slander, both are considered to be criminal offences. Such statements are to be made in public to constitute defamation.
- **Indian Penal Code (IPC) section 499 makes it unlawful** to communicate any false information about an individual to harm their reputation and the prescribed **maximum punishment is two years**.
  - **However, Section 354(2) of the 2023 Bharatiya Nyaya Sanhita Act states:** "Whoever defames another shall be punished with simple imprisonment for a **term which may extend to two years, or with fine, or with both or with community service.**"
- The **Supreme Court of India in Subramanian Swamy v. Union of India (2016) upheld criminal defamation**, balancing free speech and the right to protect reputation.
- Law commission highlighted that **reputation is an important facet of Article 21 of the Constitution**, which "cannot be allowed to be jeopardised just because an individual has to enjoy his freedom of speech" at the expense of hurting the sentiment of another.
  - **Article 19 (2)** enumerates grounds on which restrictions on the freedom of speech and expression can be imposed, one of which is defamation.
- According to data published by UNESCO, **160 countries in the world criminalize defamation.**

Law Commission of India
New Delhi

- Non-statutory body
- **Genesis:**
  - First Time Law commission was established by **The Charter Act, 1833** and **Lord Thomas Babington Macaulay** was the First Law Member.
  - **Post-independence, First Law Commission** was constituted in **1955** by a **notification of the Government of India.**
  - Since then, **22 Law Commissions** have been appointed, each with a **three-year term.**
- **Ministry:** Department of Legal Affairs, **Ministry of Law & Justice**
- **Function:** Carries out **research in the field of law and makes recommendations** to the Goverment (in the form of Reports).
- **Other Key Features**
  - Give **non-binding** Recommendations.
  - Till now Law commission has submitted **277 reports(Till January, 2024).**

Arguments for Retaining the Law of Criminal Defamation	Arguments against Retaining the Law of Criminal Defamation
Stronger Deterrent: Compared to possible monetary damages in civil lawsuits, criminal punishment, such as fines or imprisonment, has a greater deterrent effect against intentional and destructive defamation. **Public interest in Protection Reputation:** Criminal prosecution conveys a message stating that such injury is not acceptable and acknowledges the public interest in the protection of reputation. **Protections of Vulnerable Groups**: It can provide important safeguards against discrimination and hate speech directed towards marginalized communities or minorities, among other vulnerable groups.	**Violates freedom of speech:** Criminal defamation rules could unintentionally **violate people's fundamental right to freedom of speech and expression 19(1)(a)** since people may be afraid of facing legal consequences for publicly expressing their thoughts. **To silence dissent:** It has the **potential to be weaponised by powerful entities**, including corporations, or influential individuals, to silence dissent, and intimidate journalists, and critics.

1.6. CASTE-BASED RESERVATION

Why in the news?

The Maharashtra State legislative assembly passed the **Maharashtra State Reservation for Socially and Educationally Backward Classes Bill, 2024,** to provide 10% Reservation to the Maratha Community.

About the Bill

- It was drafted based on a **Maharashtra State Backward Class Commission** (**Shukre Commission) report**.
- It identified the Maratha community as a **Socially and Educationally Backward Class (SEBC).**
- The bill provides for **10% reservation** to the Maratha community in recruitment for **government jobs,** and **admissions to public as well as private educational institutions.**
  - The Bill specifies that this reservation will be **over and above the seats reserved for various communities** under existing Acts in the state.
- Reservation would be available only to the persons belonging to the SEBC who are **not falling in the Creamy Layer.**

Reasons for the rise in demand for reservation

- **Structural factors:** Declining income from agriculture, and inability to find alternative opportunities and employment in the techno-innovation-driven new job market.
- **Challenges in the job market:** Wages in the private sector, particularly at the entry-level, are much lower than in the public sector.
  - Further, the latter provides more social security and is comparatively stable, thus the demands for reservation in public sector jobs.
- **Political Factors:** Political mobilization based on caste too has fuelled demands for reservation. E.g. Patidars in Gujarat, the Kapus in Andhra Pradesh and the Jats in Haryana.
- **Relative deprivation:** When a community feels other communities in their region, economically and socially in similar conditions, are getting the benefits of reservation, they also claim for the same status.
- **Intra-community variations:** Despite relative dominance, there are significant intra-community variations in terms of income and educational outcomes among some communities.
  - For instance, the economic division among the Maratha farmers of Marathwada and western Maharashtra. This led to demands for Maratha reservations.

> **Judicial pronouncements related to reservation**
> - **Indra Sawhney & Others v. Union of India, 1992:** 9-judge Bench of the SC,
>   - Set a **ceiling of 50% on reservations under** Article 16(4).
>   - ✓ For exceeding reservation **beyond 50%, extraordinary circumstances** should exist, for which extreme caution is to be exercised.
>   - Court introduced the **concept of a 'creamy layer'** (socio-economically advanced among backward classes) who must be excluded from the benefits of reservations.
> - **M. Nagaraj v. Union of India Case 2006:** SC laid down three conditions that States had to meet, before providing reservations in promotions. The state had to provide,
>   - Quantifiable data on the backwardness of SCs/STs.
>   - Facts about their inadequate representation in public employment.
>   - Justification in favour of maintaining overall administrative efficiency.
> - **Jarnail Singh & Ors. v. Lachhmi Narain Gupta & Ors.,2018:** The SC did away with the requirement of collecting quantifiable data showing the backwardness of SCs and STs, for grant of quota for promotions in the government jobs.
> - **Janhit Abhiyan v Union of India, 2022:** SC upheld 103rd Constitution Amendment Act which provided for EWS reservation, based on economic criteria.

Impact of Caste-based reservation

- **Social Justice:** Correct the historical injustice faced by the persons belonging to specific castes, and to provide them a level playing field to compete.
- **Representation:** Caste-based reservation is aimed to ensure adequate representation of marginalized communities in various sectors, including government jobs.
- **Substantive equality:** Equality in the Constitution is not merely formal equality but embodies substantive equality, which means striking at vast socio-economic inequalities often based on caste.

Issues with caste-based reservation

- **Social backwardness not necessarily caste based:** Backwardness may include other factors too, like, residence, occupation, economic status or some other dominant feature.

- **The preferred treatment of those already benefited:** Solely applying caste criteria as the basis of reservation leads to recurring benefits to those who may already have improved their position.
- **Antithetical to casteless society:** Caste-based reservation policy leads to perpetuation of the caste system.
- **Multiplication of demand for reservation:** Post reservation, there is a tendency even among dominant casts to seek the "backward" tag, in the hope of enjoying the benefits of reservations.
- **Ignores intra-caste inequalities:** Significant intra-community variations in terms of income and educational outcomes, get ignored in a solely caste-based reservation.

Way Forward

- **Comprehensive socio-economic survey**: To evaluate the implementation of reservation, and its outcomes, and to find out which group deserves reservation based on constitutional provisions.
- **Promote balanced economic growth: Caste-based** reservation demand, particularly among dominant castes is often the manifestation of agrarian distress, lack of quality jobs, relative deprivation etc.
  - Thus, there is a need to address the underlying issues through rural development, job creation, balanced regional development etc.
- **Creamy layer criterion:** There is a need to uphold this criterion to ensure that those genuinely deserving, enjoy the benefits of reservation.

1.7. EPIDEMIC DISEASES ACT (EDA), 1897

Why in the News?

Recently, **the 22ⁿᵈ** Law Commission of India (LCI) submitted a report titled **"A Comprehensive Review of the Epidemic Diseases Act, 1897"** to the Government of India.

About the report

- The report acknowledges **limitations in the legal framework relating to health** were prominently visible during the management of **COVID-19 pandemic** when **Disaster Management Act, 2005** was invoked **to impose lockdown.**
  - **In 2020,** Parliament **amended the Epidemic Diseases Act (EDA), 1897.** However, even the amendments could not address gaps in the Act.
- The **LCI suo motu undertook examination** of EDA, 1897 and International Health Regulation (IHR), 2005.
  - It recommended to either amend the existing law **or bring a new comprehensive legislation** to address existing gaps.

> **International Health Regulations (IHR)**
> - It was **adopted by the World Health Assembly** in 1969 and revised in 2005.
> - It is an **overarching legal framework** for **public health events and emergencies** that have the **potential to cross borders**.
> - It is **legally-binding on 196 countries**, including the 194 WHO Member States.
> - **Create rights and obligations for countries**, including the requirement to report public health events.
> - Outline the **criteria to determine** whether or not a **particular event** constitutes a **"public health emergency of international concern".**

Key issues in the EDA, 1897 as highlighted by the LCI

- **Outdated colonial-era law:** The **vast powe**r given to the government has the potential of abuse. Also, Over the years, **new variants of communicable diseases** have emerged posing fresh challenges to the healthcare system.
- **Lack of definition**: Does not define an **'epidemic'** or an **'infectious'** disease, and does not differentiate between an **'outbreak'**, **'epidemic'** and **'pandemic'.**
- **Management of Epidemic:** The Act lacks specific guidelines for **effective disease surveillance, quarantine** process, ensuring availability of **drugs and vaccines**, and **disposal of Infectious waste** and Corpses.
- **Governance issues:**
  - **Lack of decentralisation:** The Act does **not** provide statutory **power to local governments** to regulate epidemic diseases.
  - **Lack of demarcation of power:** 'Prevention of infection or Contagious diseases' **is in the Concurrent** list both Centre and States have the power to frame appropriate law on these subjects.
    - ✓ **The EDA,** does not specify authority will take precedence in case of disagreements between the States and the Centre.

- o **Uncoordinated response:** Lack of enforcement mechanism as per the nature and gravity of the epidemic diseases hinders the prevention and controlling and leads to uncoordinated response.
- o **Inadequate punishment for violation**

Key highlights of the Comprehensive law proposed by the LCI

- **Define terminologies:**
  - o **Stages of the diseases** (refer to the infographics) should be defined.
  - o **Difference** between **'quarantine' and 'isolation'** should be clarified.
    - ✓ **The Epidemic diseases Bill 2023** appropriately defines both the term.
  - o Incorporate the terms **'physical distancing' instead of 'social distancing'** to contain the spread by restricting people's movement.
- **Decentralisation and demarcation of power:**
  - o **Prevention and management:** This power should lie with **State government** since **'public health and 'sanitation'** is a **State subject** under the 7th Schedule of the Constitution.
  - o **Outbreak happens in State: State may** empower the district or local authority to take measures to effectively **prevent, control and manage the epidemic.**
  - o **Interstate-spread of epidemic/pandemic: Central government** should direct the state government/district authorities to implement measure for managing the diseases.
  - o **Extreme threat from infectious diseases:** Central government should itself take measures and or should empower some other Central Agency for managing the diseases.
- **Frame an epidemic plan:** The **Central government** should prepare the epidemic plan in collaboration with other stakeholders) which should be revised periodically.
  - o **State government** should be empowered to make **respective state regulations.**
- **Guidelines for Quarantine and isolation:** The proposed guidelines should be in consonance with the
  - o **Indian Port Health Rules, 1955** (deals with the isolation of infected ships) and
  - o **Aircraft (Public Health) Rules 1954** (deals with the isolation of infected persons in an aircraft).

Key highlights of the EDA, 1897

Genesis
- British government introduced EDA to **tackle the epidemic of bubonic plague** in erstwhile Bombay Presidency in 1896 when **Lord Elgin-II** was the **Viceroy** (1894- 1899).

Powers to Government
- **Grants extensive powers to Government** to regulate, prevent and control the dangerous epidemic diseases.
- **Allows the Central Government** to inspect ships and vessels departing from or arriving at ports within its jurisdiction.

Provides punishment
- Violation of Act may result in a **fine of up to Rs. 1,000 or an imprisonment of up to six months** under the Under Section 188 of the Indian Penal Code, 1860.

2020 Amendment
- **The Epidemic Diseases (Amendment) Act, 2020** was enacted to **stop the violence faced by healthcare** Workers during the Covid-19 Pandemic.

Definition of Pandemic and its Development Stages

Outbreak
- **Sudden occurrence** of an infectious disease **limited to a localized area,** having the **potential** to result in an **epidemic.**

Epidemic
- An **infectious disease,** or anything resembling a **disease** cause of which is **unknown;** resulting in **widespread and rapid transmission** to other people in excess of normal expectancy.

Pandemic
- Any occurrence or transmission throughout a **widespread geographical region** of an infectious disease that has the **potential to adversely affect the human health** and may pose a serious danger internationally.

- **Other recommendations**
  - **Enhanced penalty** for violation and give **statutory recognition** under the EDA.
  - Separate guidelines for **Safe disposal of infectious waste** which aligns with Bio-Medical Waste Management Rules, 2016.
  - **Devise regulation** for controlling, and regulating the availabilities of **essential medicines** to combat their **shortages during peak demand.**
  - **Identify nodal authorities** responsible for **developing vaccines and other necessary drugs.**

Conclusion

In this highly globalized and interconnected world, future outbreaks of epidemics are a real possibility. Further, given that the right to health is a fundamental right implicit in Article 21 of the Constitution and the State is duty-bound to ensure the same to the citizens, it becomes imperative to revisit and strengthen the law in order to effectively tackle any such future health emergency.

1.8. NEWS IN SHORTS

1.8.1. FUNCTIONING OF THE 17TH LOK SABHA

- PRS Legislative Research released Vital Stats on Functioning of the 17th Lok Sabha.
- **The 17th Lok Sabha (LS)** held its sessions between **June 2019 and February 2024**. During this period,
  - It held 274 sittings and **passed 179 Bills.**
  - **Question Hour** functioned for **60% of scheduled time in LS and 52% in Rajya Sabha.**
    - ✓ Question hour was **cancelled in monsoon session of 2020**, due to pandemic.
- **Other Key Highlights of the report:**
  - **Fewest sittings** amongst all **full-term Lok Sabhas with 206 instances of suspension of Members of Parliament.**
    - ✓ Average **annual sitting days down to 55** from 135 in the first LS.
  - For the first time, LS did **not elect Deputy Speaker** for entire duration.
    - ✓ **Article 93** of Constitution requires that LS elect a Speaker and a Deputy Speaker 'as soon as may be'.
  - **Only 16% bills referred to committees** for detailed scrutiny with passage of majority of bills **without recorded voting**.
    - ✓ 35% of bills passed with **less than an hour of discussion**.
  - **Time spent on budget discussions has reduced** with about 80% of the budget voted without discussion.

1.8.2. ANNUAL NESDA REPORT

- Annual National e-Governance Service Delivery Assessment (NeSDA) Way Forward Report, 2023.

- Report released by **Department of Administrative Reforms and Public Grievances (DARPG)** highlights initiatives taken towards enhancing e-Service delivery.
  - **e-Service Delivery** involves delivery of public/ other services such as receipt of forms and applications, issue/ grant of license, receipt or payment of money, etc., through electronic mode.
- **Key Highlights of the report**
  - **Jammu and Kashmir provides maximum (1117) number of e-Services**, across States/UTs.
  - **76% Mandatory e-services** are available, an increase from 48% under NeSDA 2019.
  - **Jammu and Kashmir, Kerala, Assam and Odisha** provide **100% of their services through their identified Single Unified Service Delivery Portal**.
  - **Tourism sector** achieved **highest saturation for provision of all mandatory e-services** in 23 out of 36 States/UTs.
- **Significance of e-Service Delivery**
  - **For Citizens:** Empowerment and participation, improved access to services by removal of intermediaries, etc.
  - **For Governments:** Informed data-driven decision making, resource optimization and cost efficiency by reducing **inclusion and exclusion errors**, etc.
- **Challenges:** Digital divide, lack of standardization and interoperability, issue of change management due to bureaucratic inertia, concerns related to cyber-security, etc.

Best Practices on e-Service Delivery

- **eUNNAT (Jammu & Kashmir):** Unified Service Delivery Portal.
- **Nivesh Mitra (Uttar Pradesh):** For Ease of Doing Business.
- **Seva Sindhu (Karnataka):** To deliver Government services at doorsteps of citizens.

1.8.3. PREVENTION OF DAMAGE TO PUBLIC PROPERTY

- 22nd Law Commission (LC) submits 284th Report titled Prevention of Damage to Public Property
- Commission took **suo motu** cognizance to prepare the report on account of **rising incidents of vandalism** and **consequent loss to the state exchequer.**
- Also, it highlighted the issue of **wilful obstruction** of public place or way.
  - o It said that only some States have provisions for dealing with obstructions on public pathways.
- **Key Recommendations:**
  - o **Amendment in the PDPP Act, 1984,** it should include
    - ✓ One of the conditions for bail should be the deposit of an amount equivalent to the estimate value of the property damaged.
  - o Enact **comprehensive law dealing with wilful obstruction.**
    - ✓ Also, related provision can be included **in BNS.**
- **Constitutional and Legal Provisions for Protection**
  - o **Fundamental Right** under **Article 19** implicitly contains the Right to protest.
    - ✓ However, demonstration which creates nuisance and disturbances are not covered under it.
  - o **Fundamental Duties, Article 51 A** (duty of every citizen to safeguard public property and to abjure violence).
  - o **Prevention of Damage to Public Property (PDPP), Act 1984** contains provisions dealing with **mischiefs** resulting in damage of public property.

- o Sections 425 to 440 of the **Indian Penal Code (IPC) deal** with it.

Several sections of **Bhartiya Nyaya Sanhita (BNS) (which will replace IPC)** deal with it**.**

> **Related Supreme Court Judgement**
> - **Bharat Kumar vs State of Kerala (1997):** Public authorities to initiate action for recovery of the damages caused to the State property**.**
> - **Destruction of Public and Private Properties vs. State of Andhra Pradesh (2009)** SC suo motto appointed two committees.
>   - o Also, provided guidelines on the basis of the recommendation.

1.8.4. PORTALS FOR A 'MODERNIZED MEDIA LANDSCAPE'

- The Ministry of Information and Broadcasting launched 4 new media-related portals to streamline media-related services under its umbrella.

Four new portals

- **Press Sewa Portal:** for automation of the process for newspaper registration.
- **NaViGate Bharat Portal:** single platform with an interactive user interface for government videos
- **National Register for Local Cable Operators:** To streamline regulatory processes in the cable television sector
- **Transparent Empanelment Media Planning and eBilling System for Central Bureau of Communication:** to enhance transparency and efficiency in media planning

1.8.5. CORRUPTION PERCEPTIONS INDEX (CPI), 2023

- **India ranked 93 out of 180 countries on Corruption Perceptions Index 2023.**
  - o India was **ranked 85 in 2022**.
- **About CPI**
  - o **Released by:** Transparency International

- Ranks countries and territories by their **perceived levels of public sector corruption, on a scale of 0 (highly corrupt) to 100 (very clean).**
- **In 2023, Denmark ranked first**, followed by Finland, New Zealand, and Norway.

1.8.6. PANDARAM LANDS

- **Lakshadweep** administration continues to number trees on **Pandaram lands.**
- Laccadive Minicoy and Amini Islands Land Revenue and Tenancy Regulation, 1965 defines **Pandaram lands as**
  - land in which **Government has, a proprietary right** immediately before the commencement of this Regulation and
  - includes **any land in which government may acquire such rights** under this **Regulation or under any other law.**
- **Land other than pandaram land** over which a person has proprietary rights under the customary law of the

Islands are defined as **"jenmam land"** under the 1965 regulation.

1.8.7. AADHAAR CARD

- **Employees' Provident Fund Organisation (EPFO)** has **removed Aadhaar** from list of acceptable **documents for proof of Date of Birth (DoB).**
  - Aadhaar is considered a **proof of identity but not of citizenship or DoB.**
- **About Aadhaar:**
  - **12-digit random number** issued by **Unique Identification Authority of India (UIDAI).**
    - ✓ **UIDAI is a statutory authority** established under the **Aadhaar Act, 2016.**
  - It contains **Demographic** (Name, Gender, DoB, Address) & **Biometric** (Fingerprints, Iris scans and Facial Photograph) data.
  - **Eligibility:** Any resident of India of any age and gender.

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फाउंडेशन कोर्स सामान्य अध्ययन प्रारंभिक एवं मुख्य परीक्षा 2025

इनोवेटिव क्लासरूम प्रोग्राम

- प्रारंभिक परीक्षा, मुख्य परीक्षा और निबंध के लिए महत्वपूर्ण सभी टॉपिक का विस्तृत कवरेज
- मौलिक अवधारणाओं की समझ के विकास एवं विश्लेषणात्मक क्षमता निर्माण पर विशेष ध्यान
- एनीमेशन, पॉवर प्वाइंट, वीडियो जैसी तकनीकी सुविधाओं का प्रयोग
- अंतर - विषयक समझ विकसित करने का प्रयास
- योजनाबद्ध तैयारी हेतु करंट ओरिएंटेड अप्रोच
- नियमित क्लास टेस्ट एवं व्यक्तिगत मूल्यांकन

- सीसैट कक्षाएं
- PT 365 कक्षाएं
- MAINS 365 कक्षाएं
- PT टेस्ट सीरीज
- मुख्य परीक्षा टेस्ट सीरीज
- निबंध टेस्ट सीरीज
- सीसैट टेस्ट सीरीज
- निबंध लेखन - शैली की कक्षाएं
- करंट अफेयर्स मैगजीन

नोट: ऑनलाइन छात्र हमारे पाठ्यक्रम की लाइव वीडियो कक्षाएं अपने घर पर ऑनलाइन प्लेटफॉर्म पर देख सकते हैं। छात्र लाइव चैट विकल्प के माध्यम से कक्षा के दौरान अपने संदेह और विषय संबंधी प्रश्न पूछ सकते हैं। वे अपने संदेह और प्रश्न नोट भी कर सकते हैं और दिल्ली केंद्र में हमारे कक्षा सलाहकार को बता सकते हैं और हम फोन/मेल के माध्यम से प्रश्नों का उत्तर देंगे।

DELHI: 10 अप्रैल, **9 AM | 5** मार्च, **1 PM** **BHOPAL: 11** जून

LUCKNOW: 5 जून **JODHPUR: 7** मार्च **JAIPUR: 27** मार्च

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Strategic Use of PYQs and Mock Tests: Use past year papers to understand the exam pattern, important topics, and question trends. Regularly practicing and assessing progress with mock tests improves preparation and time management.

Systematic Current Affairs Preparation: Keep abreast with Current affairs through newspapers, magazines and integrating this knowledge with static subjects to improve understanding and retention.

Smart Learning: Focus on understanding concepts rather than rote learning, use mnemonics, infographics, and other effective learning tools for better retention.

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2. INTERNATIONAL RELATIONS

2.1. INDIA'S NEIGHBOURHOOD FIRST POLICY (NFP)

Why in the News?

Parliamentary Standing Committee on External Affairs submitted an Action Taken report on observations/ recommendations contained in its 22nd report (submitted in July 2023) on India's NFP.

About Neighbourhood First Policy (NFP)

- **Neighbourhood First construct as a policy** came around **2008**.
  - Aims to forge strong neighbourhood relations based on a **consultative, non-reciprocal,** and **outcome-oriented approach.**
  - Focuses on **delivering benefits like greater connectivity, improved infrastructure, stronger development cooperation in various sectors, security** and **broader people-to-people contacts**
- It is a **dynamic policy** that adjusts to our **renewed interests in the region**, and to **evolving regional circumstances**.

Significance of NFP

- **Strategic imperative:** Enhanced **regional integration in South Asia** is important **to counter external influence such as of China** and promote India's vision of **free and open Indo-Pacific**.
  - Cooperation within neighbourhood is also **critical for India to voice for reforms of Global Governance system and institutions** such as UNSC, IMF, etc.
- **Strengthen multilateralism:** It will help **strengthen multilateralism through regional/ sub-regional** organizations such as SAARC, BIMSTEC, etc.
- **Soft Power:** India's **rich cultural and historical ties with its neighbours** helps to promote its diverse cultural values and **soft power influence in the region**.
  - **Successful management of regional relationships** marked by **peace and cooperation** positions India as a **responsible and constructive actor**, which is crucial for India's **aspirations of global leadership**.
- **Regional stability and security:** Improved trust and cooperation **builds capacity to address traditional and non-traditional** (resource scarcity, illegal migration, climate change, etc.) security threats.
  - Collaboration vis-à-vis **anti-terrorism efforts, counter-insurgency operations, transnational organized crimes, etc.,** is important to ensure **security** and **sovereignty and territorial integrity of India.**
  - India pursues the **Security and Growth for All in the Region (SAGAR) Vision for it.**
- **Economic:** Facilitates increased **regional trade, investment, and cross-border infrastructure** leading to economic growth, employment generation, and improved standards of living.
  - It is also important to ensure **India's energy security**, particularly in the context of **northern neighbours – Nepal and Bhutan** – with **significant hydro-power potential**.
  - Active outreach with neighbours is also important to address **developmental deficit in India's Northeast**. **e.g.**, **Kaladan Multi-Modal Project**, **Akhaura-Agartala Rail Link through Bangladesh**, etc.

Challenges in India's Neighbourhood

- **Historical baggage and unresolved disputes:** Unresolved border disputes with countries like Pakistan results in frequent tensions and mistrust.
  - It also, sometimes, results in **anti-India sentiments in the neighbourhood and strained bilateral relations** due to **perceived 'Big-Brother' attitude** due to India's **size and strategic position.**

- **Domestic politics:** India's domestic politics and federal dynamics also act as a determinant with its neighbourhood. **e.g.,** Tamil sentiments determining India's Sri Lanka policy.
- **Dynamics in neighbouring countries: Political instability, weak governance,** and **internal conflicts** hinder sustained cooperation and implementation of long-term projects. **e.g.,** Political instabilities in **Afghanistan and Myanmar**.
  - **Regime change in neighbouring countries** also affects India's bilateral relations with them. **e.g.,** Recent **tensions in India-Maldives relations after regime change in Maldives**.
  - **Terrorism and illegal migration from neighbouring countries due to political instability and internal conflict** results in increased threat of terrorist and militant attacks.
- **India's capacity and resources:** Delayed implementation of development projects which can lead to frustration, mistrust and reduces India's influence in the region.
- **Multilateralism:** Dysfunctional regional multilateral institutions like SAARC affected by India-Pakistan tensions, limiting their capacity to promote regional cooperation.

5 S Principle of neighbourhood engagement

- **Samman** (Respect)
- **Samvad** (Dialogue)
- **Shanti** (Peace)
- **Samriddhi** (Prosperity)
- **Sanskriti** (Culture)
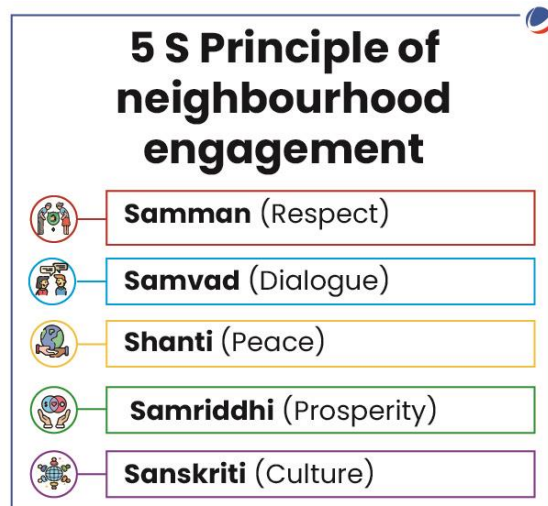
Key Recommendations by the Parliamentary Committee

- **Implementation of developmental projects:** MEA should establish a Cell to identify specific initiatives, projects and programmes to be taken up by various Ministries and Departments with our neighbouring countries.
  - Strengthen **Joint Project Monitoring Committees and Oversight Mechanisms** for monitoring progress of various development assistance projects for their timely execution.
- **Border infrastructure and connectivity:** Increased investment, pooling of resources and above all, convergence of everybody's interest and focus by various central agencies for regional infrastructure development of the border areas.
  - MEA should work in close coordination with the Union Ministry of Home Affairs and state governments to address illegal migration and monitor demographic changes in border areas.
- **Development Fund**: Explore feasibility of **setting-up a regional development fund for connectivity infrastructure** under regional frameworks like BIMSTEC.
  - Also explore the feasibility of creating a **Disaster Relief Fund on the lines of the COVID-19 Emergency Fund** under the aegis of NFP.
- **Cultural and People-to-People connect:** Scale-up academic cooperation, special scholarships schemes and exchanges in the fields of performing/fine arts undertaken by Indian Council of Cultural Relations (ICCR).
  - Promote investment in tourism, including medical tourism under the NFP.
- **Bilateral and multilateral/ regional framework**: Periodic review on the basis of contemporary realities and upgrade, strengthen and energize these mechanisms on a continuous basis.
- **Synergy with Act East Policy:** MEA to maintain a synergy between NFP and Act East Policy as it holds significant potential to bring about connectivity, economic development and security of the North-Eastern Region.

Scan the QR code to know more about **India's Neighbourhood Policy.**

Weekly Focus #108: India's Neighbourhood Policy: Prospects and Challenges

2.2. FREE MOVEMENT REGIME WITH MYANMAR

Why in the News?

Union Ministry of Home Affairs has decided to scrap Free Movement Regime (FMR) between India and Myanmar.

More on News

- Move is aimed to **ensure internal security of the country** and **maintain demographic structure** of India's North-eastern States bordering Myanmar.
- Government has also decided to fence the Indo-Myanmar border. Currently, **border with Myanmar (approx. 1643 km) is predominantly unfenced**, except for a small section in Manipur covering approximately 10 km.

FMR between India and Myanmar

- It permits individuals residing within a 16 km radius of the border to traverse freely, without requirements of a visa or other documentation.
- It was **formalized in 2018** as part of **India's Act East Policy.**
- **FMR regime conceptualized due to following reasons**
  - **Strong ethnic and familial ties across the border**: The border demarcated by the British in 1826 effectively divided people of the same ethnicity and culture into two nations without their consent.
  - **Local trade and business:** The region has a long history of trans-border commerce through customs and border haats. Given the low-income economy, such exchanges are vital for the sustenance of local livelihoods.

India-Myanmar Border

CHINA
ARUNACHAL PRADESH 520km
BHUTAN
ASSAM
Meghalaya
BANGLADESH
NAGALAND 215km
Manipur 398km
TRIPURA
Mizoram 510km
MYANMAR
India-Myanmar border stretches 1,643km

Reasons for Scrapping FMR

- **Illegal immigration:** Uncontrolled immigration of Chin people from Myanmar leading to demographic changes in the region.
- **Ethnic violence and insurgency:** Meitei community attributed last year's tensions to the perceived illegal migration of tribal Kuki-Chin communities.
- **Entry of soldiers from Myanmar:** Exodus of junta soldiers seeking sanctuary in Mizoram which has serious security implications in India's northeast.
- **Surge in narcotics production in Myanmar:** A report by UN Office on Drugs and Crime (UNODC) linked Myanmar's political turmoil under military junta to surge in flow of narcotics in the region.

> **Other aspects of India-Myanmar relations**
> - **Commercial and Economic relations:** Bilateral Investment Promotion Agreement (BIPA) and Double Taxation Avoidance Agreement (DTAA) signed in 2008.
>   - India and Myanmar both are **signatories to the India-ASEAN Trade in Goods Agreement.**
> - **Regional connectivity projects:** Both are cooperating under **Kaladan Multi-Modal Project, India-Myanmar-Thailand Trilateral Highway**, etc.
> - **Multilateral/regional/sub-regional cooperation:** Both countries are members of BIMSTEC and Mekong-Ganga Cooperation.
>   - **Myanmar** was given **status of observer in SAARC in 2008.**
> - **Defense cooperation: Joint military exercise named** India-Myanmar Bilateral Army Exercise (IMBAX) is aimed at building and promoting closer relations with armies of the two countries.

Way Forward

- **Border management**: Union and the state governments as well as the border residents ensure that the border between India- and Myanmar is effectively secured and regulated.
  - **Strengthen security of the border** by either giving the Assam Rifles the single mandate of guarding the border or deploying another border guarding force on Indo - Myanmar border.
  - Expedite **construction of Integrated Check Posts (ICPs)** along with other infrastructure.
- **Diplomatic:** There is a need of diplomatic agility in India's engagement with Myanmar, including with military junta, to promote and protect national and regional interests.
  - **Weigh in the impact of action** taken vis-à-vis corresponding benefits accrued in the context of regional security and **India's 'Act East' policy initiatives**.
- **Community engagement:** Involve tribal communities in decision making to address sensitive issues and tribal fault lines as was visible in last year's Manipur violence.

2.3. INDIA-FRANCE RELATIONS

Why in the News?

India and France have announced **Defense Industrial Roadmap** for cooperation on defense production during French President's visit to India as Chief Guest at the Republic Day celebrations.

More on News

- Roadmap is aimed at deepening the **integration between the two countries' respective defense industrial sectors** and to work together to identify opportunities for **co-design, co-development, and co-production**.
- Defense Industrial collaboration will support a broader progress in **scientific, technological, digital and material sciences fields** to realize the vision of **Viksit Bharat for 2047**.

Points of Convergence between India-France

- **Defense and Security:** France is playing an instrumental role in India's defense modernization through transfer of technology, joint ventures, supply of advanced systems, among others.
  - **e.g.,** Agreement for **transfer of technology for Scorpene class submarines**, supply of **Rafale aircrafts**, etc.
  - **Joint Defense Exercises** – **Varuna** (naval), **Garuda** (Air Force), and **Shakti** (Army) – are conducted between the two countries.
  - **For counter-terrorism,** there exist agency-**level cooperation** between **National Security Guard (NSG) of India** and **GIGN of France.**
  - Both countries resolved to work together for adoption of the **Comprehensive Convention on International Terrorism (CCIT) in the UN**.
  - **Currently, France is the 2nd largest supplier of arms (33%)** to India as per SIPRI report 2023
- **Indo-Pacific:** Both nations are committed to advancement of **free, open, inclusive, secure and peaceful Indo-Pacific and beyond**.
  - **Joint surveillance missions** carried out from **French island territory of La Reunion in 2020 and 2022**.
  - In 2018, both countries agreed on a '**Joint Strategic Vision of India-France Cooperation in the Indian Ocean Region'** which aims to establish **Indo-Pacific Triangular Development Cooperation Fund**.
    - ✓ Fund aims to facilitate the **scaling up of green technologies** being developed in the region.
- **Developmental:** Both countries are collaborating in the **domain of smart cities**, forging a strong partnership to harness the potential of technology and innovation in urban development.
  - **e.g.,** India-France collaboration on **Chandigarh Smart City project**.

Other Key Outcomes

- Leaders from both sides committed to **revitalizing the trilateral cooperation with Australia**, **deepen the one with UAE** and explore new ones in the region.
  - **Trilateral grouping with UAE** aims to ensure **security from the east coast of Africa to the Pacific**.
- France expressed its support to join **One Future Alliance (OFA)**, as agreed in G20 Leaders Summit to further **synergize global efforts on building Digital Public Infrastructure (DPI) capacities**.
- Both sides agreed to **convene a special task force on nuclear energy** within three months in the framework of the **Indo-French Strategic Dialogue**.
- Declared **2026 as the India-France Year of Innovation.**
- India will be **among the priority countries** of implementation of **international pillar of French strategy on arts and crafts.**

Timeline of India–France relations

1948
India established diplomatic relations with **France**

1962
The Five main French settlements were returned to India under the **Delhi Treaty of 1954**

1998
Signed **strategic partnership**
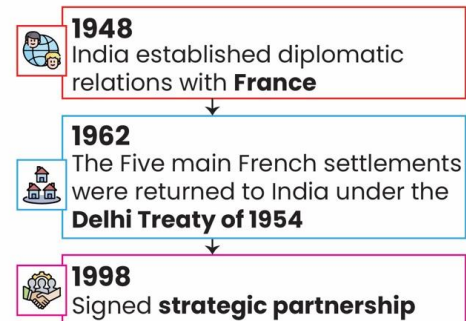
Key Challenges in India-France relations

- **Divergent approaches towards strategic autonomy:** In the context of Russia-Ukraine conflict**,** France vociferously condemned Russia's military intervention and extended political, financial, humanitarian, and military support to Ukraine. India's position, on the other hand, has been marked by strategic restraint.
- **Trade remains a laggard:** Trade potential between the two countries remains underutilized.
  - Also, there's **absence of Free Trade Agreement** between two nations.
- **Technical, financial and civil nuclear liability issues** from both sides in implementation of **nuclear power reactors in Jaitapur (Maharashtra)**.
- **Nature of cooperation:** Cooperation between the two nations is, mostly, in the nature of **Government-to-Government (G2G)**.
  - **Business-to-Business (B2B) and People-to-People (P2P)** cooperation remains sub-optimal.

- **Economic and Trade:** Currently, France is the 11th largest foreign investor in India.
  - France lent its firm support to the ongoing negotiations for **India-EU Free Trade Agreement**.
  - Both countries are **collaborating in digital payments space** with the recent **launch of UPI in France**.
- **Technology: Strategic Space Dialogue,** launched in June 2023**,** to provide strategic guidance and direction across the all aspects of space cooperation.
  - India and France have **civil nuclear ties on the peaceful uses of nuclear energy**. **e.g., Jaitapur Nuclear Power Plant Project.**
- **Global Governance:** France reiterated its firm **support for India's permanent membership of the UNSC** for reformed and effective multilateralism to sustain an equitable and peaceful international order.
  - France also helped in India's accession to **multilateral export control regimes such as Missile Technology Control Regime (MTCR), Wassenaar Arrangement, and Australia Group.**
- **Climate Change: International Solar Alliance (ISA)** conceived as a joint effort by India and France to mobilize efforts against climate change through deployment of solar energy solutions.
  - India joined the **French-led initiative** called the **High Ambition Coalition for Nature and People**.
  - **2021** was declared as **Year of Indo-French alliance towards a Greener Planet.**
- **Cultural and P2P: Partnership Agreement on Migration and Mobility,** which came into force in 2021, is an important step in enhancing the mobility of students, graduates, academics, skilled workers, etc.
  - **Villa Swagatam** is a network of residencies to bring best French talents to 16 existing residencies spread across India.
    - ✓ In doing so, France wishes to create a community of **French artists and writers who will learn from India's rich savoir-faire and history**.

Conclusion

India and France have a multifaceted relationship marked by shared values, mutual respect, and strong convergences on different issues of global concern. Simultaneously, there needs to be a stronger focus on B2B cooperation through investment and technology exchange and P2P ties via educational and cultural exchanges to solidify this partnership, enrich mutual understanding.

2.4. INDIA-UAE RELATIONSHIP

Why in the news?

Recently, India and the UAE signed a **Bilateral Investment Treaty (BIT),** during an official visit of Prime Minister of India to UAE.

More on news

- **The BIT is expected to** further promote investments in both countries.
- **It** will offer **proper settlement of disputes through arbitration and thereby, among other things, encourage domestic manufacturing** and reduce import dependence.
- As **India moves towards achieving US$5trillion economy target and UAE focussing on diversification and liberalization program to reduce reliance on oil economy**, both countries converge as **partners in progress** in various sectors.
  - Experts believe that this BIT is a step towards this direction itself.
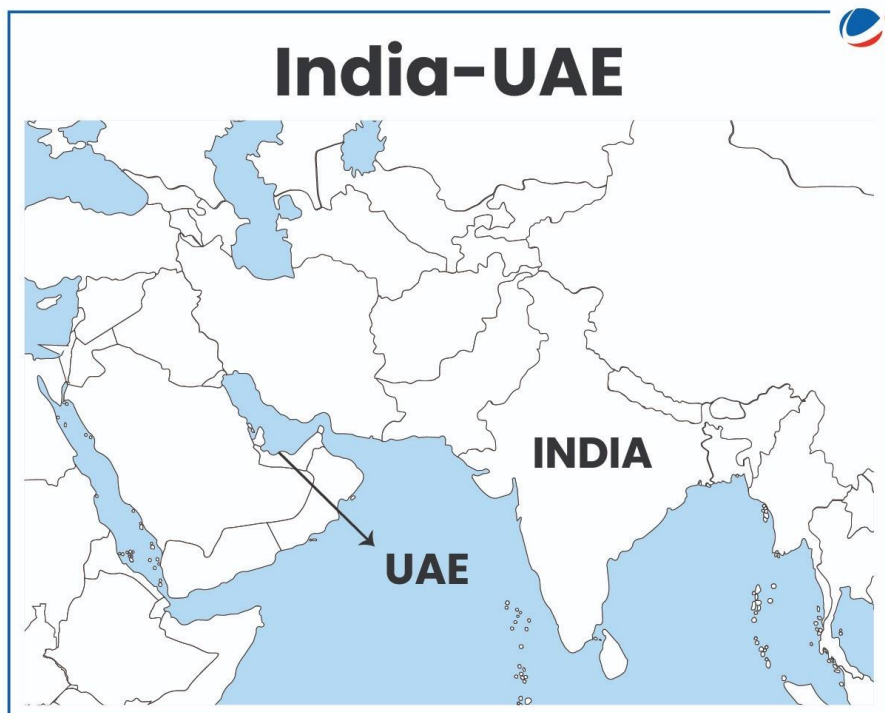
About India-UAE Relations

- India-UAE diplomatic relations began in 1972. The year 2015 marked the beginning of a new strategic partnership between the two nations.
- It led to the signing of **Comprehensive Economic Partnership Agreement** in **2022** with a target to boost bilateral trade to **$100 billion.**

Areas of Convergence

- **Economic & Commercial:** The UAE's investment in India is estimated to be around US$ 20-21 billions of which US$15.5 billion is in the form of FDI while the remaining is portfolio investment between April 2000-March 2023.
    - **Fintech cooperation-** Agreement on interlinking of the instant payment platforms - **UPI (India) and AANI (UAE),** Agreement on inter-linking domestic debit/credit cards - **RuPay (India) with JAYWAN (UAE)**
    - **Energy Security of India:** UAE is an important supplier of crude, LNG and LPG to Indian market.
- **Multilateral Cooperation:** Both countries are part of various platforms such as **BRICS, I2U2 (India-Israel-UAE-USA) and UFI (UAE-France-India) Trilateral.**
- **Diaspora and people to people relations:** UAE has over 3.5 million Indian diasporas constituting roughly ~35 per cent of the country's population.
    - PM inaugurated **Bochasanwasi Akshar Purushottam Swaminarayan Sanstha (BAPS)** Hindu temple in Abu Dhabi.
- **Furthering regional Connectivity** through India-Middle East Economic Corridor (IMEC) which will connect India, European Union, France, Germany, Italy, Saudi Arabia, UAE and US.
- **Education:** There are many International Indian schools in the UAE following CBSE and Kerala Board curricula, and an **overseas campus of IIT Delhi** is being established in Abu Dhabi.
- **Defence Cooperation:** Steered through a **Joint Defence Cooperation Committee,** with the signing of Agreement on Defence Cooperation.
    - Both countries also participate in **International Defence Exhibition and Conference (IDEX)** and the **Naval Defence and Maritime Security Exhibition (NAVDEX)** and in military exercise such as **Desert Flag, Desert Cyclone**.
- **Space Cooperation:** ISRO and the **UAE Space Agency** have signed agreement for exploration and use of outer space for peaceful purposes and is an important element of the **I2U2** cooperation as well.

Challenges in India-UAE relationship

- **Deteriorating regional peace in** region due to the on-going conflict in Israel-Palestine and the Red Sea attacks. It may impact **IMEC.**
- **Rights of emigrant labourers in UAE due to Kafala system** granting disproportionate power to employers over immigrant labourers leading to human rights violations. This often leads to passport confiscation, delayed wages, and poor living conditions
- **Trade and Market access barriers** in various sectors such as agrochemicals along with **biased qualification clauses** (in favour of Middle East, Europe or developed countries) affects exports from India.

Way Forward

- **Welfare of Migrant Workers:** Both countries should find solutions so as to ensure rights and welfare of migrant workers in UAE focused at reforming Kafala System.
- **Further deepening of defence ties: This will aid to counter Chinese influence** in the Indian Ocean region. 2+2 dialogue on the lines of USA, Japan can be explored between India-UAE.
- **Minimization of Non trade barriers:** So that issues related to India's exports in various sectors can be addressed.

Conclusion

The relations with UAE are important for India just not in bilateral spheres but also in **India's Extended Neighbourhood and Look West Policy of India**. The fast-paced improvement in India-UAE relations show that the relation is bright and full of hope and is on the right track.

2.4.1. BILATERAL INVESTMENT TREATIES (BITS)

Why in the News?

India is negotiating BITs with trade partners to boost the inflow of foreign direct investments (FDI).

About BITs

Bilateral Investment Treaties (BITs) are reciprocal agreements between two countries to promote and protect foreign private investments in each other's territories.

- **Indian Model BIT of 1993**: India had signed BITs with 83 countries of which 74 were in force till 2015.
- **India revised its Model BIT in 2016**. Since 2015, India has signed new BITs only with four countries and is negotiating with 37 countries and terminated its older BITs with 77 countries.
- **Key Features of Model BIT 2016**
  - **"Enterprise" based definition of investment:** It means an enterprise that has been constituted, organised, and operated in good faith by an investor in accordance with the domestic laws of the country
  - **Non-discriminatory treatment through due process:** Each Party shall accord full protection and security to the investments and investors
  - **National treatment and protections against expropriation:** Neither Party may nationalize or expropriate an investment of an investor directly or through measures having an effect equivalent to expropriation.
  - **Investor State Dispute Settlement (ISDS) mechanism:** A foreign investor should first exhaust local remedies at least for a period of five years before going for ISDS mechanism.

> **Need of Functional BITs**
> - **Protection to investors in the form of minimum guarantees such as:-**
>   - **National Treatment**- treating foreign investors at par with domestic companies.
>   - **Fair and Equitable Treatment to companies and investors** as per international law,
>   - **Protection from expropriation, i.e.,** limiting a country's ability to take over foreign investments in its territory.
> - **Better Arbitration Mechanism and seamless dispute resolution.**
> - **Other significance**
>   - Strengthen trade relations between the countries.
>   - **Boost the inflow of Foreign Direct Investment and facilitates movement of capital**

Existing issues with Model BIT

- **Reactionary approach of model BIT of 2016**
  - Experts suggest that **India brought in Model BIT 2016** in reaction to series of notices that India received.
  - It has too many exceptions which limit the liability for the host state and raises the bar required to bring a claim under the BIT.
- **Arbitration Mechanism is considered to be the most contentious** issue which insists on the investor exhausting the domestic remedies for at least five years before commencing arbitration under the BIT.
- **Enterprise based definition of investment** narrows down the definition of investment. Moreover, it is considered to have vague qualifications such as **"certain duration" and "significance for development of the party in whose territory the investment is made."**
- **Omission of "fair and equitable treatment" standard.** It has been replaced with protections that require steep thresholds to be triggered and/or invoked. Moreover, the doctrines of **Most-Favoured Nation** and "legitimate expectation" are also absent.
- **Exemption of taxation measures from the protections offered under BIT seems** to be restatement of sovereignty rather than a treaty meant to protect cross-border commercial transactions.
- **Lack of professionals** as India does not have sufficient number of lawyers/judges with the requisite expertise and experience. Thus, huge fees is paid to foreign lawyers firms which represent India in investment arbitration.

Way Forward

After a comprehensive analysis done by Parliamentary Standing Committee, following recommendations have been suggested:

- **Timely settlement of investment disputes through pre-arbitration consultation or negotiations** to avoid cost to the exchequer.
- Further changes in the Model BIT 2016 should be done in accordance with
  - Continuous up gradation and review of Model BIT 2016 based on experiences gained in disputes arising out of BITs
  - Continuous incorporation of best practices and provisions from BITs adopted by advanced countries after studying implementation and outcome of such treaties.
- **Building domestic legal expertise** through training lawyers, firms, and government officials is crucial for effective BIT drafting and representation in investment arbitration**.**
- **Promotion of the New Delhi International Arbitration Centre as a world-class arbitration centre.**
- **Non-Ambiguous and Forward looking BIT should be drafted** to avoid overbroad interpretation by arbitrators and tribunals, investment disputes or claims against India, and the abuse of certain provisions by investors.

2.5. EXPANSION OF BRICS

Why in the news?

Recently, five new members namely **Egypt, Ethiopia, Iran, Saudi Arabia, and the United Arab Emirates** have joined BRICS as full time permanent members. However, Argentina has withdrawn.

About BRICS

- British economist **Jim O' Neill coined and used the acronym 'BRICs' for the first time in 2001**.
- BRIC started **functioning as a formal grouping** on the margins of G8 Outreach Summit in **2006**.
- **First BRIC Summit** was held in Yekaterinburg (**Russia**) in **2009**.
- **BRIC became BRICS with the inclusion of South Africa in 2010.**

Significance of BRICS Expansion

- **Shaping a multipolar world:** Expansion of BRICS with diverse regions and economic powerhouses makes it a key player in global order.
  - BRICS offers a subtle shift towards a world order, where middle powers are increasingly assuming central roles.

Major Initiatives of BRICS
- **New Development Bank (NDB)** (HQ: Sanghai) and **Contingent Reserve Arrangement (CRA)** was created to provide mutual financial support.
- **Medical cooperation: Ufa Declaration** was adopted to prevent the spread of infectious diseases.
- **BRICS Science, Technology and Innovation (STI) Framework Programme** (2015) helped facilitate a common response to COVID-19.
- **BRICS Payments Task Force** as a step towards cooperation between central banks and other financial institutions on national payments systems.
- **BRICS Rapid Information Security Channel** promotes exchange of information on cyber threats among their central banks.

- **Expand the group's footprint in the new regions:** Expansion consolidates the BRICS' presence in key regions, including the Middle East, Africa, and South America, further enhancing its global footprint.
- **Increased influence in the global economy**: BRICS nations now comprise more than **40% of the world's population** have **surpassed the G7 countries** in terms of purchasing power parity.
  - Addition of **Egypt and Ethiopia** of the African continent will further lead to global economic inclusivity.
- **Push towards de-dollarization:** Egypt has shared its intent to conduct payments for imports from China, India, and Russia in their respective currencies.

Issues in Expansion of BRICS

- **Different levels of development** as the added BRICS countries differ significantly in terms of economic development and the expansion may further limit the cooperation among them.
- **Lack of consensus building and extensive dialogue** among member states as some countries were not in favour of expansion and insisted on establishment of well-defined criteria for addition of new members.
- **Still at developing stage** as the grouping is yet to evolve as an organization and needs time to develop its institutions and governance structure.
- **Geopolitically,** many countries view expansion as China's move to increase its sphere of influence by bringing in more like-minded countries.
- **Vast internal differences among members**: The grouping has mix of democratic and authoritarian regimes, with different social structures, resource and developmental trajectories.
- **Approach towards institutional reforms** such as at UNSC remains more declaratory in nature.
- **Dependency on global institutions**: BRICS countries are still dependent on other international organisations such as G20, IMF, World Bank etc.
- **On-going global conflicts and changing world order**: The on-going churn in the world order, further complicated by the pandemic, Russia Ukraine conflict and Israel-Hamas war raises concerns about future policy directions of BRICS member.
- **Low Intra-country trade, imports and exports** among BRICS nations are low due to geographical distance and restrictive trade environments.
- **Lack of capital as** BRICS lacks funds to compete with Institutions such as World Bank and IMF which necessitates for more capital in the NDB.

Way Forward

- **Setting up of a permanent secretariat** with its expanded membership.
- **Collective stand against trade protectionism as** future of BRICS will depend on how much the leaders have agreed to stand collectively against trade protectionism, increase investments and share a global political agenda.
- **Socioeconomic convergence** among the existing member countries must prioritize economic and social cohesion among themselves.
- **Following bottom-up approach** can lead to increase in participation of private sector and citizen involvement. It can include single BRICS visa, increased collaboration among researchers etc.
- **Members should focus on building trust** by sharing knowledge, promoting trade and development, and advancing developmental finance.
- **Push for much enhanced multilateral efforts by furthering its deep connects with the Global South** and send a global message of unity and not of polarisation
- **Further expansion of objectives** such as creation of a BRICS Space Exploration Consortium, establishing a repository of traditional medicine etc.

> **Significance of BRICS for India**
> - **Voice for developing nations and global south:** BRICS acts as a platform for India to raise concerns and advocate for the rights of developing countries acting as a leader of global south on issues such as terrorism, climate change.
> - **Safe space for dialogue:** as BRICS provides neutral platform for India to engage in dialogue and manage potential rivalries, even during times of bilateral tensions. (India-China Dokhlam standoff)
> - **Boosting multilateral reform demands:** It allows India to push for reforms in institutions such as UNSC and WTO for ensuring equitable global order.
> - **Inclusive financial architecture:** It contributes to building a more inclusive global financial system with initiatives such as **New Development Bank**
> - **Reduced import dependence:** increased cooperation can help in diversification of India's import sources and better trade deals reducing high import dependency
> - **Achieving SDGs:** BRICS collaborations, like the **Agricultural Research Platform,** can help India achieve Sustainable Development Goals (SDGs) related to poverty and hunger reduction

> **Related News**
> **IBSA facility for poverty and hunger alleviation (IBSA Fund)**
> - India has contributed $ 1 Mn to the IBSA Fund.
> - **About the IBSA Fund**
>   - It was jointly established by **India, Brazil and South Africa in 2004** and became **operational in 2006.**
>   - Fund-**supports projects in Global south** to achieve their national priorities, as well as all other internationally agreed development goals.

- **About IBSA**
  - Forum comprises India**, Brazil and South Africa.**
  - Formalised and named the **IBSA Dialogue Forum in 2003.**

2.6. SOUTH ASIA SUB REGIONAL ECONOMIC COOPERATION (SASEC)

Why in the news?

PM laid the foundation stone of multiple projects in Assam as part of the SASEC corridor connectivity.

More on News

- It includes projects worth over Rs 3400 crore, under which 43 roads including 38 bridges will be upgraded.
- It also includes four lane projects which will improve the connectivity to Itanagar and boost the overall economic development of the region.

Focus areas of SASEC

There are mainly **four pillars of SASEC cooperation** which include: -

- **SASEC Transport Sector Strategy:** Create **multimodal transport networks** and logistics facilities to increase intraregional trade and boost growth
  - Support the strategic priorities of the SAARC at the inter-regional level
- **SASEC Trade Facilitation: Implement SASEC Trade Facilitation Strategic Framework (2014-18)** focusing on customs modernization, cross-border facilities improvement
  - Support the strategic priorities of South Asia Free Trade Agreement cooperation framework
- **SASEC Energy Sector Strategy:** Improve cross-border electricity transmission connectivity

South Asia Sub Regional Economic Cooperation

Established: In 2001 in response to Bangladesh, Bhutan, India and Nepal's request from ADB.
- ADB serves as the SASEC secretariat

Objective: Project–based partnership to promote regional prosperity, improve economic opportunities, and build a better quality of life

Vision: Boost intraregional trade and cooperation in South Asia, develop connectivity and trade with Southeast Asia through Myanmar, to the People's Republic of China, and the global market.

Members: Bangladesh, Bhutan, India, Maldives, Myanmar, Nepal, and Sri Lanka.

  - Increase power trade, cooperation in energy efficiency and clean power development
- **Economic Corridor Development Strategy:** In 2016, countries approved the **SASEC Operational Plan 2016-2025**, introducing Economic Corridor Development as a fourth sectoral area of focus
  - Prioritize construction of economic corridors with potential cross-border linkages
  - Optimize opportunities to bring innovation into public-private partnerships**.**

Significance of SASEC for India

- **Link between South Asia and Southeast Asia:** Road corridors in Myanmar provide India a link between South and South East Asia.
- **Additional gateways to the landlocked North Eastern region** with development of the ports in Myanmar.
- **Development of multi-modal connectivity between North Eastern region of India, Bangladesh and Myanmar** has the potential of unleashing tremendous economic energy in the sub-region.
  - SASEC has been instrumental in implementing the **India-Myanmar-Thailand Trilateral Highway**, which will run from Moreh in Manipur to Mae Sot in Thailand via Myanmar.
  - It can also act as an alternative to **One Belt One Road** initiative of China in the region.
  - Moreover, the project being a part of the **Great Asian Highway** developed under **United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)** will strengthen India's position at the global level.

Challenges of SASEC

- **Lack of effective cross-border transport infrastructure** in South Asia minimizes potential of trade

- **Lack of modern automated border procedures** lead to higher costs, more time for goods, vehicles and traders to cross borders
- **Underutilized intra-regional trade in South Asia** which comprises of merely ~5% whereas as compared to ASEAN region where intraregional trade makes up 25% (World Bank).
- **Red tapism** leads to barriers such as lengthy administrative procedures, unnecessary documentation and absence of harmonized trade regulations
- **Lack of cross-border energy interconnection infrastructure** such as national power grids to ensure efficient and reliable energy supplies.
- **Current industrial bases in South Asia** are unconnected to regional and global value chains, which severely hinders the capacity to optimize effective industrialization processes.
- **Low FDI in South Asia** due to inadequate infrastructure connectivity and 'business unfriendly' regulatory and institutional frameworks

Way Forward

- **Improving the efficiency of regional transport and trade facilitation through Multimodal Transport Connectivity** could lead to increased intraregional trade within South Asia and also with rest of the world.
- **Upgrading infrastructure at border-crossing points with tools of** customs modernization and harmonization should be prioritised to meet the international standards.
- **Implement policy, regulatory, and institutional** reforms for to reduce time and make the trade cheaper and faster
- **Regional Energy Cooperation** can strengthen energy security during external shocks and also improve access and development of renewable energy resources.
- **Strengthening existing value chains** related to supply chain, trading and logistics capacities and connect them to value chains in neighbouring countries.
- **Synchronizing and integrating urbanization and industrialization** to boost productivity and living standards in South Asia.

2.7. NEWS IN SHORTS

2.7.1. UN RELIEF AND WORKS AGENCY FOR PALESTINIAN REFUGEES (UNRWA)

- **UN officials urged countries** to **reconsider** their decision to **suspend** the funding for United Nations Relief and Works Agency for Palestinian Refugees (UNRWA).
- **About UNRWA**
  - ○ **Genesis**: Established as a **subsidiary organ of United Nations General Assembly** in 1949.
  - ○ **Objective: To provide assistance** and protection to **Palestine refugees** registered with UNRWA.
    - ✓ Its mission is to **help Palestine refugees** in Jordan, Lebanon, Syria, **Gaza Strip and West Bank**, including East Jerusalem achieve their full **human development potential.**
  - ○ **Funding**: **Funded** almost entirely by **voluntary contributions** from **UN Member States.**

2.7.2. ECONOMIC COMMUNITY OF WEST AFRICAN STATES (ECOWAS)

- Burkina Faso, Mali and Niger announced their immediate withdrawal from West African bloc ECOWAS.

- **About ECOWAS** (HQ: Abuja, Nigeria)
  - ○ **Regional group of 15members** (including Burkina Faso, Mali, Niger) established in **1975 through Treaty of Lagos.**
    - ✓ **Other members**: Benin, Cabo Verde, Côte d'Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Nigeria, Sierra Leone, Sénégal and Togo.
  - ○ **Aim**: Promote co-operation and integration, leading to establishment of an economic union in West Africa to **raise living standards of its people**, **enhance economic stability, foster relations-among Member States** and, contribute to progress and development of African continent.

2.7.3. THE WEIMAR TRIANGLE

- Foreign Ministers of Germany, Poland, and France **have met recently to revive the Weimar Triangle.**
- **Weimar Triangle** is a regional group **created in 1991, to develop a shared vision for Europe** and **forge closer ties between these three countries' societies.**
  - ○ The Triangle was initially the **key forum for supporting German-Polish reconciliation after World War II.**

- o The group **takes** its name from the **city of Weimar, Germany,** where the initial meeting took place.

2.7.4. MISSION ASPIDES

- **European Union** launches 'Mission Aspides to **protect Red Sea vessels from Iran-backed Houthi attacks.**
  - o It aims to **preserve freedom of navigation,** provide **maritime situational awareness**, accompany ships and protect them from possible multimodal attacks at sea.
  - o Its **area of operation** will include **Bab Al Mandeb** and **Strait of Hormuz**, as well as international waters in **Red Sea, Gulf of Aden, Arabian Sea, Gulf of Oman** and **Arabian Gulf**.

2.7.5. HENLEY PASSPORT INDEX (HPI)

- India slipped to 85th position in the recently released Henley Passport Index for 2024.

About Henley Passport Index

- Released by **Henley & Partners.**
- Ranks **according to number of destinations holders of a passport can access** without a prior visa.
- Based on data from **International Air Transport Association (IATA).**
- Compares visa-free access of **199 different passports to 227 travel destinations.**
- 6 countries – **France, Germany, Italy, Japan, Singapore, Spain – are ranked 1st** in 2024.

NEWS TODAY

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3. ECONOMY

3.1. ECONOMIC NATIONALISM IN INDIA

Why in the news?

Vice President of India termed economic nationalism as quintessentially fundamental to India's economic growth.

What is Economic Nationalism?

- **Definition:** Economic nationalism has been conventionally understood as the economic ideology which **favours domestic control of the economy, labour and capital formation**.
- **Origin: Friedrich List** is considered as the initiator of the concept of Economic Nationalism.
  - List's theory of 'national economics' **differed from the doctrines of 'individual economics' and 'cosmopolitan economics'** by Adam Smith and Jean-Baptiste Say respectively.
  - List asserted that between the individual and entire humanity, **stands the 'Nation'** and he formulated his ideas on **this intermediate agency – the Nation**.
  - List enquired **how a nation can obtain prosperity**, civilisation and power and his mechanism for this was **industrial development**. Thus, **erecting tariff barriers** to protect the infant industries became the basic aim of List's economic policy.
- **Changing nature:** The present notion of economic nationalism is **concerned with the nation** and **not with particular economic policies**.
  - It may adopt a **variety of forms** as it may advocate policies of economic liberalism or protectionist policies **depending on the situation**.

Economic Nationalism in India

- **Development of idea:** It developed in India within the context of its subordination to Britain (Colonial Rule).
  - This was also associated with **capitalist expansion on a world scale** (first globalization) which was unequal in nature, consisting of the flow of manufactured commodities out of Europe and primary products into Europe.

Potential ill Effects of Not Subscribing to Economic Nationalism

- **Risk of de-industrialization** with industries migrating to countries with lower labour costs.
- **Limited technological advancement** due to losing out in R&D opportunities.
- **Import dependence** leaving country vulnerable to supply chain disruptions.
- **Reduction in employment opportunities** due to decline in manufacturing.
- **National Security Concerns** from over reliance on foreign countries for critical goods.
- **Limited investment sources** thus limiting growth.

- **Early economic critiques of colonial rule:** Cognition of the negative economic consequences of British colonial rule can be traced back to the 1830s in the **writings of Raja Rammohan Roy**.
  - Later, certain intellectuals such as **Bhaskar Pandurang Tarkhadkar**, **Govind Vitthal Kunte** (popularly known as **Bhau Mahajan) and Ramkrishna Vishwanath** criticised the British rule for economically exploiting India.
- **Emerging economic nationalist thought:** During the late 19th century and early 20th century, economic critique widened to **'political economy of nationhood'**.
  - Its most important **proponents** included Dadabhai Naoroji, Mahadev Govind Ranade, Romesh Chunder Dutt, Gopal Krishna Gokhale, G. Subramaniya Iyer, G.V. Joshi, Bal Gangadhar Tilak and Surendranath Banerjea.
  - They realised that **India was integrated within global capitalism in a subordinate position** as a 'dependent colonial economy'.
  - They also criticized the processes of **'ruralization' and 'de-industrialization'** to which India was subjected.
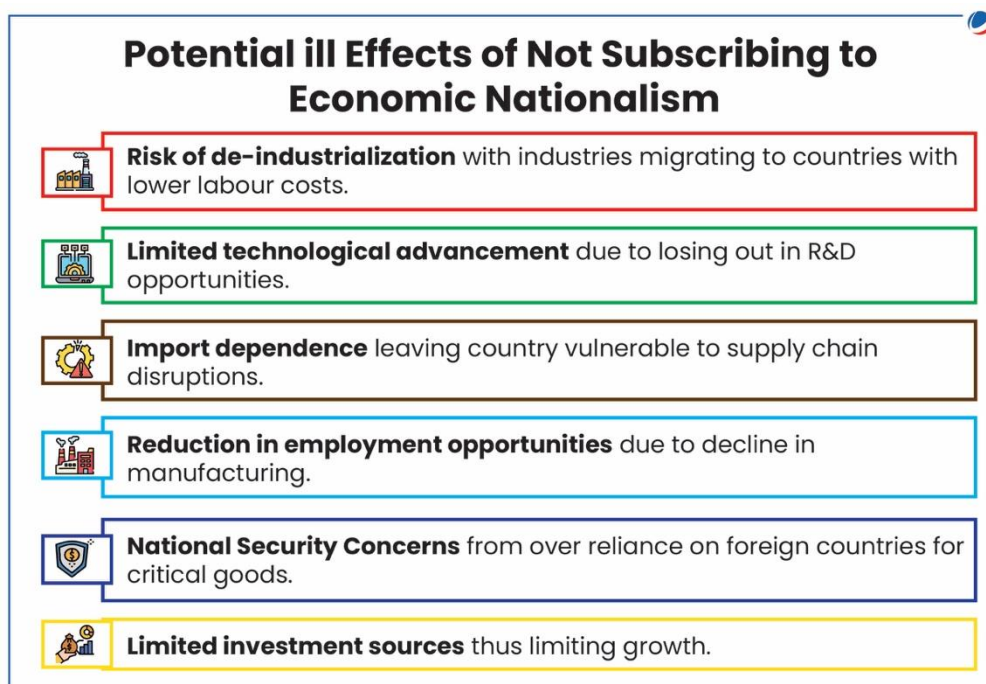
- **Drain theory:** Dadabhai Naoroji propounded the **theory of 'drain of wealth'** which was conceived as a unilateral transfer of resources from India to Britain without any corresponding economic and commercial gain.

These developments presented the case for developing independent national economic policies for the country.

Economic Nationalism creating Atmanirbhar Bharat

Since, independence, India has initiated several policies which can be understood as policies of Economic nationalism and contribute to the realization of Atmanirbhar Bharat.

- **Promoting domestic industry:** Several reforms initiated by the Government have the potential to promote the growth of **domestic manufacturing and services industry**.
    o These include schemes such as Production-Linked Incentives (PLI) schemes, Make in India, National Infrastructure Pipeline, and Insolvency and Bankruptcy Code (IBC) etc.
    o Other initiatives include **Vocal for Local**, One District One Product (ODOP) scheme, benefits to **MSMEs** etc.
- **Participation in Global Supply Chain:** India is undertaking ease-of-doing-business reforms, issuing quality control orders, and standardising products and services to **enhance competitiveness**, which will ensure its **place in global supply chains**.
    o In this regard, initiatives for improving logistics such as Infrastructure development initiatives such as PM Gati Shakti National Master Plan, National Logistics Policy, Bharatmala and Sagarmala Pariyojana etc. will help in such integration.
- **Strategic autonomy:** India is building its capacity in strategic sectors such as defence, space, clean energy, digital services etc. and strengthening multilateral partnerships, which may **reduce the impacts of geopolitics** and help frame an **independent foreign policy**.
- **Research and Development (R&D):** Initiatives to promote R&D include the National Research Foundation, Uchhatar Avishkar Yojana (UAY), Impacting Research Innovation and Technology (IMPRINT) etc. These will make India **technologically capable and self-reliant**.

Conclusion

The decision to embrace or reject economic nationalism is not a binary one but is a situational decision. For India, the key is to find a balance between promoting domestic industries and remaining open to global trade.

3.2. STATE GOVERNMENT GUARANTEES

Why in the news?

A working group constituted by the Reserve Bank of India (RBI) made certain recommendations to address issues relating to guarantees extended by State governments.

What is a State Government Guarantee?

- A 'guarantee' is a **legal obligation for a State to make payments and protect an investor/lender from the risk of default by a borrower**. Guarantees are usually sought when the investors/ lenders are unwilling to bear the risk of default.
    o As Per the **Indian Contracts Act (1872)**, it is a contract to "**perform the promise, or discharge the liability, of a third person in case of his default**."
- **Article 292 of the Constitution of India extends the executive power of the Union to the giving of guarantees** on the security of the Consolidated Fund of India, within such limits, if any, as may be fixed by Parliament. Similar powers are given to **States under Article 293**.
- State Governments often issue guarantees **on behalf of various PSEs/ Cooperative Institutions/Urban Local Bodies**, etc. to various banks/financial institutions for financing developmental schemes/projects.

Current Status of State Government Guarantees

- **Extent:** State-wise guarantee data for the period 2018-21 suggests that **outstanding guarantees constituted less than 10 % of their GSDP for the majority of the states**. It has, however, been rising over the years for most of the states.
    o The **guarantee given by 27 states was 4% of their aggregate GSDP at the end of 2021-22.**

- o For several states, the **power sector accounted for the largest share of guarantees**.
- **States with a relatively higher outstanding guarantee levels** include Sikkim (12.0%), Telangana (12.0%), Andhra Pradesh (10.4%), and Uttar Pradesh (8.8%).
  - o Andhra Pradesh has provided significant guarantees to sectors of agriculture and water supply, sanitation, housing and urban development.

Importance of Government Guarantees

To improve viability of projects or activities undertaken by Government entities with significant social and economic benefits	To enable Public Sector Companies to raise resources at lower interest charges or on more favorable terms	Fulfill requirement in cases sovereign guarantee is a precondition for concessional loans from bilateral/multilateral agencies

Issues Regarding State Guarantees

- **Moral Hazards:** Guarantees can sometimes cause a problem where the guaranteed party doesn't make optimal efforts to meet its obligations because it knows it's backed up by a state guarantee.
  - o Similarly, investors and lenders may have less incentive to perform due diligence in scrutinizing the project.
- **Fiscal Risks:** Contingent liabilities are a **risk to State Governments owing to the large outstanding debt and losses of PSEs. It may burden the state finances** leading to large unanticipated cash outflows and increased debt.
- **Crowding Out Private Investment:** Excessive use of guarantees can discourage private lenders from directly financing projects, potentially leading to higher borrowing costs for the government and state entities.
- **Lack of Uniformity**: Some states have fixed ceilings in terms of annual incremental risk-weighed guarantees, while others have fixed in terms of total outstanding guarantees.
  - o There is also a **lack of uniformity in terms of variable (s) to which these ceilings are linked**, viz. certain percentage of either total revenue receipts or GSDP.
- **Transparency and Accountability:** Limited disclosure about the **specific purpose, terms, and conditions** of guarantees may raise concerns about **transparency and accountability**.
- **Management of Guarantees:** The **quantum and timing of potential costs / cash outflows owing to guarantees are often difficult to estimate** (due to unavailability of data). Accordingly, their management is difficult and is typically not reported in the budget deficit.

Way Forward - Major Recommendations of the Working Group

- **Expanded Definition of Guarantee**: The word 'Guarantee' should **include all instruments, which create an obligation, contingent** or otherwise, on the part of the State Government.
  - o There **should not be any distinction made between Financial/ Performance guarantees** while assessing risk.
    - ✓ Also, the purpose for which Government guarantees are issued should be clearly defined.
- **Uniform Guarantee Ceiling**: State Governments may consider fixing a **ceiling for incremental guarantees issued during a year at 5 % of Revenue Receipts or 0.5 % of Gross State Domestic Product**, whichever is less.
- **Guarantee Fee:** State Governments may consider charging a **minimum guarantee fee for guarantees extended and additional risk premium** may be charged based on the risk category and the tenor of the underlying loan.

> **Guarantee Redemption Fund (GRF)**
> - **GRF** has been established in the **Public Account of India** for redemption of guarantees given to Central Public Sector Enterprises (CPSEs), Financial Institutions, etc., by the Central Government.
> - It is funded through **budgetary appropriations**, under the head **'Transfer to Guarantee Redemption Fund'** through the Demands for Grants of the Department of Economic Affairs.

- **Risk Categorization**: States should classify the projects/ activities as **high risk, medium risk and low risk** and assign appropriate risk weights before extending guarantees.
  - o Such risk categorization should also take into consideration past records of defaults.
- **Guarantee Redemption Fund (GRF):** The States which are currently not members of the GRF should consider becoming members at the earliest.
- **Disclosure Standards:** State Governments may **publish/disclose data relating to guarantees**, as per the Indian Government Accounting Standard (IGAS).
  - o RBI may consider advising the banks/ NBFCs to disclose the credit extended to state-owned entities, backed by State Government guarantees.

Guidelines for Guarantee Policy of Government of India (2022)
- **Guarantees may be given only for principal amount** and normal interest component of the underlying loan.
  - o The **Fiscal Responsibility and Budget Management Act, 2003** prescribe a **limit of 0.5% of GDP for guarantees** to be given in any financial year (since FY 2004-05).
    - ✓ If this limit is exceeded owing to unforeseen circumstances, the Finance Minister is required to make a statement in both Houses of Parliament explaining the deviation.
- **Guarantees may not be extended for external commercial borrowings**;
- **State Government may not extend guarantee for more than 80 % of the project loan**, depending on the conditions imposed by the lender;
- Guarantees once approved, **shall not be transferred to any other agency without the prior approval of the Finance Department**;
- Government guarantees **shall not be provided to private sector companies/ institutions**;
- **Appropriate pre-conditions** may be specified by the Government while giving the guarantees, e.g., period of guarantee.

3.3. INSURANCE SECTOR IN INDIA

Why in the news?

The Standing Committee on Finance presented a report on the **Performance Review and Regulation of the Insurance Sector** to the Lok Sabha.

Know the term
- **Insurance penetration:** It is measured as the **percentage of insurance premium to Gross Domestic Product (GDP)**.
- **Insurance density:** It is calculated as the **ratio of premium to population (per capita premium)**.

Status of Insurance Sector in India

- **Insurance penetration:** Insurance penetration increased from 2.71% in 2001-02 to **4.2% in 2021-22.**
  - o The global average was 7% in 2021-22.
- **Insurance density:** Insurance density has increased from $11.5 in 2001-02 to **$91 in 2021-22**.
  - o The global average was $874 in 2021-22.
- **Insurance business:** India ranked **10th in the global insurance business** with a market share of 1.85% in 2021.
  - o **Number of insurers** registered increased from 6 in 2000 to 70 in June 2023.
- **Sector concentration:** Indian insurance sector is heavily **tilted towards the life insurance segment** which has a share of 76%.
  - o Globally, the share of the life insurance business in total premiums was 43.7% in 2021.

Regulation of the Insurance Sector in India

- **Insurance Act 1938:** It provides the **legislative framework** for the functioning of insurance businesses and regulates the relationship between an insurer, its policyholders, its shareholders, and the regulator.
- **Insurance Regulatory and Development Authority of India (IRDAI):** It is a **statutory body**, established under the provisions of the Insurance Regulatory and Development Authority Act, 1999.
  - o Its functions include **regulation, promotion** and ensuring **orderly growth** of the insurance business and reinsurance business.
  - o It also **certifies** insurance companies, **protects** the interests of policyholders, and **adjudicates disputes**.

- **Insurance Division:** Insurance Division of the Department of Financial Services, the Ministry of Finance is responsible for policy formulation and administration of the following Acts:
  o The Insurance Act, 1938,
  o The Life Insurance Corporation Act, 1956,
  o The General Insurance Business (Nationalisation) Act, 1972
  o The IRDA Act, 1999,
  o The Actuaries Act, 2006

Issues and Recommendations highlighted by the Committee

Parameters	Issues and Challenges	Recommendations
Microinsurance distribution	• **Small size of installments** coupled with high transaction and service delivery costs. • **Absence of a business model** that can attract good intermediaries. • **Lack of knowledge** regarding insurance.	• **New affordable microinsurance products** need to be developed for the financial protection and security of the low-income and vulnerable sections of society. o It may require **encouraging smaller, niche players** in various geographic areas with reduction in capital requirement of Rs. 100 crores for such players.
Composite Licensing	• Regulations of IRDAI do **not allow composite licensing** i.e., for an insurer to undertake life, general, or health insurance under one entity. • Presently, life insurers can only offer life insurance products, while general insurers can offer non-life insurance products etc.	• Allow **composite licensing**, enabling a single insurance entity to offer both life and non-life insurance products. • Composite licensing can **cut costs and compliance hassles** for insurers. • Composite licensing can **boost insurance reach and awareness** in India, as customers can get all-in-one insurance from one provider, with lower premiums and easier claims.
Health Insurance	• According to NITI Aayog report, around **30% of the population is devoid of health insurance**. This uncovered population is termed as the **'missing middle'.**	• Steps such as developing **simple and standardized health insurance** products, **sharing government data and infrastructure**, and **partial financing** of health insurance should be initiated.
Performance of Public Sector Insurance Companies	• They **lack adequate capital** and have **lagging insolvency ratios**. o Causes for performance decline include overexposure in health insurance business, wage revisions, Covid-19 losses etc.	• An appropriate **strategic roadmap** should be adopted to **improve their competitiveness** and enable them to attract sufficient capital and talent.
Government Insurance Schemes	• There are issues such as **delay in processing of claim settlement, high premium rates**, etc.	• **Effective mechanism** should be devised to **expedite the process of claim settlement** and premium should be made more affordable**.**

Other recommendations

- **Awareness:** There is an imminent need to create **mass-level awareness** about the need and benefits of having necessary insurance protection of **diverse insurance products**, not just life insurance.
  o Such campaign can be similar to the **successful campaign by Association of Mutual Funds of India (AMFI)**.
- **Open Architecture:** Introduce **'open architecture' concept for insurance agents**, which enables agents to associate with multiple insurance companies.
  o It can result in higher insurance penetration, financial inclusion and lower distribution costs.
- **Goods and Services Tax (GST): Rationalize GST rate** on insurance products, especially health and term insurance, which is **18%** at present.
  o High GST rate results in a high premium burden, which acts as a deterrent to getting insurance policies.
- **Unclaimed policies:** A **central portal like UDGAM** (RBI portal for claiming unclaimed deposits) be created as there are a significant number of unclaimed policies that are currently being transferred to the Senior Citizen Fund.
- **Capital requirement:** RBI, on behalf of the Government of India, can issue **'on-tap' bonds** of up to 50 years (current maximum tenure – 40 years) **for investment** by insurance companies.

3.4. CARD NETWORKS IN INDIA

Why in the news?

The Reserve Bank of India (RBI) has ordered a certain card network to **stop "unauthorised payments" made using business cards**.

More on the news

- The RBI said the card network was allowing businesses to make payments to entities that were not authorized to accept card payments and transactions **did not comply with KYC norms**.
- The intermediary in the above case pooled a large amount of **funds into an account that was not a designated account under the Payments and Settlement System Act, 2007 (PSS Act)**.

What is a Card Network?

- **Card networks:** They are developed to **utilize one mode of payment to pay for goods and services** at multiple merchants and avoid carrying cash around.
  - The authorised card networks tie up with banks / non-banks for the issuance of debit/credit/ prepaid cards.
  - Card networks **connect banks, merchants, and customers** (card users) so that transactions can be carried out smoothly and securely.
  - A fee is charged to the businesses by companies that process its debit and credit card transactions (known as **Merchant Discount Rate (MDR)).**
- **Card Issuer: Banks typically dominate the choice of card networks that will be issued to their customers** while providing a Debit or Credit Card and the customers have little choice in the matter.
  - However, **RBI has asked card issuers to provide customers the option to choose from multiple card networks** from October 1, 2023.
  - The RBI also said that **card issuers should not enter into any arrangement or agreement with card networks** that restrain them from taking the service of other card networks.

Card Network Market in India

- **Authorised card networks in India**: Visa, Mastercard, RuPay, Diners Club, and American Express.
  - **RuPay is India's indigenous payment network** launched by NPCI to facilitate **India's entry into the global payments market**.
    - ✓ To ensure greater acceptability of the RuPay cards in foreign markets, NPCI has partnered with Discover Financial Services (DFS) USA and Japan Credit Bureau (JCB) Japan.
- **Debit card segment is dominated by RuPay** which has around **700 million cards** and a **65% market share.**
  - **Of the total 32.8 crore RuPay debit cards, about 28.1 crore came from public sector banks** under the government scheme as of February 2023.
- **Visa and Mastercard dominate the credit card market.** Together they own **90 % of India's credit card market**. The credit card portfolio of RuPay network is yet to see a spike.

> **National Payments Corporation of India**
> - **Genesis:** NPCI is an initiative of **RBI and Indian Banks' Association (IBA) under the provisions of the PSS Act, 2007, for creating a robust Payment & Settlement Infrastructure in India.**
> - **Statutory:** It has been incorporated as a **"Not for Profit" Company** under the provisions of Section 25 of Companies Act 1956 (now **Section 8 of Companies Act 2013).**
> - **Products**: Payment products developed by NPCI includes-
>   - **Immediate Payment Service (IMPS),**
>   - **National Automated Clearing House (NACH),**
>   - **Aadhaar enabled Payment System (AePS),**
>   - **Unified Payments Interface (UPI) etc.**

Regulation of Card Network Ecosystem in India

- **RBI as the Primary Regulator**: The Reserve Bank of India (RBI) is responsible for overseeing and regulating payment systems in India, including card networks, under the PSS Act, 2007.

- **Governing Legislation:** PSS Act, 2007 defines a payment system as a **system that enables payment to be effected between a payer and a beneficiary**, involving clearing, payment or settlement service or all of them.
  - o "Payment system" includes the systems enabling **credit card** operations, **debit card** operations**, smart card operations**, money transfer operations or similar operations.
    - ✓ Although, the definition does not include a stock exchange.

Conclusion

For Successful domestic payment network development, India needs **strong infrastructure and nimble regulation** to ensure their success. To attract users and merchants, domestic payment card networks will also need to **establish robust telecommunication networks,** and **consumer education** among others.

Related News
Payment Aggregator (PA)
- **Juspay, Zoho, and Decentro** have received final authorisation from Reserve Bank of India (RBI) for **Payment Aggregator (PA) licences**.
  - o PAs are entities that **facilitate e-commerce sites and merchants** to accept various payment instruments from the customers **without the need for merchants to create a separate payment integration system** of their own.
  - o In the process, they **receive payments** from customers, **pool and transfer them** on to the merchants.
- PAs are **different from Payment Gateways** as latter only provide technology infrastructure to facilitate payment transaction without any involvement in fund handling.

3.5. SMART CITIES MISSION (SCM)

Why in the news?

Standing Committee on Housing and Urban Affairs presented its report "Smart Cities Mission: An Evaluation".

Progress highlighted by the Report

- **Financial progress:** Out of its proposed share, the Central Government has released 86% up to December 2023.
  - o While 45 smart cities have received 100% of central funds, **only 28 cities have received 100% of their share of funds** from States/ULBs.
- **Additional funding sources:** While **half of cities could not undertake any project under PPP** model, **only six cities could generate funds through loans** for Smart Cities projects.
- **Physical progress:** Till December 2023, out of 7,970 projects taken up by Smart cities, 6,419 projects have been completed.
  - o Progress of work is from 80% to 100% in 57 cities amongst which **Madurai is the only Smart City which has completed 100% of its projects.**

About Smart Cities Mission (SCM)

- **Launch:** Centrally Sponsored Scheme launched by **Ministry of Housing and Urban Affairs** in 2015.
- **Objective:** To promote cities that provide **core infrastructure, clean and sustainable environment and give a decent quality of life** to their citizens through the application of 'smart solutions'.
- **Smart Cities:** 100 cities have been selected for development as smart cities.
  - o The timeline of **five years** for completion of the projects was set between 2019 and 2023. However, the Mission is now extended to June 2024.
- **Funding:** Central Government gives financial support to the extent of Rs.48,000 crore over 5 years i.e. on an average **Rs.100 crore per city per year.**
  - o An **equal amount** on a matching basis is being provided by the State/Urban Local Bodies (ULBs), **apart from 13 Himalayan and North-eastern States** where the sharing ratio has been revised to 90:10.
  - o **Additional resources** are raised through **convergence**, from ULBs' own funds, grants under Finance Commission, innovative finance mechanisms such as Municipal Bonds, other government programmes and borrowings.
- **Public Private Partnership (PPP):** Emphasis has been given on the participation of private sector through PPP.

Core elements of a Smart City

Community at the core	More from Less	Coorporative & Competitive Federalism	Integration, Innovation, Sustainability	Technology as means, not the goal	Convergence
Communties at the core of planning and imple-mentation	Ability to generate greater outcomes with the use of lesser resources	Cities selected through competion: flexibility to implement projects	Innovating methods: Integrated and sus-tainable solutions	Careful selection of technology, relevant to the context of cities	Sectorial and Finan-cial Conver-gence

Development Strategy under Smart Cities Mission

- **Area Based Development (ABD):** Strategic components of ABD are city improvement (retrofitting), city renewal (redevelopment) and city extension (greenfield development).
  - o **Retrofitting** will introduce planning in an **existing built-up area** consisting **of more than 500 acres** to make the existing area more efficient and liveable.
  - o **Redevelopment** will effect a replacement of the existing built-up environment and enable co-creation of a new layout with enhanced infrastructure using mixed land use and increased density. Redevelopment envisages an area of **more than 50 acres**.
  - o **Greenfield** development will introduce most of the Smart Solutions in a **previously vacant area** (more than 250 acres) using innovative planning, plan financing and plan implementation tools (e.g. land pooling/ land reconstitution) with provision for affordable housing, especially for the poor.
- **Pan-city development:** It envisages application of selected Smart Solutions to the **existing city-wide infrastructure**. Application of Smart Solutions will involve the use of technology, information and data to make infrastructure and services better.
- **Implementation:** Implementation at the city level will be done by a **Special Purpose Vehicle (SPV)** created for the purpose.
  - o SPVs plan, appraise, approve, release funds, implement, manage, operate, monitor and evaluate the Smart City development projects.
  - o SPVs are entities registered under **The Companies Act, 2013**, **with 50:50 ownership of ULBs and respective States**.
- **Integrated Command and Control Centre (ICCC):** ICCCs are built to provide **centralised monitoring** of various functions of the city and **use of digital technology** for faster and improved decision-making.

Issues and challenges affecting Smart Cities Mission

- **Frequent variations in projects:** Cities had initially planned to execute around 5,151 projects, but projects have increased to 7,970 due to modifications and changes in initial planning.
  - o Such modifications are attributed to **on-ground implementation challenges** such as land availability, litigations, regulatory challenges, financial difficulties, technology selection issues etc.
- **Lack of financial progress:** Fund transfer has been slow as some cities have received below 50% of their eligible funds.
  - o Fund transfer from central government has been slow **due to low utilization of funds** by SPVs.
- **Intercity disparity in progress:** In comparison with an **average 6% incomplete projects** in the rank-wise **20 best performing cities**, almost **47% projects are at work order stage in the 20 cities at the bottom** of the ranking.

- **Lack of monitoring for convergence projects:** Since the convergence projects involve multiple stakeholders and implementation is done by different agency, there have been instances of delay in implementation and receiving feedback.
- **Lack of cross-learning:** Multiple platforms have been created for cross-learning including **Sister Cities** concept but these have not been utilized to their full potential.
  - Eg. Chennai had established a sister city relationship with the Chinese city of Chongqing.
- **Lack of defined governance structure of SPVs:** Project execution was affected due to **frequent transfers of CEOs of SPVs** and lack of clear guidelines and directions for dedicated CEOs with fixed tenure.
  - Various **SPVs have underperformed** due to lack of staff, capabilities, execution abilities and monitoring mechanisms.

Recommendations / Way Forward

- **Master plan for Greenfield Development:** MoHUA should spearhead the planning and provide expertise for preparing the master plan of ULBs and it should incorporate **sustainable green technologies**.
- **Governance structure of SPVs:** Appointment of dedicated CEOs with a **minimum fixed tenure** along with **strong governance structure** for SPVs including representation from city administration, local self-government, experts in urban development and concerned stakeholders.
- **Next phase of Smart Cities Mission:** The Ministry should get the **third-party assessment** of the various projects undertaken in the Smart Cities Mission and thereafter, consider to launch next phase of the Mission.
  - In the next phase, **thrust should be on tier 2 cities,** located between 50 to 100 kilometers from capital cities and tourist cities, if not already covered.
- **Pan-city projects:** Smart Cities Mission should put greater emphasis on Pan City projects focusing on **implementing technology-driven solutions** across the entire city for ensuring comprehensive and holistic development.
  - Presently, pan-city projects do **not comprise more than 50 percent of total projects in 76** smart cities.
- **Strengthening ULBs:** A plan should be chalked out to strengthen the **capabilities of the ULBs** in small cities and enhance their capacity to **tap innovative financing mechanism** such as municipal bonds, pooled finance mechanism etc.
- **Role of ICCCs:** Role of ICCCs should be expanded by enabling them to **provide a variety of services** in the field of health, internal security, waste management, traffic management, disaster management and e-governance etc.

3.6. PRIME MINISTER MEGA INTEGRATED TEXTILE REGION AND APPAREL (PM MITRA) PARKS SCHEME

Why in the news?

Committee on Estimates presented the report on Empowerment through PM Mega Integrated Textile Region and Apparel (PM MITRA) Parks Scheme and Revival Efforts for the Sick Textile Units/PSUs.

PM MITRA Parks Scheme

- **Genesis:** It is inspired by **5F vision (Farm to Fiber to Factory to Fashion to Foreign)** of Prime Minister to propel India into a leading global hub for textile manufacturing and exports.
- **Main Objectives:**
  - Develop **integrated large scale and modern industrial infrastructure** facility including plug and play facilities for total value chain of the textile industry.
  - **Reduce logistics costs** by housing entire value chain at one location and **improve competitiveness** of Indian Textiles.
  - Help India in **attracting investments, boosting employment generation** and position itself strongly in the global textile market through **augmentation of export potential**.
- **Features of MITRA Parks:**
  - To enable scale, the **minimum estimated area** per MITRA Park is **1,000 acres**.
  - MITRA Parks will offer the opportunity to create an **Integrated Textiles Value Chain** right from spinning, weaving, processing, and printing to garment manufacturing, accessories making at one location.
  - MITRA parks can be either **Greenfield or Brownfield**.

- **Governance:** A **Special Purpose Vehicle (SPV)** owned by Centre and State Government jointly will be set up for each park which will oversee the implementation of the project.
- **Financial Support:** Ministry of Textiles will provide **financial assistance up to Rs 800 crores** per park for **Greenfield** projects and up to Rs **500 crores per park for Brownfield** projects. Union Government will provide financial support in the form of:
  - **Development Capital Support (DCS):** For greenfield MITRA park, a **DCS of 30%** of project cost, with a cap of ₹ 500 crore per park will be offered.
    - ✓ **DCS at 30%** of project cost of balance infrastructure needs and other support facilities with a cap of ₹ 200 Crore per Brownfield Park will be provided.
   - ✓ DCS will finance the **development of Core Infrastructure** comprising Incubation Centre, Plug & Play facility, Developed Factory Sites, Roads, Power, Water and Waste Water system, Common Processing House etc.
  - **Commercial Development (CD):** CD in a limited area up to 10% of the park area on self-financing model will enhance viability of the park and help **maintenance of common assets** and facilities by SPVs even after scheme's completion.
  - **Competitive Incentive Support (CIS):** A CIS of up to Rs. 300 crores per park will incentivize early operationalization and quick scale up.

Approved 7 PM MITRA Parks
- The Government has approved setting up of 7 PM MITRA Parks in Greenfield/Brownfield sites to **develop world class infrastructure** with an outlay of Rs. 4,445 crore in a period of **seven years** i.e. up to 2027-28.
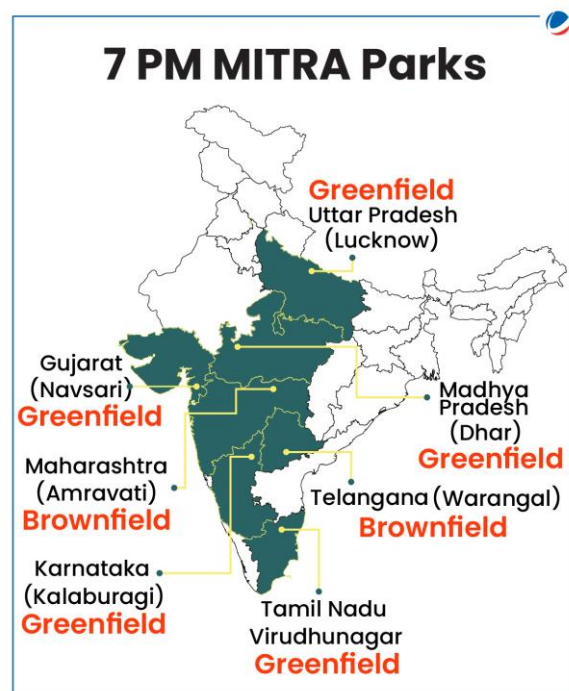
Recommendations to improve PM MITRA Parks Scheme

- **Comprehensive policy:** Ministry should frame a **comprehensive National Textile Policy**, with a view to make Indian textile Industry globally competitive by **incorporating the best international practices** and industry oriented pro-active aspects of State Textile Policies/Schemes.
- **Review of selection procedures:** Ministry should review the selection procedure with a view to **set up more PM MITRA Parks** to enable speedy recovery of the Indian Textile Sector.
- **Expedite SPV formation:** Ministry should find out **reasons for delay in formation of SPVs** in remaining States and in assisting them for **SPV formation at the earliest**.
  - Out of 7 approved proposals, **only two states** – Gujarat and Uttar Pradesh – have **incorporated SPVs** and other states are still in process.
- **Tax regime rationalization:** State government extends stamp duty exemption, concession on land rates, State Goods and Services Tax (SGST) reimbursement.
  - Union government should consider **extending similar central tax/duty exemptions** including Central Goods and Services Tax (CGST) reimbursements and **import duty rationalizations** to curb low cost/undervalued import of Chinese knitted fabric.
- **Special incentives:** There should be provision for **special incentives to attract women entrepreneurs**.
  - The Ministry should make **mandatory provision for basic amenities** for female workers such as crèche facility, medical care, flexible working hours and assistance for setting up women manufacturing units etc.
- **Vertical integration:** Take proactive steps to ensure **vertical integration of Powerloom Sector** beyond the ambit of PM MITRA Parks to convert the Indian textile and apparel industry from fragmented to integrated and from unorganised to organised.

3.7. PRADHAN MANTRI MATSYA KISAN SAMRIDHI SAH-YOJANA

Why in the news?

The Union Cabinet approved the "**Pradhan Mantri Matsya Kisan Samridhi Sah-Yojana** (PM-MKSSY)".

About the Scheme

- **Central Sector Sub-scheme:** The scheme is under the Central Sector Component of the Pradhan Mantri Matsya Sampada (PMMS).
- **Objectives:**
  o **Gradual formalization** of the unorganised fisheries sector.
  o **Facilitating institutional finance** to fisheries sector micro and small enterprises.
  o **Providing a one-time incentive** to beneficiaries for purchasing aquaculture insurance.
  o Incentivizing for **improving fisheries sector value-chain efficiencies.**
  o **Incentivizing for adoption and expansion of fish and fishery product safety** and quality assurance systems.
- **Funding**: Total outlay of **6000 crore** rupees, of which-
  o **50% will come from public finance** including the World Bank and the AFD (French Development Agency) external financing and,
  o **50 % will be contributed by the beneficiaries from the private sector.**
- **Duration:** The scheme will be implemented for **4 years from FY 2023-24 to FY 2026-27** across all the States and UTs.

Intended beneficiaries

- **Fishers, Fish (Aquaculture) Farmers, Fish workers, Fish Vendors** or such other person directly engaged in fisheries value chain
- **Micro and Small enterprises, Cooperatives, Federations, Village Level Organizations like Self Help Groups (SHGs) etc**
- **Fish Farmers Producer Organizations (FFPOs) and Startups engaged** in fisheries and aquaculture value chains. FFPOs also include **Farmers Producer Organizations (FPOs)**
- **Any other beneficiaries** that may be included by the Department of Fisheries, as targeted beneficiaries

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Pradhan Mantri Matsya Sampada Yojana (2020)
- It aims to bring **Blue Revolution through sustainable, responsible and holistic development** of fisheries sector including welfare of fish farmers.
- The PMMSY is an **umbrella scheme with two separate components**:
  o **Central Sector Scheme**: The entire project/unit cost will be borne by the Central government (i.e. 100% central funding).
  o **Centrally Sponsored Scheme**: The entire project/unit cost will be shared between Centre and State.
- It is being implemented in **all the States and Union Territories** for a period of **5 years** from FY **2020-21 to FY 2024-25** with investment of Rs. **20,050 crore**.
- **Targets of PMMSY:**
  o **Increasing fish production to 22 million metric tons** by 2024-25 from 13.75 million metric tons in 2018-19.
  o **Increasing contribution of fisheries sector to the Agriculture GVA to about 9%** by 2024-25 from 7.28% in 2018-19.
  o **Doubling export earnings to Rs.1,00,000 crores** by 2024-25 from Rs.46,589 crores in 2018-19.

Implementation Strategy of PM-MKSSY

- **Component 1-A: Formalization of the fisheries sector and facilitating access of fisheries microenterprises to Government of India programs** for the financing of working capital.
  o **National Fisheries Digital Platform** (NFDP) will be created and all the stakeholders will be mobilized to register on it.
    ✓ The NFDP will serve **multiple functions including disbursement of financial incentives**.
- **Component 1-B: Facilitating the adoption of aquaculture insurance**: It is proposed to facilitate the creation of appropriate insurance products and to **cover at least 1 lakh hectares of aquaculture farms**.
  o **SCs, STs and Women beneficiaries** would be provided an **additional incentive** @ 10% of the incentive payable for General Categories.
- **Component-2:** Supporting microenterprises to **improve fisheries sector value chain efficiencies.**
- **Component-3: Facilitating Adoption and expansion of fish and fishery product safety** and quality assurance systems.
- **Component-4: Project management, monitoring, and reporting**: It is proposed to set up **Project Management Units** (PMUs) to manage, implement, monitor, and evaluate project activities.

Significance of the scheme

- **Formalization of the fisheries sector**: It will support **6.4 lakh micro-enterprises and 5,500 fisheries cooperatives,** providing access to institutional credit.
- **National Fisheries Digital Platform:** It is estimated to provide **40 lakh small and micro-enterprises** work-based identities.
- **Focuses on improving value chain efficiency** and ensuring safe, quality fish by supporting 55,000 targeted micro and small enterprises.
- **Job Creation:** It is projected to create **1.7 lakh new jobs**, with a special emphasis on employing **75,000 women.**
  - Also aims to **generate 5.4 lakh continued employment opportunities** in the micro and small enterprises value chain.
- **Other:** Facilitate **Ease of Doing Business**, **increase incomes, enhance export competitiveness, address issues of aquaculture crop losses** due to disease through insurance coverage etc.

> **Data Bank**
> » **US$ 7759.58 million** (FY 2021–22) Seafood products are **exported** from India.
> » **4th largest export of fish** and fisheries products happens from India.
> » **3rd largest fish production** happens in India.
> » **2nd largest aquaculture production** happens in India.

Conclusion

The **fisheries sector** is a **sunrise sector** and has shown remarkable growth in recent years. However, it has **yet to realize its potential**. Considering the huge **scope for domestic consumption, export potential and greater economic returns, the sector warrants strong and sustained policy support.**

3.8. FERTILIZERS SECTOR IN INDIA

Why in the news?

Ministry of Chemicals and Fertilizers issued guidelines regarding **reasonableness of Maximum Retail Prices (MRPs)** of **Phosphatic and Potassic (P&K) fertilizers under the Nutrient Based Subsidy (NBS) policy**.

More on the news

- Through these guidelines, government has **brought P&K fertilizers** under the NBS support **under reasonable pricing** controls.
- NBS fertilisers — unlike urea, whose MRP is fixed by the government — are **technically decontrolled**.
  - Under NBS scheme, their **MRPs are supposed to be market-determined** and set by the individual companies selling them.

About Nutrient Based Subsidy (NBS) Policy

- **Objective:** Government introduced the NBS policy in 2010 with an aim to provide fertilizers to the **farmers at the subsidized prices**.
  - It has been approved for implementation up to **FY 2025-26**.

> **Urea subsidy policy**
> - **MRP** of urea is **statutorily fixed** by the Government of India.
>   - The difference between the delivered cost of fertilizers at farm gate and MRP payable by the farmer is **given as subsidy to the fertilizer manufacturer/importer** by the Government of India.
> - **Subsidy on urea is paid on dispatch** whereas **NBS is paid on quantities sold**.

- **Basis:** It has been framed under **Fertilizer (Control) Order (FCO), 1985** issued under **Essential Commodities Act, 1955**.
  - FCO lays down as to **what substances qualify for use as fertilizers** in the soil, product-wise specifications, procedure for obtaining license/registration as manufacture/dealer in fertilizers and conditions to be fulfilled for trading thereof, etc.
- **Eligibility:** NBS is applicable for **25 grades of P&K fertilizers** namely, Di Ammonium Phosphate (DAP), Muriate of Potash (MOP), Mono Ammonium Phosphate (MAP), Triple Super Phosphate (TSP), etc.
  - Government announces a fixed rate of subsidy (in Rs. Per Kg basis), on **each primary nutrient** of subsidized P&K fertilizers, namely **Nitrogen (N), Phosphate (P), Potash (K) and Sulphur (S),** on annual basis.
- **Subsidy recommendations**: Inter-Ministerial Committee (IMC) **recommends per nutrient subsidy for 'N', 'P', 'K' and 'S'** before the start of the financial year for decision by Department of Fertilizers.

Key provisions of the guidelines

- **Implementation:** These guidelines will be **effective retrospectively** from April 1, 2023.
- **Profit percentage**: **Differential profit percentage** will be allowed for P&K fertilizer companies based on their category (i.e., different profit percentage for importers, manufacturers, and integrated manufacturers).
- **Basis of evaluation:** Basis of evaluation of reasonableness of MRPs will be **total cost of sales** i.e. cost of production/import, administrative overheads, selling and distribution overheads, net interest and financing charges.
  - **Goods and Services Tax will be excluded** from evaluation of reasonableness of MRPs.
- **Applicability:** Reasonability of MRPs will be evaluated for **all fertilizer grades for which subsidy is received** by companies under the NBS scheme.
- **Assessment:** Companies will self-assess unreasonable profit earned by them and refund unreasonable profit to Department of Fertilizers.

> **Know the term**
> - **Fertilizer Grade:** Fertilizer grade refers to the guaranteed minimum percentage of nitrogen (N), phosphorus (P) and potash (K) contained in fertilizer material.
> - A bag graded 5-5-5 means that there is 5% Total Nitrogen, 5% Available Phosphate, and 5% Soluble Potash in the total material.

Conclusion

The step is aimed at decreasing the cost of farming by curbing unreasonable profit extraction. To enable the sector in the long term, other steps like reduced import dependence and balanced fertilizer use should also be taken.

3.9. FDI IN SPACE SECTOR

Why in the news?

Government recently relaxed rules to **allow 100% foreign direct investment (FDI) in space sector**.

More about News

- **Existing FDI policy in Space sector:** Earlier, FDI was permitted in the establishment and operation of Satellites **through the Government approval route only.**
- **Amended FDI policy:**
  - **100% FDI is allowed in space sector** in line with the vision and strategy under **the Indian Space Policy 2023.**
    - ✓ **The liberalized entry routes** are aimed to **attract potential investors** to invest in Indian companies in space.

FDI Limits for satellite sub-sector division

Upto 100% under Automatic route	Upto 74% under Automatic route	Upto 49% under Automatic route
○ Manufacturing of components and systems/sub-systems for **satellites, ground segment, and user segment.**	○ **Satellites-Manufacturing and Operation, Satellite Data Products and Ground Segment & User Segment.** ○ **Beyond 74%** these activities are **under government route.**	○ **Launch Vehicles and associated systems or subsystems,** Creation of Spaceports for launching and receiving Spacecraft. ○ **Beyond 49%** these activities are **under government route.**

Significance of the amended policy

- **Integration with global value chains:** The FDI policy reform is expected to integrate Indian companies into global value chains.
- **Indigenisation**: Enabling modern technology absorption, and making the sector self-reliant, encouraging **Make in India and Atmanirbhar Bharat** initiatives of the Government.
- **Focus on R&D**: Reforms allow **ISRO to concentrate on cutting-edge research** and development, exploration missions and human spaceflight programme.
- **Enhance Ease of Doing Business:** Set to **lower entry barriers for foreign players**, fostering a more inclusive environment for international investments, **technology transfers**, and collaborative research in space technology.
- **Greater FDI inflows**: It will contribute to growth of investment, income and employment.
  - In **2021-22, ₹ 175 Crore was generated** towards export of launch services, data sales and in-orbit support services and post-launch operations.
- **Enhance share in global space economy**: With increased investment, India would be able to achieve sophistication of products, global scale of operations and enhanced share of global space economy.
  - Currently, India accounts for **only around 2-3 % of the global space economy ($8.4 billion)**, much behind the major players such as the US and China.

Steps taken by India to support private sector in space

- **Indian Space Association (ISpA):** Launched in 2021, it is the apex, non-profit industry body exclusively working towards successful exploration, collaboration, and development of private and public Space Industry in India.
- **Antrix Corporation Limited:** Incorporated as a marketing arm of ISRO. It handles ISRO's commercial deals for satellites and launch vehicles with foreign customers.
- **The Indian National Space Promotion and Authorization Centre (IN-SPACe)**: An autonomous nodal agency to **facilitate private sector engagement in space activities**.
- To encourage private investment, the government has also **exempted private launch service companies from paying GST** when they launch satellites**.**
- **India space policy 2023** suggests that the private sector is a **critical stakeholder in the entire value chain** of the space economy.

Way forward to sustain the growth of space sector

- **Regulation**: To compete globally, India requires **the Space Activity Bill** to be passed, fostering a thriving space industry and advancing participation in the global space economy.
- **Technological Advancement**: Collaborate with the IT sector to **leverage India's expertise** in information technology for space applications.
- **Technology Transfer:** Facilitate **technology transfer from ISRO to the private sector**, particularly for initiatives like the Small Satellite Launch Vehicle (SSLV).
- **Focus on Affordability and Accessibility**: Develop business models that make space solutions affordable and accessible to millions, addressing ground infrastructure and connectivity needs.
- **International Collaboration**: Foster partnerships with global space agencies (**E.g.: India joined Artemis Accords in 2023**) and industry players to leverage expertise and resources.

Scan the QR code to know more about **SpaceTech Industry.**

Weekly Focus #112: SpaceTech Industry: From Curiosity to Reality

3.10. NEWS IN SHORTS

3.10.1. HIGHER FINANCIAL LIMITS FOR NS AND NIS

- Public Accounts Committee (PAC) approved revision of financial limits for 'New Service (NS)' and 'New Instruments of Service (NIS)'.
- The report approved a proposal by the Ministry of Finance to **raise financial limits** for NS and NIS (it was last revised in 2006).
  - This limit is **applied** whenever **expenditure provisions** are **augmented through appropriation of funds** from the savings available within the same sections of Grants/Appropriation.
  - **Expenditure beyond financial limits** can be done through **supplementary proposals** (from ministries/ departments) for which **parliamentary approval is necessary.**

Key Highlight

Specifi-cation	New Service (NS)	New Instruments of Service (NIS)
Definition	Refers to **expenditure** arising out of a **new policy decision,** not brought to **notice of Parliament** earlier, including a new activity or a new investment	Refers to a relatively **large expenditure** arising out of the **expansion of an existing policy.**
Object head	Machinery & equipment; ICT Equipment; Building & Structure; Infrastructure Assets; Arm & Ammunition; and Land.	Investment; loans and advances; subsidies; etc.
Reporting limit	Above **Rs 50 crore** to **Rs 100 crore**	**20% of the original appropriation or up to Rs 100 crore** whichever is higher.

- **Rationale for revision**
  - **Economic growth:** Due to expansion in **GDP growth (6-7% on YoY basis),** budget size is also expected to grow.
  - **Delays in project execution**: Low financial limits for NS/NIS expenditure prompted a rise in **supplementary proposals.**
  - **Enhanced monitoring:** Defining NS/NIS uniformly at standardised Object Head would enable effective scrutiny by CAG.

3.10.2. RASHTRIYA UDYAMITA VIKAS PARIYOJANA (RUVP)

- **Ministry of Skill Development and Entrepreneurship** launched RUVP under Skill India Mission.
- **About RUVP:**
  - Tailored specifically for **beneficiaries of PM SVANidhi (Street Vendors AtmaNirbhar Nidhi) scheme.**
  - Offers individuals with **comprehensive entrepreneurship training** (over a **period of 22 weeks)** combining theoretical knowledge with practical exposure through experiential learning.
  - Focuses on **reskilling and upskilling employees** to enhance their competitiveness and adaptability.
  - It will be piloted initially in selected districts, with focus on **ensuring 40% women participation.**
  - Training will be conducted through **offline, online and hybrid modes, with certificates awarded upon completion.**

3.10.3. STARTUPSHALA

- **Department for Promotion of Industry and Internal Trade (DPIIT)** launched **'StartupShala'** - **Startup India's flagship accelerator program**.
  - Launched in 2016, **Startup India** is a flagship initiative of DPIIT to support entrepreneurs and build a **robust startup ecosystem in India**.
- **About StartupShala**
  - **Sector-specific initiative** for **existing entrepreneurs** to provide them access to knowledge, network, funds, and guidance required to scale up.
  - **Three-month long** accelerator program.
  - 2 Cohorts - **Clean Technology and Deep Technology**.
  - 20 startups will be selected from each cohort.

3.10.4. EASE OF DOING BUSINESS REFORMS

- **Ministry of Corporate Affairs (MCA)** Operationalizes Central Processing Centre to facilitate Ease of Doing Business (EoDB).
- CPC is established for **centralised processing of regulatory compliance forms** filed under **Companies Act** and **Limited Liability Partnership Act**.
  - o It will **process applications** in **time bound and faceless manner** on lines of **Central Registration Centre (CRC)** and **Centralized Processing for Accelerated Corporate Exit (C-PACE)**.
    - ✓ **CRC** provides services for **speedy incorporation of companies** whereas **C-PACE** provides centralised processing of applications for **voluntary closure of companies.**
- **EoDB** refers to simplicity, efficiency, and cost-effectiveness of setting-up, operating, and closure of businesses in a particular territory.
- **Significance of EoDB reforms**
  - o **Economic growth:** Through improved resource allocation, enhanced competitiveness to boost innovation, etc.
  - o **Foreign investment:** Through reduced bureaucratic hurdles, improved transparency to reduce perceived risks for investors, etc.
  - o **Social development:** By promoting inclusivity and providing opportunities for marginalized communities to participate in economic activities.

Focus areas of EoDB reforms include

Simplification of procedures related to applications, renewals, inspections, filing records, etc.

Rationalization by repealing, amending, or subsuming redundant laws.

Digitization by creating online interfaces, eliminating manual forms and records.

Decriminalization of minor technical or procedural defaults.
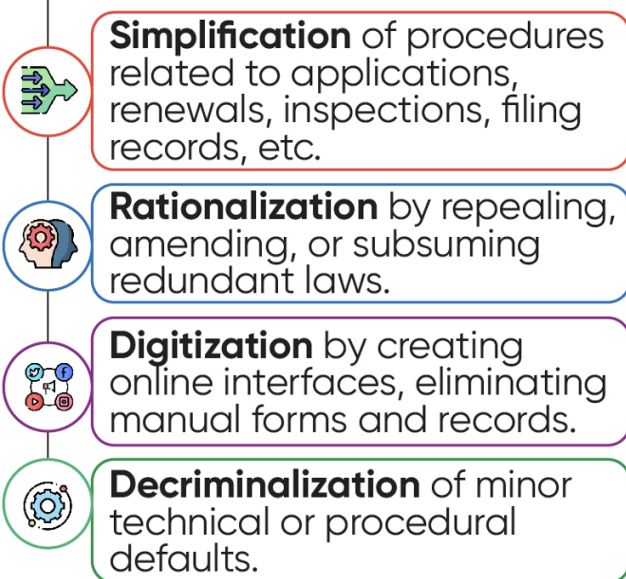

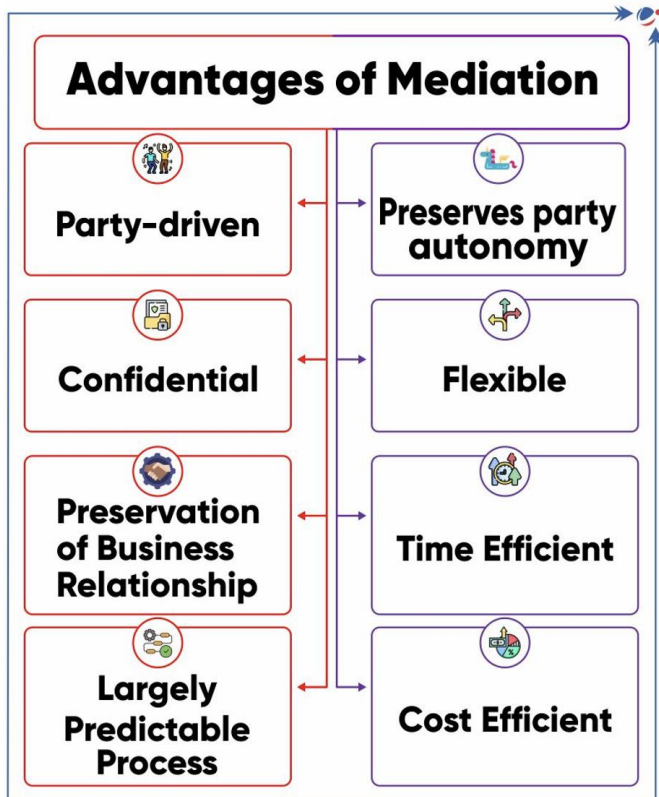
Initiatives taken for EoDB reforms
- **Labour Law reforms:** 29 Central Labour Laws amalgamated & rationalized into 4 labour codes.
- **Foreign investment reforms:** Foreign Investment Facilitation Portal (FIF Portal), etc.
- **Business Reform Action Plan 2022**, for States/ UTs, comprising of **two parts** –
  - o **Action Plan A (Business Centric reforms)**: National Single Window System, etc.
  - o **Action Plan B (Citizen Centric reforms)**: Online Single Window, Certificates, etc.

3.10.5. REPORT ON FRAMEWORK FOR INSOLVENCY MEDIATION

- Expert committee was constituted by **Insolvency and Bankruptcy Board of India (IBBI)** with **T.K. Vishwanathan** as Chairperson to examine the scope of using mediation in various processes under the IBC 2016.
  - o Currently, there are **no specific provisions for mediation of insolvency and bankruptcy disputes** under IBC.
- Mediation is **use of a neutral third party to facilitate the negotiated settlement** of a dispute between two or more parties.
  - o Typically, it is initiated by **mutual consent** of the parties, or **pre-agreed contract**, or **court reference** or **law-mandated requirement**.
- **Mediation framework in India**
  - o **The Mediation Act, 2023** aims to facilitate mediation, especially institutional mediation.
  - o **Provisions in other legislations:** Civil Procedure Code, 1908, Companies Act, 2013, Commercial Courts Act, 2015 and Consumer Protection Act, 2019.
  - o India is signatory to the **Singapore Convention on Mediation.**
- **Recommendations of the Committee**
  - o **Phased introduction of voluntary mediation** as a dispute resolution mechanism under IBC.
  - o Centre may by rules prescribe **structure of insolvency mediation framework** with specifying categories of mediable disputes.
  - o IBBI to specify **procedures for conduct of mediations** and their enforcement.
  - o **Costs for the mediation to be borne equally** between parties or as mutually agreed.

Advantages of Mediation

- Party-driven
- Preserves party autonomy
- Confidential
- Flexible
- Preservation of Business Relationship
- Time Efficient
- Largely Predictable Process
- Cost Efficient

3.10.6. SECURITIES APPELLATE TRIBUNAL (SAT)

- **Absence of a full bench** is affecting functioning of the SAT leading to delays and disruptions.
- **About Securities Appellate Tribunal**
  o It is a **statutory body** established under the provisions of Securities and Exchange Board of India (SEBI) Act, 1992.
  o It hears and disposes appeals against orders passed by
    ✓ **SEBI**
    ✓ **Pension Fund Regulatory and Development Authority (PFRDA)**
    ✓ **Insurance Regulatory Development Authority of India (IRDAI)**
- The Presiding Officer and Judicial Members are appointed by the **Central Government in consultation with the Chief Justice of India** or his/her nominee while Technical members are appointed on recommendation of a **Search-cum-Selection Committee**.

3.10.7. UNIFIED PAYMENT INTERFACE (UPI)

- Prime Minister of **India** jointly inaugurated **UPI services with Mauritius and Sri Lanka** and **also RuPay card services in Mauritius.**

- o This will **boost digital transformation**, promote tourism and strengthen bilateral economies ties with both countries.
- **About UPI:**
  o It powers **multiple bank accounts** into a **single mobile application** (of any participating bank), merging **several banking features** e.g., transfer of funds, etc.
  o Developed by **National Payments Corporation of India,** an initiative of **RBI and Indian Banks' Association** under provisions of **Payment and Settlement Systems Act, 2007.**

3.10.8. CODEX COMMITTEE ON SPICES AND CULINARY HERBS (CCSCH)

- **7th Session** of the Codex Committee on Spices and Culinary Herbs (CCSCH) Held at **Kochi**.
- In this session, **quality standards** for **5 spices**, namely **small cardamom, turmeric, juniper berry, allpice and star anise** were finalised.
  o **CCSCH has forwarded** these 5 standards to **Codex Alimentarius Commission (CAC)** recommending for **adoption as full-fledged Codex standards.**
  o **For first time ever in CCSCH**, strategy of **grouping of spices** was successfully **implemented**.
- **About CCSCH**
  o **Establishment: CCSCH** was established as one of the **Commodity Committees** under **CAC** in 2013.
  o **Host**: **India hosts CCSCH** since the beginning and **Spices Board India (Ministry of Commerce and Industry)** serves as the **Secretariat organization**.
  o **Term of reference :**
    ✓ **To elaborate worldwide standards** for spices and culinary herbs in their **dried and dehydrated state**.
    ✓ **Consult with international organizations** in the **standards development process** to avoid duplication.
- **Codex Standards**
  o **About**: These are **international food texts**, i.e. **standards, codes of practice**, codes of **hygienic practice**, guidelines and other recommendations.
  o **Nature: Codex texts are voluntary** and **do not have binding effect** on national food legislation.
  o **Codex and WTO**: **WTO Agreements** on **Sanitary and Phytosanitary Measures (SPS Agreement)** and on **Technical Barriers to Trade (TBT Agreement)** encouraged **WTO members to harmonise national regulations** with international standards.

Codex Alimentarius Commission (CAC)

🧪 **Genesis:** An international food standards body established jointly by Food and Agriculture organization (FAO) and WHO in 1963

🎯 **Objective:** Protecting consumer's health and ensuring fair practices in food trade.

👥 **Members:** 189 Codex Members
is India a member ✓

⚙️ **Functioning:** CAC conducts its work through various Codex committees, including CCSCH, hosted by different member countries.

📋 **Standards:** Codex standards are voluntary, and can be general or specific and are also recognised by WTO Agreements as reference standards.
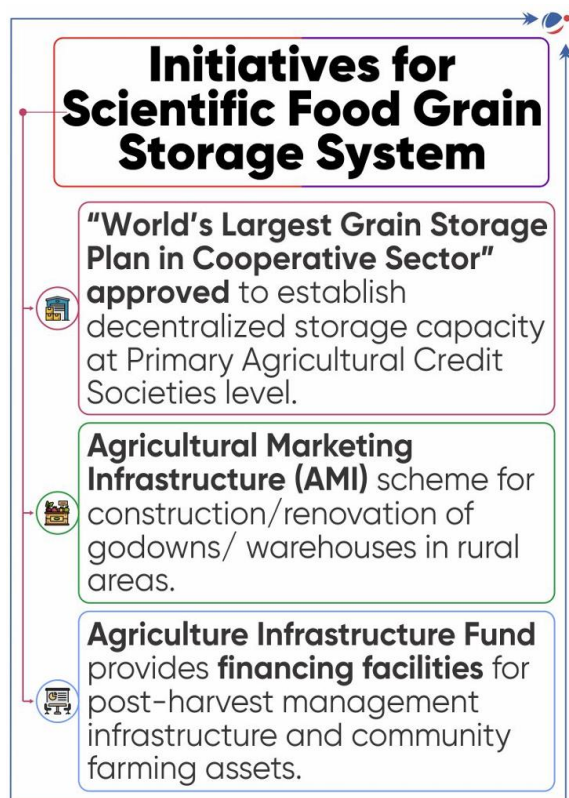
3.10.9. REPORT ON TRANSFORMING FAIR PRICE SHOPS

- Standing Committee on Consumer Affairs, Food and Public Distribution submits report on 'Transforming Fair Price Shops (FPSs)'.
- As per the **National Food Security Act, 2013,** FPS refers to **shops licensed** to **distribute essential commodities** to ration card holders under the **Targeted Public Distribution System (TPDS).**
  - Such license is issued by an order under **section 3 of Essential Commodities Act (ECA), 1955.**
    - ✓ ECA provide for regulating **control of production, supply, distribution, and trade of certain commodities** in the general public interest.
  - **Launched in 1997 TPDS** provides for **lower subsidised food prices for Below Poverty Line (BPL) families** than those for Above Poverty Line (APL) beneficiaries
- **Key issues with FPS:** Leakages and diversion of food-grains, financial non-viability of FPS, etc.

- **Recommendations for transforming FPS**
  - **Increase sales of non-PDS commodities** such as Khadi & Ayush products from MSMEs
  - **Form a monitoring cell** to track the progress of model FPS in all states.
  - **Improve working of Vigilance Committees** (VCs) established under NFSA.
    - ✓ VCs are established by State Governments at the **State, District, Block and FPS** levels to ensure t**ransparency and accountability of the functionaries in TPDS.**
  - Ensure all **ePoS machines are connected to and synchronized with weighing machines** for effective delivery of ration.

Efforts for Transforming Fair Price Shops

- 43000 FPSs have been **enabled as CSCs to serve as access points for** delivery of various B2C and G2C services.

- **Mudra loans** for capital augmentation and business diversification has been **provided.**

- TPDS control order 2015 allowed **the sale of non-PDS items at Fair Price Shops e.g.** Salt, Spice.

- 3200 FPSs has been **enabled as banking correspondent** to provide banking financial services and postal services.

- **Other efforts:** Automation of FPS, ONORC etc. for smooth and transparent functioning of FPS

3.10.10. INDIA'S FOOD GRAIN STORAGE SYSTEM

- MeitY transfers the technology for **Smart Food Grain Storage System (SAFEETY)** to the industry.
- Technology for SAFEETY was developed by the **Society for Applied Microwave Electronics Engineering and Research** (SAMEER).

- SAMEER is an **autonomous R&D institution** under Ministry of Electronics and Information Technology (MeitY).
- It features **conveyorized loading & unloading of grain bags** having RFID for traceability, **online weight and moisture measurement** with **radio frequency-based removal of moisture** from grain.
- **Need for Scientific Food Grain Storage System**
  - **Low production capacity:** India accounts for **18%** of the global **population** but only **11%** of the **arable land.**
  - **Inadequate storage capacity:** India's foodgrain storage capacity is **only 145 MMT,** covering 47% of the total production at 311 MMT.
  - **Food security:** FCI has grains beyond its buffer capacity which also requires a **robust network of foodgrain storage facilities.**
  - **Economic viability of farming:** Robust storage will **reduce wastage**, keep farm **produce less volatile** to market fluctuations and **boost foodgrain exports.**

Initiatives for Scientific Food Grain Storage System

- **"World's Largest Grain Storage Plan in Cooperative Sector"** **approved** to establish decentralized storage capacity at Primary Agricultural Credit Societies level.
- **Agricultural Marketing Infrastructure (AMI)** scheme for construction/renovation of godowns/ warehouses in rural areas.
- **Agriculture Infrastructure Fund** provides **financing facilities** for post-harvest management infrastructure and community farming assets.

3.10.11. CABINET APPROVES ADDITIONAL ACTIVITIES IN NLM

- Cabinet approves inclusion of additional activities in National Livestock Mission (NLM).
- **Key changes**
  - **Additional coverage: Eligible** entrepreneur will get capital subsidy and state government will be

assisted for breed conservation of **horse donkey, mule, camel.**
  - **Enhancing Fodder supply:**
    - ✓ Eligible entrepreneurs will get **capital subsidy for seed processing Infrastructure.**
    - ✓ **State government will be assisted for fodder cultivation** in the non —forest land, waste land/range land/non-arable, etc.
  - **Simplification of Livestock Insurance programme:**
    - ✓ Premium for the farmers has been reduced to 1**5% as against the current beneficiary** share of 20%,30%, 40% and 50%.
      - ▪ Remaining premium will be **shared by the Centre and the State.**
    - ✓ **Number of animals to be insured** has also been increased to **10 cattle unit** instead of 5 cattle unit f**or cattle sheep and goat.**
- **About NLM**
  - **Ministry of Fisheries, Animal Husbandry & Dairying**
  - **Type:** Both **Centrally Sponsored** and **Central sector**
  - **Key objectives**
    - ✓ **Entrepreneurship** development in **small ruminant, poultry and piggery sector & Fodder sector.**
    - ✓ Increase of per-animal productivity through **breed improvement.**
    - ✓ **Increased meat, egg, goat milk, wool and fodder production.**
  - **Jurisdiction:** Implemented all over India from 2021-22.

Sub – missions of National Livestock Mission (NLM)

- **Breed improvement of Livestock and Poultry**
- **Feed and Fodder**
- **Innovation and Extension**

3.10.12. INITIATIVES UNDER PMFBY

- Union Government launched 3 new initiatives under Pradhan Mantri Fasal Bima Yojana (PMFBY).
  - **PMFBY** is comprehensive crop insurance **from pre-sowing to post-harvest period.**
- **Krishi Rakshak Portal and Helpline (KRPH) 14447**: To provide multilingual support, transparent communication and real-time grievance resolution.

- **Learning Management System (LMS)** to train stakeholders in efficient crop insurance and agricultural credit.
- **SARTHI Portal:** To extend coverage to health, life, home, shop, agriculture implements, motor, and parametric products.
  - SARATHI is a **digital insurance platform** launched in collaboration with **UNDP India.**

3.10.13. ANNUAL SURVEY OF INDUSTRIES (ASI)

- Annual Survey of Industries (ASI) released by the **Ministry of Statistics and Programme Implementation (MoSPI).**
- **ASI** is the principal source of Industrial Statistics in India.
  - It is conducted under the **Collection of Statistics (COS) Act, 2008.**
  - It covers all factories registered under the **Factories Act, 1948.**
    - ✓ Also, covers unit under the **Bidi and Cigar Workers (Conditions of Employment) Act 1966** etc.
    - ✓ However, defence establishments, oil storage and distribution depots, etc. are not covered under it.
- **Key Highlights**
  - In terms of **Gross Value Addition**, **Gujarat** remained at the top, followed by Maharashtra, Tamil Nadu, Karnataka and Uttar Pradesh
  - The top five states in terms of **employment** are Tamil Nadu, Gujarat, Maharashtra, Uttar Pradesh and Haryana.
  - **Manufacturing sector** showed **resilience** even after the disruption caused by the pandemic.
    - ✓ Main driver of resilient included Manufacture of Basic metal, Coke & Refined Petroleum Products, Pharmaceutical Products, Motor vehicles, etc.
- **About Manufacturing Sector**
  - Contributes around **17%** in the **Gross Domestic Product (GDP).**
    - ✓ India aims to increase share to 25% by 2025.
  - There is huge potential exporting manufactured goods.
  - **Key Deriving factors**: Huge domestic demand, Foreign Direct Investment (FDI), etc.
- **Challenges faced by Sector: Lack of Credit Availability, Low productivity** in comparison to other counties like China, Vietnam etc.**,** Informal or unorganised sector, Lack of skilled labour, Infrastructure bottlenecks etc.

3.10.14. SANGAM: DIGITAL TWIN INITIATIVE

- **Department of Telecommunications (DoT)** has unveiled the 'Sangam: Digital Twin' initiative.
- This initiative is a **Proof of Concept** focused on revolutionizing the **planning & design of infrastructure**.
  - It aims at **combining the prowess of Digital Twin and Artificial Intelligence, Internet of Things, 5G, 6G**, and next-gen computational technologies.
  - It **brings all stakeholders on one platform** to demonstrate practical implementation of innovative infrastructure planning solutions.
  - It is to be conducted in **one of the major cities of India** in two stages i.e. Exploration stage and Demonstration stage.
- **Digital Twin** is a **virtual model** designed to **accurately reflect a real-world physical object.**
  - It spans the **object's lifecycle** and uses real-time data sent from sensors to **simulate the behavior and monitor operations**, thus helping decision making.
  - **Digital twins differ from simulations** in its large scale and two-way flow of information.
  - Digital twins are **already being used** in power generation equipment, large physical structures, manufacturing operations, healthcare services and automotive industry.

Significance of Digital Twins

- **Remote monitoring** makes it viable for usage in hazardous operations
- **Better predictions** helping in policy decisions
- **Improvement in operational efficiency** thereby maintaining the output quality
- **Aid in Urban planning by** creating different simulations and forecasting

Related news

Recently, a private company has created digital twin of **Hyderabad's 16th century Qutub Shahi tombs** using drone scanners.

- The site includes **seven tombs** dedicated to the **former kings of Golconda**.
- They resemble **Persian, Pathan and Hindu architectural styles** that makes use of grey granite, with stucco ornamentation.
- It is a **one-of-its-kind place** in the world where the **whole dynasty is buried at a single spot**.

3.10.15. DIGITAL CREATOR ECONOMY

- Union Government Announces **Inaugural Edition of National Creators Award.**
- Award aims to celebrate diverse voices and talents shaping India's growth and cultural narrative, driving positive social change, etc., in India's Digital Creator Economy.
- **Digital Creator Economy** refers to a segment of the economy driven by individuals who create content, products, or services and monetize them through various digital platforms.
- **About Awards**
  - Features wide **array of categories** recognizing **excellence and impact across various domains**, including **storytelling, social change advocacy, environmental sustainability, education**, etc.
  - **Selection Process:** Combination of jury and public votes.
  - **Spearheaded by:** MyGov India.

- **Current state of Indian creator Economy**
  - **~80 million Creators and Knowledge Professionals** in India.
  - **~150000 Professional content creators** in India who are able to monetize their services effectively.
- **Opportunities of Creator economy**
  - **For individuals:** Diversification of income streams, creative expression, flexible work model, reach to global audience, etc.
  - **For businesses:** Cost-effective and organic marketing, community building, etc.
  - **For society and economy:** Cultural expression, social mobilization, skill development and entrepreneurial mindset, etc.
- **Challenges:** Authenticity and integrity concerns, mental health and burnout due to excessive competition, gatekeeping and algorithmic biases of platforms, etc.

Reasons for growth of Creator Economy in India.

- **Accessibility:** Improved access to smartphones, rise in internet usage, and globalization of content consumption.
- **Platform and monetization:** Booming social media landscape providing monetization opportunities.
- **Disruption in formal employment:** Adoption of remote and hybrid work gave time and resources to creators.
- **COVID-19 Pandemic:** Creativity experienced unrestrained and widespread revival particularly in vernaculars across different verticals.

3.10.16. INPUT SERVICE DISTRIBUTION (ISD)

- **Interim budget has proposed to mandatorily register for ISD for companies** with branches in multiple cities to claim input tax credit.
  - **Input Tax Credit** is the tax that a business pays on a purchase and that it can use to reduce its tax liability when it makes a sale.
- ISD is a mechanism (office) that **allows billing of common input services to one location of the company** and permitting it to distribute it to its branches with separate GST registration.
- This recent move is expected to **reduce disputes significantly.**

3.10.17. THREE NEW MAJOR RAILWAY CORRIDORS ANNOUNCED

- PM GatiShakti to be utilized for three new major railway corridors announced under Interim Budget 2024-25.
- This will enable **multi-modal connectivity**, including
  - Energy, mineral, and cement corridors
  - Port connectivity corridors and
  - High traffic density corridors
- **Significance of the three Corridors**
  - Increase **logistics efficiency and reduction** of **cost of logistics** related to **rail movement.**
  - **Decongestion** of high density rail routes
  - **Facilitate modal shift** from road to rail and to coastal shipping
  - **Reduction** of **carbon footprint** in logistics.
- **About PM GatiShakti National Master Plan**
  - Launched in **2021 for providing multimodal connectivity infrastructure to various economic zones.**
  - Provides a **comprehensive database** of the trunk & utility infrastructure, ongoing & future projects of various Infrastructure and Economic Ministries/Departments of Central Government and States/UTs.
  - This data is **integrated with the GIS-enabled PM Gati Shakti platform,** thereby and monitoring of the Next Generation infrastructure projects on a single portal.
  - Goal of **achieving self-reliance and a $5 trillion economy by 2025.**
  - Focusses on economic growth driven by 7 engines namely: **Railways, Roads, Ports, Waterways, Airports, Mass Transport, and Logistics Infrastructure.**
  - It **incorporates various infrastructure schemes** like Bharatmala, Sagarmala, UDAN, etc.

6 Pillars of PM Gati Shakti

Comprehensiveness: Each department will have visibility of each other's activities providing critical data while planning projects.

Prioritization: Different Departments will be able to prioritize their projects through cross-sectoral interactions.

Optimization: Plan will help in selecting the most optimum route in terms of time and cost.

Synchronization: PM Gati Shakti will help in synchronizing activities of each department.

Analytical: Plan will provide the entire data at one place with GIS based spatial planning and analytical tools having 200+ layers.

Dynamic: Plan will help in identifying the vital interventions for enhancing and updating the master plan.

3.10.18. NITI AAYOG REPORT ON LNG AS A TRANSPORTATION FUEL

- NITI Aayog launched **LNG as a Transportation Fuel in Medium and Heavy Commercial Vehicle (M&HCV).**
- It is the outcome of **NITI Ayog and the Embassy of Netherlands** bilateral cooperation for energy transition and decarbonizing agenda.
- Liquefied Natural Gas (LNG) is a **clear, colourless, non-toxic liquid** that forms when **natural gas is cooled to the liquid state,** at about **-162 degrees Celsius for shipping and storage.**

- **Need of LNG push for M&HCV:**
  - Achieving the target of **Net Zero by 2070** through CO_2 emission reduction.
  - Reducing **oil import dependency**.
  - **India's rapidly expanding trucking market** (expected to more than quadruple in 2050 from 2022)
  - **Contribute to a Gas-based economy** (achieving a share of natural gas in the primary energy mix to 15% by 2030).
- **Challenges in the adoption of LNG:** high initial cost compared to traditional diesel trucks, lack of availability of LNG retail outlets, hesitancy in the market, etc.
- **Recommendations in the report**
  - **Demand aggregator for** deployment of LNG-based vehicles aiming at cost reduction with higher order volumes.
  - **Fiscal Incentives** like bringing LNG under GST, revised depreciation schedules, toll fee exemption, production-linked incentives.
  - **Non-fiscal incentives** like preferential right of way, "ECO" labels, priority lane access, Fuel cards, etc.

3.10.19. ERRATA

- In **December 2023 Monthly Magazine in Article 3.9.1 National Startup Advisory Council,** due to a design error, incorrect spelling and logo was used in the infographic. Please find attached updated infographic.

National startup Advisory Council (NSAC)

Genesis: NSAC was **notified in 2020** by Department for Promotion of Industry and Internal Trade, Ministry of Commerce and Industry

Mandate: To advise Government **on fostering innovation and startups** for sustainable economic growth and widespread employment.

Composition: Headed by Union Minister of Commerce & Industry and **also** consists of **members** from relevant line Ministries, Departments, and Organizations, as well as **non-official members with a term of two years or until further orders (whichever is earlier)**

Key functions: NSAC meets on a **regular basis** to suggest measures to:
- Foster a **culture of innovation** amongst citizens and students.
- Mobilize **global capital for investments** in Indian startups.
- Keep **control of startups with original promoters.**
- Provide **access to global markets for Indian startups**

Government initiatives

- Inclusion of LNG as transport fuel by modifying **Central Motor Vehicles Rules (1989)** in 2017
- **Draft LNG policy** to increase LNG usage in the transportation and mining sector.
- **Allowed retrofitting of the diesel vehicles** to LNG-fueled vehicles.

SMART QUIZ

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PT 365 document comprehensively covers the important and relevant current affairs of the last 1 year in a consolidated manner to aid Prelims preparation. It is devised as a revision document of the current affairs.

Features of PT365

Comprehensive Coverage
- Entire year's current affairs coverage.
- UPSC relevant subjects like Polity, Economy, S&T, Environment, IR, etc.
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Clear and Concise Information
- Clear, concise presentation focusing on key issues.
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- Techniques, methods, and processes displayed.
- Strategic use of maps to enhance learning.

Government Schemes and Policies
- In-depth coverage of key government schemes, policies, and initiatives.

New Elements
- Tailored to reflect the pattern of previous year's questions.

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Significance of PT 365

Ease of Revision: Content categorisation is based on subjects or topics to make it easier for aspirants to locate and revise specific areas

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Crisp Material: Crisp points have been used in the articles. It allows aspirants to easily do multiple revisions in limited span of time.

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4. SECURITY

4.1. GREY-ZONE WARFARE

Why in the News?

India's **Chief of Defence Staff** highlighted issue of Grey-zone warfare during the discussion over informal wars at the 9th edition of **Raisina Dialogue**.

More about News

- **Chief of Defence Staff said this is being used in the South China Sea** and along India's northern borders.
- Also, **as per reports, China is using grey-zone warfare tactics against Taiwan**.
- Experts from US and European have characterised certain Russian and Chinese actions of late as examples of grey zone warfare.

About Grey-zone Warfare

- Grey-zone Warfare involves the use of **unconventional tactics** and **strategies** that fall below the threshold of **traditional warfare**.
  - It aims to harm an adversary **without** them **feeling threatened** or realising they are under attack.
  - E.g. **Salami slicing** practice of China. It is a strategy that involves **taking over territory in a very gradual manner,** testing the opponent's limits of threshold.
    - ✓ It has been allegedly used by China for territorial expansion in the South China Sea.
- In Grey Zone Warfare, activities are generally **unseen** and insidious.
  - There are no rules and the front line is everywhere.
- The dividend of the **grey-zone warfare action may be available only after a long time**.
- It tends to escalate in **multiple dimensions** and leads to **unintended over-escalation**.

> **Why Grey-zone Warfare is preferred over other methods?**
> - The cost of **conventional conflict in the nuclear era has grown too steep**, and the risk of escalation too profound. Therefore nations use it to promote their national objectives through it.
> - Nations **which do not have access to massive resources or power, prefer this type of warfare**.

> **Key Initiatives which helped India to counter Grey-zone warfare**
> - **Chief of Defence Staff**: It helped in improving **coordination**, tri-service effectiveness and overall integration of the combat capabilities of the Indian armed forces.
> - **Modernization**: Government is **promoting infusion of technology into its war-fighting systems,** with various focus areas identified for the infantry, mechanized forces, artillery, air defence, aviation, engineers, signals and logistics.
>   - Army is also **leveraging the vibrant start-up ecosystem under the iDEX** (innovations for defence excellence) initiative.
> - **Self-reliance in Defence Manufacturing**: Government is promoting it with the help of initiative like Defence Procurement Procedure (DAP) 2020, etc.
> - **Cooperation with like-minded country**: E.g. India has signed agreements like General Security of Military Information Agreement (GSOMIA) with US.
> - **Other**: Establishment of **Indian Computer Emergency Response Team (CERT-In),** nodal agency for tackling cyber security threat etc.

Key Activities/Components

- **Cyber Operations:** It includes hacking and stealing data, corrupting data, spreading disinformation, and conducting cyber espionage etc.
  - It disrupts critical infrastructure, political systems, or economy without causing direct physical harm. E.g. Cyber-attack at power grid in Maharashtra.
- **Information Warfare: Psychological operations** are used to **shape public opinion**, create divisions, and undermine trust in institutions within the target nation.
  - E.g. Propaganda, rumours and fake news, social media manipulation, etc.
- **Support to Proxy Forces:** Under it, support is provided to non-state actors, insurgents, or militias. It enables enemies to fulfil their objective without officially engaging in direct conflict.
  - E.g. Insurgent, naxals groups in India receive support from foreign Agencies.
- **Economic Coercion:** It includes imposition of sanctions, trade restrictions, or manipulating financial markets to undermine the target nation's economy or coerce policy changes without resorting to military action.
  - E.g. China imposed more trade restrictions as a punitive action against Australia.

- **Political Subversion:** It undermines political and administrative system. It includes covert means to influence elections, manipulate political processes, etc.
  - E.g. Alleged involvement of Russia in Presidential election in US
- **Other:** Irregular Warfare (such as guerrilla warfare), Legal and Diplomatic Manoeuvring, Military Intimidation etc.

Way Forward: Measures which will help India in Tackling Grey Zone Warfare

- **Formation of Theatre Commands**: The formation of 'theatre commands' would contribute to the optimisation of resources and ensure unity of command.
- **Promoting Capability**: Emphasis should be given on enhancing informational warfare capability and raising the Special Operations, Cyber and Space Commands must be undertaken at the earliest.
- **Active Monitoring and Early Warning Systems**: Develop advance systems to keep eye across various domains (cyber, information, political, etc.) to detect early signs of Grey Zone attempts and respond promptly.
- **Deterrence through Capability Demonstration**: Capabilities in cyber, information, economic, other domains can be showcased on a regular basis to deter adversaries.
  - India needs to **clearly** and **consistently** communicate red lines and consequences for certain unacceptable actions.
- **Other**: Counter disinformation, prevent funding to insurgent groups etc.

> **Raisina Dialogue**
> - It is India's premier conference on **geopolitics** and **geo-economics** committed to addressing the most challenging issues facing the global community.
> - It is hosted by the **Observer Research Foundation** in partnership with the **Ministry of External Affairs**.
> - The theme of the 2024 edition is **Chaturanga: Conflict, Contest, Cooperate, Create**.

4.2. NEWS IN SHORTS

4.2.1. US APPROVED SALE OF 31 PREDATOR DRONES TO INDIA

- US Defense Security Cooperation Agency notified US Congress for possible military sale of **MQ-9B SkyGuardian drones** and related equipment to the Government of India.
- **Drones** are powered aerial vehicles that **can fly autonomously or be piloted remotely** and can carry a **lethal or nonlethal payload(s)**.
- **About MQ-9B SkyGuardian drones**
  - Designed to **fly over the horizon via satellite for over 30 hours**.
  - **Safely integrate into civil airspace**, enabling joint forces and civil authorities to deliver real-time situational awareness.
  - Integrates advanced **maritime intelligence, surveillance, and reconnaissance (ISR) capabilities**
  - Enables **real-time search and patrol above and below the ocean's surface.**
- **Significance of Drone technology in defense**
  - **Strategic:** Intelligence, Surveillance, and Reconnaissance (ISR) through real-time visuals and data to aid decision-making.
    - ✓ **Reduced risk to personnel**, **cost-effective** as compared to conventional manned aircraft, etc.
  - **Tactical: Precision strikes with minimal collateral damage**, improved **coordination and logistics in challenging terrain**, etc.
- **Challenges associated with drones:** Complex airspace management framework in India, impact of adverse weather conditions like strong winds, potential misuse to breach privacy and safety, etc.

Drone Technology for Defense in India

LAKSHYA and NISHANT: Unmanned Aerial Systems developed by DRDO.

Black Kite, Golden Hawk, and Pushpak: Micro & Mini UAVs developed by DRDO.

DRDO NETRA: Light-weight, autonomous UAV for surveillance and reconnaissance operations.

DRDO Rustom: Medium Altitude Long Endurance UAV developed for Armed forces.

Counter-drone system: Developed by DRDO.

4.2.2. ABHYAS- HIGH-SPEED EXPENDABLE AERIAL TARGET (HEAT)

- Flight trials of **ABHYAS-HEAT** were successfully carried out by the **Defence Research & Development Organisation (DRDO)**.
- **About ABHYAS-HEAT**
  o **Designed** for **autonomous flying** with the help of an auto-pilot.
  o Indigenously developed by the **DRDO's Aeronautical Development Establishment** (ADE).
  o It has Radar Cross Section, Visual and Infrared augmentation system required for weapon practice.
    ✓ It also has a **laptop-based Ground Control System**.
  o ABHYAS **requires minimum logistics** and **is cost-effective** compared to imported equivalents.

4.2.3. INS SANDHAYAK

- INS Sandhayak, **first Survey Vessel Large (SVL) Ship**, commissioned into Indian Navy in Visakhapatanam.
- **About INS Sandhayak**
  o **First** in a series of **four SVL ships**.
  o Equipped with **state-of-the-art hydrographic equipment** including Deep & Shallow Water Multi-Beam Echo-Sounders, Autonomous Underwater Vehicle, etc.
  o Can offer **limited defence capabilities** and serve as **hospital ship** during wartime or emergencies.

  o Has an **indigenous content** of over **80% by cost**.

4.2.4. PATRIOT MISSILE

- Russia blamed the use of **US-supplied Patriot missiles** for downing the plane carrying Ukrainian prisoners of war.
- PATRIOT (Phased Array Tracking Radar for Intercept on Target), is a **theater-wide surface-to-air missile defense system.**
  o It is considered one of the **most advanced air defense systems in the U.S. arsenal.**
    ✓ It was also used in **1991 Gulf War and during the U.S. invasion of Iraq in 2003.**
  o It is usually equipped with powerful **radar, a control station, a power generator, a launch station**, etc.

4.2.5. EXERCISES IN NEWS

- **SADA TANSEEQ:** It is a **joint military exercise** between **India** and **Saudi Arabia**. Inaugural edition will be held from January 29 to February 10 in Rajasthan.
- **MILAN 2024:** MILAN 2024 is a **multilateral naval exercise**, hosted by India.
- **Exercise 'DOSTI-16':** 16th biennial trilateral coast guard exercise between **India, the Maldives, and Sri Lanka started. Bangladesh** is participating as an observer.
- **Exercise Steadfast Defender 24: NATO** started its **largest military exercise** since the Cold War called **Steadfast Defender 2024.**

5. ENVIRONMENT

5.1. CONSERVATION OF MIGRATORY SPECIES (CMS)

Why in the News?

The **Fourteenth Meeting of the Conference of the Parties to the Convention on the Conservation of Migratory Species** of Wild Animals (CMS COP 14) held in Samarkand, Uzbekistan.

About Convention on the Conservation of Migratory Species of Wild Animals (CMS) or Bonn Convention.
- **Intergovernmental treaty** under the **United Nations Environment Programme (UNEP).**
- Serves as a **global platform** for the **conservation and sustainable use of migratory animals** and their habitats.
- Introduced in **1979** and came into force in **1983.**
- **Membership: 133** Parties from Africa, Central and South America, Asia, Europe and Oceania. **India is its member (**since **1983).**
- **CMS Appendices:**
  - **Appendix I**: lists migratory species that are considered **endangered** (facing a very high risk of extinction in the wild in the near future).
  - **Appendix II**: lists migratory species which have an **unfavourable conservation status** and require **international agreements** for their conservation and management.

India and CMS
- It has signed a **non-legally binding** Memorandum of Understanding (MoU) with CMS on conservation and management of **Siberian Cranes** (1998), **Marine Turtles** (2007), **Dugongs** (2008), and **Raptors** (2016).
- India hosted **COP-13** of **CMS** in 2020 at Gandhinagar (Gujrat).
- India is part of 2 of the Special Species Initiatives of CMS- **Central Asian Flyway and Central Asian Mammals Initiative.**
- **Zoological Survey of India (ZSI)** for the first time compiled the **list of migratory species** of India under the CMS before the Conference of Parties **(COP 13).**

About CMS COP 14

- **Conference of Parties (COP) to Convention on the Conservation of Migratory Species:**
  - It is the **principal decision-making body** of the Convention.
  - It meets once **every 3 years** and sets the budget and priorities of the following three years.
  - It also decides on the **amendment of the Appendices** and considers reports submitted by the Parties.
- **Key-outcomes:**
  - A host of **new measures to safeguard migratory species** have been adopted.
  - **Slogan:** "Nature knows no borders"
  - **Addition of 14 species** to Conservation of Migratory Species (CMS) **Appendices** including Eurasian Lynx, Pallas's Cat and Sand Tiger Shark etc.
  - **New Concerted Actions:** For **six** species, including Chimpanzee, Straw-colored Fruit Bat, and Blue Shark etc.
  - **Single Species Action Plans (SSAPs):** for aquatic species, such as the Atlantic Humpback Dolphin, the Hawksbill Turtle and the Angelshark.
  - **Agreement on Central Asian Flyway (CAF):** Spanning 30 Range States of migratory birds. It includes the establishment of a **coordinating unit** in India.

State of the World's Migratory Species
- **Under CMS COP 14:** the **first-ever** "State of the World's Migratory Species" report launched.
- Its **Key-findings** are: -
  - **Decline**: Nearly **44% migratory species** listed under **CMS** are showing population **declines**.
  - **Extinction:** More than **22%** of CMS-listed species are threatened with extinction.
  - **Fish:** Nearly **97 %** of CMS-listed **fish** are threatened with extinction.
  - **Lack of coverage:** Globally, **399** migratory species that are **threatened or near threatened** with extinction are **not currently** listed under CMS.

Initiative taken in India to conserve Migratory Species
- **National Action Plan for conservation of Migratory birds along the Central Asian Flyway** (2018-2023)
  - **Objective:** To arrest population, decline and secure habitats of migratory bird species.
- **Identification of Important Bird Areas (IBAs) programme**
  - **By:** Birdlife International
  - **Objective:** To protect a global network of IBAs for conservation of the world's birds and associated biodiversity.
- **National Marine Turtle Action Plan (2021-2026)**
 - **Objective:** To conserve marine turtles and their habitats for maintaining a healthy marine ecosystem**.**

- o **Global Partnership on Ecological Connectivity (GPEC)** was launched.
  - ✓ It **aims** to ensure that ecological connectivity is maintained, enhanced, and restored in critical areas for **migratory species**.

About Migratory Species

- **Definition:** A species of wild animals of which the entire population or any geographically separate part of the population cyclically and predictably **cross one or more national jurisdictional boundaries.**
  - o **The word 'cyclically'** relates to a cycle of any nature, such as astronomical (circadian, annual etc.), life or climatic, and of any frequency**.**
  - o **The word 'predictably'** implies that a phenomenon can be **anticipated** to recur in a given set of circumstances, though not necessarily regularly in time.

Way Forward

- **Protect, connect and restore habitats:** Need to identify critical habitats and sites for e.g., **Key Biodiversity Areas (KBAs).**
- **Tackle overexploitation:** For e.g., implementation of the new **Biodiversity Beyond National Jurisdiction (BBNJ) Treaty** (sets up a procedure to establish large-scale marine protected areas in the high seas)
- **Reduce the damaging impacts of environmental pollution:** Adoption of **light pollution** mitigation strategies, restrict the emission of underwater noise for marine species, **phase-out of toxic lead** ammunition, tackle the issue of **plastic pollution etc.**
- **Address the root causes and cross-cutting impacts of climate change:** Help migratory species adapt to a changing climate through targeted ecosystem restoration efforts. For **e.g., Kunming Declaration**.
- **Ensure the CMS Appendices protect all migratory species in need of further conservation action:**
  - o Consider migratory species threatened with **extinction not yet listed** in CMS.
  - o Prioritize research on **'Data Deficient'** migratory species.

Important Migratory species in India

Amur Falcons
- IUCN: Least Concern
- CMS: Appendix II

Bar headed Geese
- IUCN: Least Concern
- CMS: Appendix II

Black necked cranes
- IUCN: Vulnerable
- CMS: Appendix I

Humpbacked Whales
- IUCN: Least Concern
- CMS: Appendix I

Asian elephant
- IUCN: Endangered
- CMS: Appendix I

Great Indian bustard
- IUCN: Critically Endangered
- CMS: Appendix I

Bengal florican
- IUCN: Critically Endangered
- CMS: Appendix I

Snow Leopard
- IUCN: Vulnerable
- CMS: Appendix I

5.2. THE WATER (PREVENTION AND CONTROL OF POLLUTION) AMENDMENT ACT, 2024

Why in the news?

The Parliament recently passed **the Water (Prevention and Control of Pollution) Amendment Act, 2024**.

More on News

- It amends **the Water (Prevention and Control of Pollution) Act 1974.**
- **Application**: Currently, the Water Amendment Act 2024 will apply to **Himachal Pradesh, Rajasthan** (both passed resolution to amend the Act) **and the Union territories.**

- Water is a state subject and its optimal utilization and management lies predominantly within the domain of the States.
- **However, Article 252 of Constitution** empowers Parliament to legislate on any matters with respect to which it lacks legislative power.
  - Any Such Act by the **Parliament shall apply to States passing such resolution and to any other State by which it is adopted.**
  - Also, such **Act could be amended or repealed only by the Parliament**.

About Water (Prevention and Control of Pollution) Act 1974

- The Act provides for the **prevention and control of water pollution, and for the maintaining or restoring of wholesomeness of water** in the country.
- The original Act is **applicable in 25 States**.
- This was amended twice in **1988 and 2003**.
- **Regulatory bodies**: Creation of the **Central Pollution Control Boards (CPCB)** and **State Pollution Control Boards (SPCB)**
- **Approval:** Mandatory for industrial units to get **permission from their respective State boards** before setting up factories.

CPCB New Delhi

Genesis: Statutory organisation was constituted in 1974 under **the Water Act, 1974.**

About: CPCB was entrusted with the **powers and functions under the Air (Prevention and Control of Pollution) Act, 1981.**

Ministry: Ministry of Environment, Forests and Climate Change.

Chairman: To be appointed by the Central Government.

Principal Functions:
- To **promote cleanliness of streams and wells** in different areas of the States by prevention, control and abatement of water pollution.
- **To improve the quality of air** and to prevent, control or abate air pollution in the country.

Major Initiatives:
- **National Air Quality Monitoring Programme (NAMP).**
- **PRANA portal** for monitoring of the implementation of the National Clean Air Programme (NCAP).

Key Amendments (Water Amendment Act, 2024)

Key Aspects	Water Act, 1974	Water Amendment Act, 2024
Chairman of SPCB	The Act states the chairman of the State Pollution Control Board will be **nominated by the State government.**	The **central government will prescribe** the manner of nomination and the terms and conditions of service of the chairman.
Consent exemptions for establishing industries	The Act empowered the State Government to "exempt certain categories of industrial plants" from the restrictions on **new outlets and discharges.** • **States are empowered to issue guidelines** on matters relating to grant, establishment of any industry, etc.	It specifies that **the central government, in consultation with the CPCB, may exempt certain categories of industrial plants** from obtaining such consent. • It adds that the **central government may issue guidelines** for the grant, refusal, or cancellation of consent granted by the SPCB.
Penalty for offences	It prescribes **imprisonment of up to Six years** for discharge of polluting matter**.**	Act **decriminalises several violations**, and instead **imposes penalties** between ₹10,000 and ₹15 lakh.
Offences by government departments	**The head of a department** will be **deemed guilty for offences** committed by government departments; provided that they prove due diligence was carried out to avoid such contravention.	The Act specifies that the head of a department will be **required to pay penalty equal to one month of their basic salary** if the department violates any provision of the Act.

Other provisions of Amendment Act 2024:

- **Tampering with Monitoring Devices: Knowingly altering or interfering** with monitoring devices such as water meter or gauges incurs a **penalty ranging from ₹10,000 to ₹15 lakh.**
- **Adjudicating officer:** The Act allows the central government to appoint adjudication officers to determine penalties under the Act.
  o The officer must be of the level of a Joint Secretary to the central government, or of Secretary to the state government.
- Penalties imposed by the adjudicating officer will be **credited to the Environment Protection Fund** established under the **Environment (Protection) Act, 1986.**
- **Appeal:** Appeals against orders passed by the adjudicating officer may be made before the **National Green Tribunal**, after depositing 10% of the penalty levied.

Significance

- **Decriminalization for Trust-Based Governance:** By **decriminalizing and rationalizing minor offences**, the amendment fosters **ease of living and business operations** without the fear of imprisonment for minor defaults.
- **Reduced Regulatory Burden:** Exemptions for establishing industries **reduce duplication of surveillance and unnecessary burden on regulatory agencies**, facilitating smoother business operations while maintaining environmental standards.
- **Streamlined Appointment Processes:** Streamlining the appointment of chairpersons of state boards with **uniform qualifications and procedures ensures transparency** in the selection process, **preventing inefficient individuals from prolonged tenure due to political influence**.
- **Balancing Development and Environment Protection:** The amendment seeks to **strike a balance between economic growth and environmental sustainability**, crucial for long-term prosperity.

Criticism of the amendments

- **Ineffectiveness of Penalties:** Enforcement of penalties for minor offences, such as littering at Ghats, has proven challenging due to logistical and cultural reasons.
- **Persistent Water Pollution Issues: The State of the Environment Report 2023** revealed that **46% of India's rivers, including the Ganga**, are dealing with pollution issues.
- **Ignoring the Climate and water Crisis:** Groundwater loss due to warming temperatures threatens India's food and water security, with **NITI Aayog estimating 400,000 deaths** annually due to contaminated water.
- **Detrimental Impact on Future Economy:** Recognizing the importance of water conservation is crucial for sustainable economic growth.
- **Affecting Federalism:** Act seeks to take away most existing powers of the state to run the operation of SPCBs and is against the principle of federalism.

Conclusion

There is need for Stakeholder Engagement through consultations with environmental experts, industry representatives, and civil society organizations to refine the amendments and address concerns. Also, **t**raining and capacity-building programs for Pollution Control Boards can enhance effective enforcement of environmental regulations.

5.3. DEFINITION OF FOREST

Why in the news?

The Supreme Court (SC) recently directed the Government to follow the definition of "forest" as laid down in the 1996 judgment in **T.N Godavarman Thirumalpad v. Union of India.**

Background: History regarding the definition of forest lands

Act/Judgement	Description
Indian Forest Act, 1865	• Defined forest as **land covered with trees, brushwood, and jungle.**
The Forest Act, 1878	• Redefined forests, expanding the definition **to include any land that could be designated as such.** • **Forests were categorized into three classes**: state or reserved forests, protected forests, and village forests.
The Indian Forest Act, 1927	• Contained all the major provisions of the previous act; the amendment included **duty on timber.**
Forest Conservation Act, 1980	• Made central **government approval mandatory before diverting forestland for non-forest use.** • The provisions predominantly apply **to tracts of forest land recognized by States.**

T N Godavarman case (1996)	• Definition of **"forest" expanded to include:**
	  o All areas recorded as **"forest" in any government (Union and State) record**, irrespective of ownership, recognition, and classification.
	  o All areas that conformed to the "**dictionary" meaning of forest**.
	  o Areas that are **identified as "forest" by expert committees** set up by the State governments following the 1996 order.

Forest Conservation (Amendment) (FCA) Act, 2023	• Specified forest land as-
	  o Land **declared/notified as a forest** under the Indian Forest Act, 1927 or other laws.
	  o **Land recorded in Government as forest**, as on or after **1980**.
	    ✓ This does not include **land which has been officially changed from forest use to use for non-forest purposes** on or before 1996.

Van (Sanrakshan Evam Samvardhan) Rules, 2023	• As per rule 16, State Governments/UT Administrations, within a period of one year, have to prepare a **consolidated record of such lands on which the provisions of the Forest Conservation (Amendment) (FCA) Act, 2023, apply**. o This includes **forest like areas identified by the Expert Committee** constituted for this purpose, **unclassed forest lands or community forest lands**.

Directions of the Supreme Court

- **Continuation of principles of TN Godavarman judgment:** They must **continue to be observed** until the exercise by State Governments and Union Territories administrations has been completed under **rule 16 of Van (Sanrakshan Evam Samvardhan) Rules, 2023**.
- **Broader meaning of forest:** State Governments and UT administrations have to ensure compliance with the ambit of expression "forest" as explained in the decision in TN Godavarman but can include lands which are worthy of protection.
- **Other Key directions**
  - **Database creation:** State/UTs should **submit a "consolidated record" of all the lands recorded as 'forest'** by the expert committees (constituted as per the TN Godavarman judgment) to the Central Government.
    - ✓ These records are to be **maintained** and **digitised** by the Ministry of Environment, Forest and Climate Change (MoEFCC), and **made available on the official website** by April 2024.
  - **Safeguard in zoo creation:** Prior approval of the court is needed before giving final approval for the establishment of zoos or safari by any government or authority.
    - ✓ FCA Act 2023 **excluded the establishment of zoos or safaris** in forest areas other than protected areas **from the definition of non-forest purposes.**

Implications of SC judgment

- **Protection of forest land:** Narrowing the definition could have left nearly 1.99 lakh square kilometres of forest land from the ambit of 'forest'.
- **Consistent with the spirit of FCA, 1980:** Excluding more activities for non-forest purposes, like **Zoos,** may promote more deforestation.
- **Consensus about the definition of a forest:** States continue to interpret the term "forests" differently, despite the Godavarman ruling being in effect for twenty-eight years.
- **Encourage Sustainable Development**: Judgment places equal emphasis on striking a balance between environmental preservation and economic development.=

Other Key provision of the Forest Conservation Amendment Act (2023)

- **New name:** 'Van (Sanrakshan Evam Samvardhan) Adhiniyam' (Forest (Conservation and Augmentation) Act), 1980.
- **Addition of Preamble:** It encompasses India's Nationality Determined Contribution and other National targets.
- **Activities excluded from the definition of non-forest purposes:**
  - Establishment of **zoos and safaris under the Wild Life (Protection) Act, 1972,** in forest areas other than protected areas;
  - **Eco-tourism facilities** included in plans of the area;
  - **Silvicultural operations,** including regeneration operations; and
  - Any other purposes specified **by the Central Government.**
- **Specifies exempted Categories of Land** such as connectivity to a habitation, or to a rail, Projects of national importance and concerning national security.
- State governments require **prior approval of the central government before assigning of forest land by way of lease or otherwise** to government entities (earlier needed for only private entities).

5.4. BIODIVERSITY HERITAGE SITE

Why in news?

Recently, **Gupteswar Forest in Odisha's Koraput district** has been declared as the **fourth Biodiversity-Heritage Site** (BHS) of the state.

About Gupteswar forest

- It is spread over 350 hectares of demarcated area and located adjacent to **Gupteswar Shiva temple** (a natural **limestone cave shrine**).
- It is situated in the **southernmost region of Odisha** and a **part of Eastern Ghats**.
- It holds **immense cultural significance due to its sacred groves**.
- It is bestowed with a **wide range of flora and fauna**.
  - **Key faunal species:** Mugger crocodile, Kanger valley rock gecko, and avifauna like common Hill myna, White-bellied Woodpecker, and Banded Bay Cuckoo, etc.
  - **Key floral species:** Among others, forest has **threatened medicinal plants** such as Indian trumpet tree, Indian snakeroot, Cumbi gum tree, Garlic pear tree, etc.

About Biodiversity-Heritage Site (BHS)

- BHS are **well defined areas that are unique, ecologically fragile ecosystems** - terrestrial, coastal and inland waters and, marine having rich biodiversity comprising some specific components (refer image).
- Under Section 37 of **Biological Diversity Act, 2002, State Government in consultation with local bodies may notify** areas of biodiversity importance as BHS.
  - Also, **State Government in consultation with Central Government** may frame **rules for management and conservation** of BHS.
- **National Biodiversity Authority (NBA)** advices the State Government in the selection and management of heritage sites under section 37.
  - NBA is an **Autonomous and Statutory Body of MoEFCC.**
  - NBA (Headquartered in Chennai) was **established in 2003** by Central Government to **implement India's Biological Diversity Act, 2002.**
- As per **National Biodiversity Authority (NBA),** India has a **total of 45 BHS** as of February 2024.

BHS comprise of any one or more of following components

- Richness of wild, domesticated **species** or intra-specific categories.
- **High endemism** (i.e. restricted in geographical distribution to an area or region).
- Presence of **rare and threatened species, keystone species,** species of **evolutionary significance.**
- **Wild ancestors** of domestic/cultivated species or their varieties.
- **Past pre-eminence of biological components** represented by fossil beds and having significant cultural, ethical or aesthetic values among others.

Criteria for identification of BHS

- **Natural, semi-natural, and man-made habitats,** which together contain significant diversity of life forms.
- Areas that contain **domesticated biodiversity component and /or representative agro-ecosystems with ongoing agricultural practices**.
- **Important cultural spaces** such as **sacred groves/trees and sites, or other large community conserved areas**.
- Areas **that provide refuge or corridors for threatened and endemic fauna and flora**, such as community conserved areas or urban greens and wetlands.
- **All kinds of legal land uses** whether government, community or private land.
- Sites which are **not covered under Protected Area network under Wildlife Protection Act 1972** as amended.
- **Habitats for seasonal migrant species** for feeding and breeding.
- Areas that are **maintained as preservation plots by research wing** of Forest department.
- **Medicinal Plant** Conservation Areas.

Objectives of BHS

- **Strengthen biodiversity conservation in traditionally managed areas** and to stem rapid loss of biodiversity in intensively managed areas.
- **Foster harmony between nature, culture, society, and technology**, promoting conservation and livelihood security while enhancing connections between wild and domestic biodiversity.
- **Instill and nurture conservation ethics in all sections of society** and thereby put an **end to over-exploitation of natural resources** and avoid environmental degradation.
- **Enhance the quality of life of the local communities.**

About Biodiversity Management Committee (BMC)

- Under **Section 41(1) of the Biological Diversity Act, 2002,** every local body in the State shall constitute a Biodiversity Management Committee within its area of jurisdiction.
- **Composition:** BMC is a **7-member committee** which is elected in the general body meeting of that local body.
    - It must include least **at least 1/3rd women** and **at least 18% Scheduled Castes/Scheduled Tribes.**
- **Roles:**
    - **Prepare a Peoples' Biodiversity Register (PBR)** in consultation with local people.
        - ✓ A PBR comprehensively documents information on the availability and knowledge of local biological resources.
    - **Facilitate access and benefit sharing** in line with the provisions of the Nagoya Protocol.
    - BMCs are empowered to levy charges, by way of collection fees from any person, for accessing/ collecting any biological resource for commercial purposes for areas falling within its territorial jurisdiction.

Management of BHS

- **Biodiversity Management Committee** (BMC) or other appropriate institution as determined by relevant local body in absence of BMCs may manage each BHS.
    - Wherever **BHS extends to more than one local bodies**, management of BHS shall be the **responsibility of BHS Management Committee constituted by BMC** or other relevant local institutions linked to local bodies in case BMC does not exist, and approved by State Biodiversity Boards (SBB).
- Committee responsible for management of BHS may **include representatives of all sections of local communities,** and in particular those most dependent on natural resources and who have been traditionally conserving the area.
- Responsibility of **BMC/BHS Management Committee to prepare and implement a management plan for BHS** which should cover a period of **five to ten years**.
    - SBBs will facilitate the implementation of the final management including the **regeneration or revival of degraded or lost ecosystems and taxa**, reintroduction of threatened/locally extinct wildlife where feasible etc.
- Generally, **no restriction is to be placed on the community on** prevailing practices **and the utilization of resources** from the proposed BHS.

Biodiversity heritage sites in India

Himachal Pradesh
- Sacred Grove at Bhatori Monastery
- High Altitude Meadow
- Birch Pine Forest Patch

Madhya Pradesh
- Naro Hills
- Amarkantak
- Patalkot

Maharashtra
- Glory of Allapalli
- Landorkhori
- Ganeshkhind Garden
- Schistura Hiranyakeshi
- Bambarde Myristica Swamps

Goa
- Purvatali Rai

Karnataka
- University of Agricultural Sciences, GKVK Campus
- Nallur Tamarind Grove
- Hogrekan, Chikmagalur
- Ambaraguda, Shimoga

Kerala
- Asramam

Uttar Pradesh
- Ghariyal Rehabilitation Centre

Sikkim
- Tungkyong Dho

Odisha
- Mahendragiri Hill
- Mandasaru
- Gandhamardan Hill
- Gupteshwar Forest

Tamil Nadu
- Arittapatti

Telangana
- Ameenpur Lake

Assam
- Borjuli Wild Rice Site
- Hajong Tortoise Lake
- Majuli

Meghalaya
- Khlaw Kur Syiem

Manipur
- Dialong Village

Tripura
- Unakoti
- Baramura Waterfall
- Silachari Caves
- Debbari or Chabimura
- Betlingshib

West Bengal
- Chilkigarh Kanak Durga
- Baneshwar Shiva Dighi
- Tonglu
- Dhotrey
- State Horticulture R&D Station
- Namthing Pokhari
- Char Balidanga
- Amkhoi Wood Fossil Park
- Haldir Char Island
- Birampur-Baguran Jalpai

5.5. RAMSAR CONVENTION

Why in the news?

India's Ramsar Sites rose to **80**, as 5 wetlands were added to the Global List of Wetlands of International Importance under Ramsar Convention.
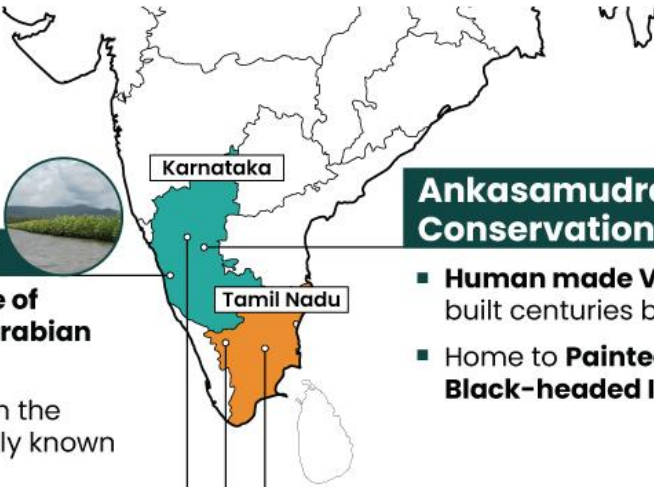
About Ramsar Convention

- Adopted in 1971
- An **intergovernmental treaty under UNESCO**

- Provides the framework for the **conservation and wise use of wetlands and their resources.**
- A wetland must meet at **least 1 of 9 criteria** such as regularly supporting 20,000 or more water birds, or conserving biological diversity etc.
- **India ratified Convention in 1982** (Tamil Nadu has maximum number of Ramsar sites).

New Wetlands in Ramsar Convention

Aghanashini Estuary
- Formed **at the confluence of Aghanashini River with Arabian sea.**
- **Traditional fish farming** in the estuarine rice fields (locally known as *Gazni rice fields*).

Magadi Kere Conservation Reserve
- **Human-made wetland** constructed **to store rainwater** for irrigation purposes.
- One of the **largest wintering grounds** for the **Bar-headed goose in Southern India.**

Ankasamudra Bird Conservation Reserve
- **Human made Village Irrigation Tank** built centuries back.
- Home to **Painted Stork and Black-headed Ibis.**

Karaivetti Bird sanctuary
- Migratory species that visit: **Pin-tailed duck,** Garganey, **Northern Shoveler,** Common Pochard, **Eurasian Wigeon,** Common teal and Cotton teal.

Longwood Shola Reserve Forest
- **Forested wetlands** serve as habitats for **Black-chinned Nilgiri Laughing thrush, Nilgiri Blue Robin, Nilgiri Wood-pigeon.**

5.6. STATUS OF LEOPARDS IN INDIA

Why in news?

Recently, Ministry of Environment, Forest, and Climate Change (MoEFCC) released the 'Status of Leopards in India, 2022' Report.

More on news

- **Fifth cycle leopard population estimation (2022)** was carried out **by National Tiger Conservation Authority** (NTCA) and **Wildlife Institute of India** (WII).
  - It was in collaboration with State Forest Departments, as part of quadrennial "**Monitoring of Tiger, Co-predators, prey and their habitat**" exercise in tiger range States.

Key findings of report

- **Leopard population:** Estimated at **13,874** with a **1.08% per annum growth** compared to 2018.
  - **Central India and Eastern Ghats** registered largest growth, while **Shivaliks and Gangetic plains registered decline** in leopard population**.**
- **Regional distribution:** Madhya Pradesh houses the largest population of leopards followed by Maharashtra, Karnataka and Tamil Nadu.
  - **Tiger Reserves with highest leopard population:** Nagarjunasagar Srisailam (Andhra Pradesh and Telangana) followed by Panna and Satpura (Madhya Pradesh) tiger reserves.

About Indian Leopards (Panthera pardus fusca)

- Leopards occupy a prominent position in **trophic pyramid alongside tigers, lions and dholes** exhibiting adaptability in habitat and dietary preferences.
- Leopards **commanded great reverence in ancient cultures** (Egyptian, African and Indian cultures), symbolizing traits of power, agility, and nobility.
- **Habitat Distribution**: India, Nepal, Bhutan, and parts of Pakistan, excluding mangrove forests and deserts.
- **Importance of Leopard:**
  - **Maintaining ecological balance** of their mountain ecosystems.
  - **Regulate populations of their prey species**, which in turn helps in harvesting medicinal plants, maintain healthy vegetation and prevent overgrazing.
  - **Major attraction for tourism,** which helps to **generate revenue for local communities.**

Threats associated with Leopards

- **Habitat Loss**: Rapid human population growth **intensifies pressure on land for agriculture, livestock grazing, and infrastructure development** diminishing the forests and reducing the prey base for leopards.
- **Poaching**: Leopards are highly **valued for their fur, bones, and other body parts**, which are used in traditional medicine and as luxury items. This led to **illegal trade in leopard products**.
- **Human-Wildlife Conflict**: Human encroachment on leopard habitats sparks conflict as **they prey on livestock, prompting retaliation by herders**.

National Tiger Conservation Authority (NTCA)

- **Genesis:** It was established in 2005, following the recommendations of Tiger Task Force.
- **About: Statutory body** under **MoEFCC** constituted under **Wildlife (Protection) Act, 1972**.
- **Objectives of NTCA:**
  - Providing **statutory authority to Project Tiger** so that compliance of its directives become legal.
  - **Addressing livelihood interests of local people** in areas surrounding Tiger Reserves.
- **Power and Functions:**
  - Lay down standards for tourism activities and **guidelines for project tiger in buffer and core area of tiger reserves** and ensure their due compliance.
  - Provide measures for addressing man- animal conflicts to **emphasize on co-existence in forest areas outside National Parks**, sanctuaries or tiger reserve.

Wildlife Institute of India (WII)

- **Genesis:** Established in **1982**.
- **HQ**: Dehradun
- **About**: It is an **autonomous institution of MoEFCC.**
- **Mission:** Nurture the development of Wildlife Science and promote its application in conservation, in consonance with our cultural and socio-economic milieu**.**
- **Mandate:** Build capacity through training, education and research in field of wildlife conservation.

Initiatives to Conserve Leopard

- **International Big Cat Alliance (IBCA):** Headquartered in India, it aims to **strengthen global cooperation** for **conservation of seven big cat species** (Tiger, Lion, Leopard, Snow Leopard, Cheetah, Jaguar and Puma) and **their habitats.**
  - Except for Puma and Jaguar, **India inhabits all five big cats.**
- **World Wide Fund for Nature-India(WWF-India):** WWF-India studies leopard populations in Protected Areas and their movement through wildlife corridors. They support anti-poaching action, manage conflicts and promote leopard conservation awareness.
- **SECURE Himalaya project**: **A landscape based approach for the conservation and protection of the high-altitude ecosystems** of the Himalayas.
  - It is a **joint project** of **MoEFCC** and **United Nations Development Programme** (UNDP), **funded by Global Environment Facility** (GEF).

Protection Status of Leopard

CITES — Appendix I

IUCN STATUS — VU

WPA, 1972 — Schedule I

- **Climate Change** such as melting glaciers, changing weather patterns, and altered vegetation growth, are affecting their habitats and prey populations.

5.6.1. STATUS OF SNOW LEOPARDS IN INDIA

Why in news?

Recently, Ministry of Environment, Forest, and Climate Change (MoEFCC) released the report on **Status of Snow leopards in India.**

More on news

- Report is result of **Snow Leopard Population Assessment in India (SPAI)** programme which was carried out between 2019 and 2023.
  - It is the **first-ever scientific exercise** estimating snow leopard population.
  - **Wildlife Institute of India (WII) is the National Coordinator** for this exercise that was carried out with **support of all snow leopard range states** and **two conservation partners**, Nature Conservation Foundation, Mysuru and World Wildlife Fund (WWF)-India.

Key findings of report

- **70% of land** used by snow leopards is still **unprotected**.
- **Challenges in counting Snow Leopard**
  - Majority of their **habitat (which is** between altitudes of 10,500 to 17,000 feet) **remains inaccessible.**
  - Unlike tigers, zebras or even leopards, **snow leopards evade detection by artificial intelligence software.**

About Snow Leopard (Panthera Uncia)

- It is declared **State animal of Ladakh and Himachal Pradesh.**
- **Characteristics**
  - Considered **medium-sized cats** and weighing around **30-55kg.**
  - Their exquisite, smoky-grey fur is patterned with **dark grey to black rosettes** which helps to camouflage them against rocky slopes.
- **Habitat Distribution**: **12 snow leopard range countries** (Afghanistan, Bhutan, China, India, Kazakhstan, Kyrgyzstan, Mongolia, Nepal, Pakistan, Russia, Tajikistan, and Uzbekistan).
- **Khelo India Winter Games 2024** has adopted **snow leopard as its mascot** and named it **'Sheen-e She'** or Shan in Ladakh region.

Protection Status of Snow Leopard
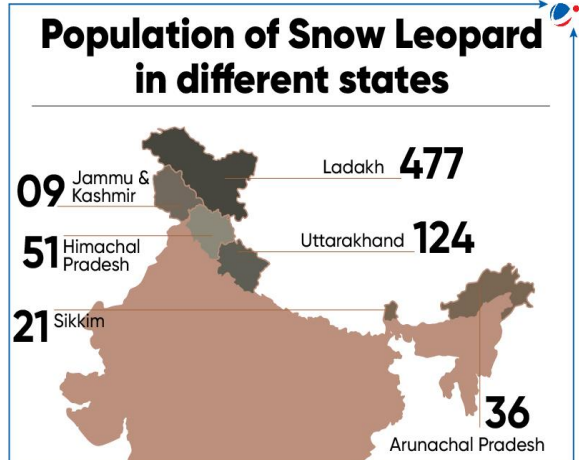CITES Appendix I
IUCN STATUS VU
WPA, 1972 Schedule I
Among 22 species covered under **Species Recovery Programme**

Snow Leopard Population Assessment in India (SPAI)
- SPAI was **launched by MoEFCC in 2019** as part of **Global Snow Leopard and Ecosystem Protection Program (GSLEP)** called Population Assessment of World's Snow Leopards (PAWS).
  - Endorsed in **2013 Bishkek Declaration**, GSLEP is an **alliance of all 12 snow leopard range countries** and non-governmental partners.
- SPAI covered over **70% of potential snow leopard range in country across trans-Himalayan region**, including Union Territories of Ladakh and J&K, and states like Himachal Pradesh, Uttarakhand, Sikkim, and Arunachal Pradesh.

Population of Snow Leopard in different states
09 Jammu & Kashmir
Ladakh 477
51 Himachal Pradesh
Uttarakhand 124
21 Sikkim
36 Arunachal Pradesh

Initiatives to conserve Snow Leopard
- **Three landscapes under GSLEP**: For restoration of snow leopard species in high-altitude region, India has identified three landscapes namely, **Hemis-Spiti** across Ladakh and Himachal Pradesh**, Nanda Devi-Gangotri** in Uttarakhand, **and Khangchendzonga Tawang** across Sikkim and Arunachal Pradesh.
- **Project Snow Leopard:** It aims to **safeguard and conserve India's unique natural heritage of high altitude wildlife populations** and their habitats by promoting conservation through participatory policies and actions.
- **International Snow Leopard Day**: Established in 2014, it is **celebrated on October 23 every year** to raise awareness for its conservation and protection.
- **Snow Leopard Breeding Project** at **Padmaja Naidu Himalayan Zoological Park, Darjeeling** is one of the most successful and breeding programme of species in South East Asia.

Recommendations from report to conserve Snow Leopard

- **Snow Leopard Cell**: Proposed establishing **dedicated Snow Leopard Cell at WII under MoEFCC** with a primary focus on long-term population monitoring.
- **Periodic population estimation:** States and UTs can consider adopting a **periodic population estimation approach** (every 4th year) in Snow leopard range to identify challenges, address threats, and formulate effective conservation strategies.
- **Landscape-level management planning and coordination** for effective implementation and management.
- **Engage Indian security forces on border of neighbouring countries** (Pakistan, Nepal, Bhutan, and China) through proper training, focussed programs to raise awareness and foster long-term cooperation for conservation of critical snow leopard habitats.

5.7. GREENWASHING

Why in the News?

Central Consumer Protection Authority (CCPA) has sought public comments on the proposed **Draft Guidelines on Prevention and Regulation of Greenwashing** issued under **Consumer Protection Act, 2019.**

More on the News

- Green washing involves **making a product or policy seem more environmentally friendly** or less damaging than it is in reality
- **Key highlights of the draft guidelines**
  - **Defines** and also **prohibit** greenwashing.
  - **Applicability: Applies to all advertisements, service providers, advertisers, endorsers,** etc. whose service is availed for the advertisement.
  - **Information disclosure:** Prohibits selective presenting of data and calls for **fully disclosing environmental claims** including vague terms like 'green', 'eco-friendly', 'eco-consciousness' used in advertisements**.**
  - **Verification of claims:** Requires substantiating environmental claims with **credible certification, reliable scientific evidence, and independent third-party verification.**
  - **Conditions for futuristic environmental claims:** Mandates making of **futuristic environmental claims only when clear and actionable plans** have been **developed** for achievement of objectives.

Need for regulating green washing

- **Erosion of Public Trust: Deceptive marketing and false claims of sustainability**. Also making it **difficult to make informed purchasing** decisions.
  - Example, in 2015, the US Protection Agency exposed Volkswagen for using **software to manipulate emission tests in its Clean Diesel cars.**
- **Obstacle in tackling climate change:** False environmental claims **delay the genuine solutions** to the climate change, while also making **consumers** to choose for the **unsustainable products.**
- **Impact on Innovation:** Redirecting resources towards the appearance of environmental friendliness may come at the **cost of innovation for substantial and lasting benefits.**

Types of Greenwashing

Greenhushing: Companies **underreport or hide sustainable credentials** to avoid scrutiny.

Greenrinsing: When a company **regularly changes its ESG** (Environmental, Social, Governance) targets **before achieving them.**

Greenlabeling: The **labeling** of an essentially **unsustainable product as green or sustainable.**

Greenlighting: The **highlighting of a particularly green feature** of a business's products or activities to draw attention away from its environmentally harmful actions.

Greenshifting: When companies reduce the climate crisis to consumer behavior and **shift responsibility to individuals.**

Greencrowding: When a company **hides within a group and is slow to adopt sustainability** policies (e.g. the 20 largest single-use plastic waste producers are members of the Alliance to End Plastic Waste global alliance).

Initiatives taken to prevent Greenwashing

- **India**
  - **Bureau of Indian Standards (BIS):** The BIS has developed a standard for eco-labelling of products and services called IS/ISO 14024:1999.
  - **Consumer Protection Act, 2019:** Establishes **Central Consumer Protection Authority** (CCPA) to regulate matters relating to **violation of rights of consumers, unfair trade practices** and **false or misleading advertisements**.
  - **Advertising Standards Council of India (ASCI):** The ASCI guidelines requires that advertisements making environmental/green claims be specific, accurate, and not misleading.
  - **Green Rating Project (GRP):** GRP of the **Centre for Science and Environment (CSE)** rates industrial units within a specific sector on the basis of their environmental friendliness.
  - **Indian Green Building Council (IGBC):** The IGBC is a **nonprofit organization** that has developed a r**ating system for green buildings.**
- **Global**
  - **UN's High-Level Expert Group on Net-Zero Emissions Commitments of Non-State Entities:** It was established in 2022 by the UN Secretary-General.
    - ✓ Expert Group in its report 'integrity matters' **outlined ten recommendations** for accountable net-zero pledges by companies which included announcing Net Zero Pledge, setting Net zero target, creating a transition plan, etc.
  - **Greenwashing TechSprint:** It was organized by the **Global financial innovation network** to **develop a tool to help regulators** more effectively tackle greenwashing in financial services. **Reserve Bank of India** was also one of the participants.

Way-Forward

- **Increase transparency and accountability:** Annual publication of each **organization's greenhouse gas emissions alongside baseline data** and **Third-Party certification**.
- **Media Campaigns and Consumer Awareness:** Understanding the common greenwashing tactics is crucial to recognizing and avoiding greenwashing.
- **Harness new technologies**: AI, natural language processing, Machine Learning can **increase speed and intelligence of tackling greenwashing** while also **measuring impact of a project**.
- **Cross-border cooperation and collaboration:** Collaboration between **companies, governments, non-governmental organizations, and other stakeholders** can help to promote sustainability and reduce Greenwashing.
- **Phase out fossil fuels and scale up renewable energy:** Will lead to real environmental benefits and achieving just transition.

5.8. CLIMATE AND CLEAN AIR CONFERENCE 2024

Why in the News?

The Climate and Clean Air Coalition's (CCAC) annual meeting, the Climate and Clean Air Conference, recently took place in Nairobi, Kenya.

More on the news

- The conference was held on the margins of **the Sixth Session of the United Nations Environment Assembly (UNEA-6).**
- **Objectives of the conference:** Highlighting ways **to further scale up implementation of the Global Methane Pledge, Clean Air Flagship and Kigali Amendment.**

Key outcomes of the CCAC Conference 2024

- **Launch of Clean Air Flagship:** To save lives and slow climate change by boosting cooperation and reducing pollutant emissions.
  - The programme is aimed at supporting governments to achieve cleaner air as quickly as possible, consistent with improved WHO air quality interim targets.

- **'Used Heavy Duty Vehicles (HDVs) and the Environment'** Report**:** Launched by the UNEP & the CCAC, outlines a roadmap for reducing sector's emissions through standardizing, monitoring, and greening strategies.
- **CCAC Technology and Economic Assessment Panel:** To help close the gap between technologies and finance by focusing on how to overcome barriers to scale up climate finance.
- **Launched a major cost of inaction study that** supports economic case to act on **short-lived climate pollutants (SLCPs)** to limit hazardous global warming and climate disasters.

What are short-lived climate pollutants (SLCPs)?

- They are powerful climate forcers that **remain in the atmosphere for a much shorter period of time** than carbon dioxide, yet their **potential to warm the atmosphere can be many times greater**.

Impact of SLCPs

- **Global warming**: SLCPs are the **second largest contributor** to human-caused climate warming after carbon dioxide, **contributing up to 45% of global warming to date.**
- **On Human Health:**
  - Exposure to ground-level ozone can cause inflammation of the lungs, asthma and allergies.
  - Black carbon is a primary contributor to both indoor and outdoor air pollution.
- **On weather patterns**: Tropospheric ozone influences cloud formation, thereby changing regional weather and, in particular, rainfall patterns.
- **Accelerated ice melt**: When deposited on ice or snowfields, black carbon reduces the albedo of these surfaces and leads to accelerated melting rates and atmospheric warming.
- **On Agriculture**: Tropospheric ozone harms vegetation by damaging leaves, reducing photosynthesis, impairing plant reproduction and growth, reducing plants' uptake of carbon dioxide (CO_2) and decreasing crop yields.

Climate and Clean Air Coalition

- **About:** Only **global alliance** dedicated **exclusively to the reduction of short-lived climate pollutants (SLCPs)**.
- **Genesis:** Founded in 2012 and convened within United Nations Environment Programme (UNEP).
- **Membership:** Voluntary partnership of over 160 governments, intergovernmental organizations, and non-governmental organizations.
  - **India** joined in **2019**.
- **Other Key information:**
  - Provides secretariat functions of the **Global Methane Pledge** (GMP), and the coordination group of the **Lowering Organic Waste Methane Initiative.**
    - GMP was launched at COP26 by the European Union and the United States with the aim to reduce global methane emissions at least 30% from 2020 levels by 2030.

Short-lived climate pollutants (SLCPs)

| Substance	Anthropogenic Sources	Lifetime in atmosphere
Black carbon (soot)	Fossil Fuels, Industrial Production, Agricultural and Waste Burning	4-12 days
Methane (CH4)	Agriculture, Fossil fuels, landfills, open dumps, and wastewater.	12 years
Tropospheric (or ground-level) ozone (O3)	**Secondary pollutant** formed by the interaction of sunlight with volatile organic compounds (VOCs) and nitrogen oxides (NOX)	few hours to a few weeks
Hydrofluorocarbons (HFCs)	Refrigeration, air-conditioning, insulating foams and aerosol propellants	15 years

Sector-wise solutions to reduce SLCPs

- **Agriculture**
  - **Promote farm-scale anaerobic digestion** to control methane emissions from livestock
  - **Eliminate open burning in agriculture** through regulation and farmer education to reduce black carbon.

- **Fossil fuels**
  - **Carry out pre-mining de-gasification** and recovery and oxidation of methane from ventilation air from coal mines.
  - **Improve flaring efficiency** in oil and gas production to reduce black Carbon.
- **Waste**
  - **Separate and treat biodegradable municipal waste**, and turn it into compost or bioenergy to mitigate methane.
  - **Improve and extend municipal waste collection** services and ban open burning of municipal waste to reduce black carbon.
- **Household energy: Replace traditional cooking with clean-burning modern fuel** and cookstove technology, such as solar, biogas, electricity to reduce black carbon.
- **Transport:** Adopt ultra-low sulphur diesel and minimum Euro 6/VI emission standards to mitigate black carbon.

5.9. METHANE EMISSIONS

Why in the News?

Recently, ISRO scientists released a first-of-its-kind comprehensive analysis paper on the methane emissions over multiple Indian locations using satellite data.

More about News

- Considering its **high global warming potential**, the monitoring of source locations is inadvertent.
- The study employed data from NASA's **Earth Surface Mineral Dust Source Investigation (EMIT)** and European Space Agency's **Sentinel-5P TROPOMI.**
  - The EMIT instrument measures **surface mineralogy,** targeting the **Earth's arid dust source regions**.
  - The TROPOMI instrument is a **space-borne, nadir-viewing, imaging spectrometer** covering wavelength bands between the **ultraviolet and the shortwave infrared.**
- This paper tries to showcase the **potential of spaceborne monitoring systems** to effectively identify and monitor methane point sources.
  - The advantage of using an imaging spectrometer is that it enables the **detection of highly localised sources of methane** which can be used for **identifying leaks coming** from very localised sources.

Key findings of the paper

- **Regional Emission hotspot: 17 unique plumes** were identified in the states of Maharashtra, Rajasthan, Punjab, Gujarat and Assam.
- **Emission source point:** Solid waste landfill sites, sewage treatment plant, wetlands/marshy agriculture, city sewage outlet, oil and gas field, oil refinery and textile industry.

> **Technologies for reducing methane emission from Paddy field**
> - ICAR under National Innovations in Climate Resilient Agriculture (NICRA) project has developed several **technologies with mitigation potential for methane from rice** field viz
>   - **System for Rice Intensification** – a management system for irrigated rice production in which **very young rice seedlings are planted singly** in a square grid pattern. The **soil is kept moist but well-drained** for the entire growing period.
>   - ✓ The technique has potential to **enhance rice yield from 36-49%** with about **22-35% less water** than conventional transplanted rice;
>   - **Direct Seeded Rice** – The system reduces methane emissions as it **does not involve** raising **nurseries, puddling and transplanting**.
>   - ✓ Unlike transplanted paddy cultivation, **standing water is not maintained in this system.**

- **Increase in Methane Emission from municipal solid waste landfills:** The net annual emission of India from municipal solid waste landfills is estimated to be 1084 Gg (Giga-gram) in 2015, whereas it was 404 Gg in 1999-2000.
- **Aids carbon emission:** Out of the total carbon emissions in India, **14.43% is attributed to CH4**.
  - The **major share** of this percentage is contributed by **enteric fermentation and rice cultivation areas** of agriculture.

About Methane

- Methane (CH4) is a hydrocarbon that is a **primary component of natural gas.**
- It is also a **potent greenhouse gas** (GHG) responsible for **approximately a third of the warming** being experienced today.

- It is a **powerful and short-lived (GHG)**, with a **lifetime** of **about a decade** and a **Global Warming Potential about 80 times greater** than that of carbon dioxide (CO2) **during the 20 years after it is released into the atmosphere (IPCC).**
- **Methane emissions lead to ground-level ozone pollution** which causes approximately a million premature deaths per year globally, reduces crop productivity and harms ecosystems.
- The **majority of human-driven methane emissions** come from **three main sectors**:
  - **Agriculture** (40%): Enteric fermentation from livestock rearing and rice cultivation.
  - **Fossil fuels** (35%): Leakage from natural gas, oil and gas field, mining, etc.
  - **Solid waste and wastewater (**20%): Dumpsites, landfills, etc.
- **Proven technologies and practices** could reduce emissions from the major sectors **by approximately 45% by 2030**.
  - **Most** of these technical solutions can be implemented at a **negative or low cost, especially in the fossil fuel and waste sectors.**
- **Potential of spaceborne monitoring for methane emission**: **Generally** accurate quantification of anthropogenic emission sources including solid waste disposal sites, O&G industry, mining areas, etc. is **challenging due to constantly changing conditions and management practices.**
  - **Remote sensing** of these vulnerable sources allows for **top-down monitoring of emissions** and can provide valuable information on the dynamics of methane emissions.
  - Imaging spectrometer enables **detection of highly-localised sources of methane** which can be used for identifying leaks coming from very localised sources.

Limitation of spaceborne monitoring systems

- **Spectral interference:** Methane has **spectral absorption bands overlapping with** other atmospheric constituents, particularly **water vapour.**
  - Differentiating the spectral signatures of methane from those of other gases can be challenging, especially in humid environments.
- **Low spatial and temporal resolution:** Instruments like TROPOMI, SCIAMACHY, AIRS, GOSAT designed **for global methane monitoring** and do not have the spatial resolution necessary to detect small-scale methane sources or to pinpoint exact emission locations.
  - **Low Temporal Resolution or frequency of revisit**, making it difficult to monitor rapid changes in methane emissions
- **Ground based validation:** While both spaceborne and airborne imagery requires ground-based measurements that are essential but can be resource-intensive.
  - Even if methane is detected, **determining its source can be challenging without additional data.**
- **Instrumental limitations: Instruments** (whether ground-based or on remote platforms) have detection limits, sensitivities, and specificities that can constrain their ability to reliably detect methane under all conditions.
- **Atmospheric variability:** Satellites might **miss methane emissions from regions** that are **frequently cloudy.** Since, **methane** has a **relatively short atmospheric lifetime,** which means its concentrations can vary rapidly in time and space.
- **Temporal measurement: Methane** has a **relatively short atmospheric lifetime,** which means its concentrations can vary rapidly in time and space.
  - This variability requires **frequent and accurate measurements** to understand and manage emissions effectively
- **Background Methane Concentration**: since methane is present throughout the atmosphere, detecting localised increases or 'plumes' requires distinguishing these from the background levels. This can be particularly challenging for small emissions or in regions with high background methane concentrations.

Way ahead

Data integration is one major focus where combining data from various sources, including satellite, airborne, and ground-based measurements, **can provide a more complete and accurate picture of methane emissions** for very local to global level. **Advances in sensor technology, data analytics, and international cooperation are critical** to improve our ability to detect, quantify, and manage methane emissions.

- **Global initiatives**
  - **International Methane Emissions Observatory (IMEO):** Launched by UNEP to provide **open, and actionable** data to to reduce methane emissions.
    - ✓ **Methane Alert and Response System (MARS):** Launched under IMEO, MARS is the **first global satellite detection and notification system** providing actionable data on very large methane emissions around the world.
  - **Global Methane Pledge:** Attempt by **150 countries**, led by the EU and US to cut methane emissions **by at least 30% by 2030** from 2020 levels (Not signed by India).
  - **Oil & Gas Methane Partnership Initiative**: The flagship oil and gas reporting and mitigation programme of the UNEP and the Climate and Clean Air Coalition (CCA) in 2014.
  - **Global Methane Alliance (GMA):** Launched by UNEP and CCAC to Significantly Reduce Methane emissions in the Oil and Gas Sector by 2030.
- **India**
  - **National Mission on Sustainable Agriculture (NMSA)**
  - **Gobar (Galvanizing Organic Bio-Agro Resources) –Dhan' scheme**
  - **New National Biogas and Organic Manure Programme**

5.10. SOLAR ROOFTOP POWER

Why in news?

Recently, Union Cabinet has approved - **PM Surya Ghar Muft Bijli Yojana** for installing Rooftop Solar in one crore households nationwide.

About PM Surya Ghar Muft Bijli Yojana

- **Key Highlights of Scheme**
  - **Ministry:** Ministry of New & Renewable Energy.
  - **Aim:** To provide **free electricity up to 300 units every month for one crore households**.
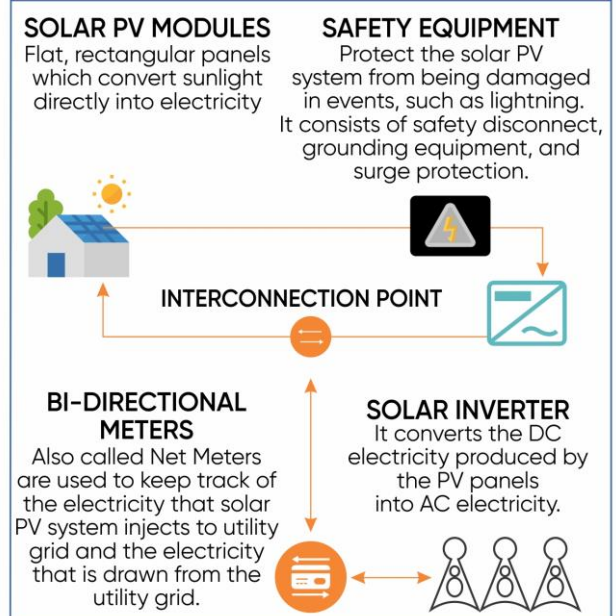 - **Subsidy structure:** Central Financial Assistance for Residential Rooftop Solar (RTS) up to:

Suitable Rooftop Solar Plant Capacity	Subsidy Support
1 – 2 kW	Rs 30,000 to Rs 60,000/-
2 – 3 kW	Rs 60,000 to Rs 78,000/-
Above 3 kW	Rs 78,000/-

  - **Loan for installation of residential RTS:** Households can access **collateral-free low-interest loan** products of around **7% for installation of RTS systems up to 3 kW.**
- **Other features of the scheme**
  - **Model Solar Village: It will be developed in each district** of country to act as a role model for adoption of rooftop solar in rural areas.
  - **Incentives to Local Bodies:** Incentives for Urban Local Bodies and Panchayati Raj Institutions for promoting RTS installations in their areas.
  - **National Portal:** It will facilitate household **to apply for subsidies** and **select a suitable vendor** for installing rooftop solar.
  - **Component for payment security for Renewable Energy Service Company**

Solar Rooftop Components

SOLAR PV MODULES
Flat, rectangular panels which convert sunlight directly into electricity

SAFETY EQUIPMENT
Protect the solar PV system from being damaged in events, such as lightning. It consists of safety disconnect, grounding equipment, and surge protection.

INTERCONNECTION POINT

BI-DIRECTIONAL METERS
Also called Net Meters are used to keep track of the electricity that solar PV system injects to utility grid and the electricity that is drawn from the utility grid.

SOLAR INVERTER
It converts the DC electricity produced by the PV panels into AC electricity.

Other Initiatives to Promote Solar Energy
- **Grid Connected Solar Rooftop Programme:** Launched by Ministry of New & Renewable Energy to **achieve a cumulative installed capacity of 40,000 Megawatt (MW) by March 2026** from Grid Connected Rooftop Solar (RTS) projects.
- **Production-linked incentive scheme under National Programme on high efficiency Solar PV Modules**: It aims to build an ecosystem for manufacturing of high efficiency solar PV modules in India and thus **reduce import dependence.**
- **Solar Park Scheme:** To **establish Solar Parks** which act as **hubs for solar energy generation, attracting investments** and fostering conducive environment for solar power development.
- **Pradhan Mantri Kisan Urja Suraksha evam Utthaan Mahabhiyan (PM-KUSUM):** It aimed to achieve solar power capacity addition of 34.8 GW by March 2026.
- **Pradhanmantri Suryodaya Yojana**: It aims to **provide electricity to low and middle-income individuals through solar rooftop** installations.

(RESCO) based models as well as a fund for innovative projects in RTS.

- **Significance of PM Surya Ghar Muft Bijli Yojana:**
  - **Savings:** 1 crore families will **save Rs 15000 crore annually** through reduced electricity bills.
  - **Income Generation:** Households can earn income **by selling surplus power to electricity Distribution Companies** of their area.
  - **Expansion of Solar Capacity:** Scheme will result in **addition of 30 GW of solar capacity** through RTS in residential sector.
  - **Job creation:** Scheme will enable **more EV charging and create entrepreneurship opportunities** for a large number of vendors.
  - **Significant reduction in carbon emissions**: Reduction of **nearly 720 million tonnes of CO2** equivalent emissions.
  - **Fosters India's goal of becoming self-reliant in energy sector.**

About Solar Rooftop System

- Rooftop solar panels are the **photovoltaic panels installed on the roof of a building** which is connected to the **main power supply unit.**
  - A solar rooftop system typically consists of **solar modules, solar inverter(s) and other electrical components** like meter(s), cables etc.
  - Solar rooftop panels **capture the energy from sunlight and convert it into usable electrical energy**.
- **India's Current Rooftop Solar Capacity**
  - Currently, India has **installed 11 GW of rooftop solar capacity**, of which **2.7 GW is in the residential sector**.
  - **Gujarat is the leader in Rooftop Solar installations (82%)** in the country, followed by Maharashtra and Rajasthan.

Challenges for scaling up Solar Rooftop System

- **Grid integration**: **Grid stability, and energy storage due to variability and unpredictability of solar energy.**
  - For example, climatic factors (temperature and solar irradiation) directly affect solar power generation.
- **High cost: Lack of Research & Development, modern development facilities**, and **manufacturing infrastructure** impact the development of solar panels, equipment, and inverters. This further leads to **increased imports from other countries**, thereby increasing the cost of the system.
- **Low DISCOMs participation:** Rooftop solar systems reduce the bill generated by high-paying consumers for the DISCOMs; hence, their participation in promoting the system is low.
- **Low net metering:** Poor and piecemeal implementation of net metering policies at the sub-national scale is a major roadblock to the uptake of rooftop solar in India.
  - Net metering is an arrangement under which rooftop solar PV system installed at consumer premises delivers surplus electricity, if any to the distribution licensee.
- **Lack of awareness:** There is a general **information asymmetry and, lack of knowledge** about specific products, processes, and approval systems inherent with solar rooftop systems.

Way forward

- **Time-bound approval** and commissioning processes for deployment of solar rooftop.
- **Third-party inspectors** from reputed, empanelled, and inspection agencies to address grid integration challenges.
- **Improving Grid Infrastructure** by increasing grid availability and quality in semi-urban and rural areas, especially during peak sunshine hours.
- **Modifying the net metering policies** and removal of capacity constraints.
- **Single-window facility** for the entire ecosystem of rooftop PV deployment.

5.11. CLIMATE RESILIENT FARMING

Why in the News?

Standing Committee on Agriculture, Animal husbandry and Food processing presented **'Promotion of Climate Resilient Farming' Report.**

Key-highlights of the report

- **Climate Change in India**
  - **Increase in Temperature:** Increased approx by **0.7 °C** between **1901 and 2018.**
  - **Warming of the Indian Ocean:** The average Sea Surface Temperature (SST) increased by **1 °C** (globally 0.7 °C) from **1951 to 2015.**
  - **Changes in Rainfall:** Experienced a decline of approx **6%** between the years **1951 and 2015**, particularly noticeable over the **Indo-Gangetic Plains and the Western Ghats.**
  - **Increase in Droughts:** In regions such as **Central India**, the **South West coast,** the **Southern Peninsula**, and **North-Eastern**.
- **Impact of Climate Change on India agriculture**
  - **Crops:** Projected decline **in rainfed rice, wheat, kharif maize** yields by **2050.**
    - ✓ Other crops such as **chick pea, cotton and pigeon pea** are projected to have **beneficial effects** due to **reduced frost events.**
  - **Horticulture:** It is also predicted there will be a **shift in crop zones of Apple** and other **temperate crops.**
    - ✓ **Flooding** significantly affects **tomato** and **onion cultivation.**
  - **Livestock:** The estimated **annual milk loss** due to **heat stress** in **cattle and buffalo** in India is about **1.8–2 million tonnes.**
    - ✓ Impact on **animal health** by the emergence and re-emergence of **infectious diseases**, particularly transmitted by **vectors, parasites, and protozoa.**
  - **Fisheries:** According to the IPCC, If **Sea Surface Temperature (SST)** increased there will be reduction in **plankton concentrations** in coastal waters, which could have a **negative impact** on overall population of **fish larvae and adult fish**.
    - ✓ The fish species earlier available **only in the middle stretch of the river Ganga**, are **now available in the colder stretch of the river around Haridwar** due to increase in river water temperature.

> **Impact of agriculture on climate**
> - Agriculture sector emitted about **14%** of the emissions of India**.**
>   - Emission of **Green House gases** (GHGs) like **methane** (CH4) and **nitrous oxide** (N2O) constitute a significant portion.
>   - Major share of GHG emissions was due to **enteric fermentation** (54.6%), followed **by rice cultivation** (17.5%), fertilizer applied to **agricultural soils** (19.1%), **manure management** (6.7%) and field burning of **agricultural residues** (2.2%).
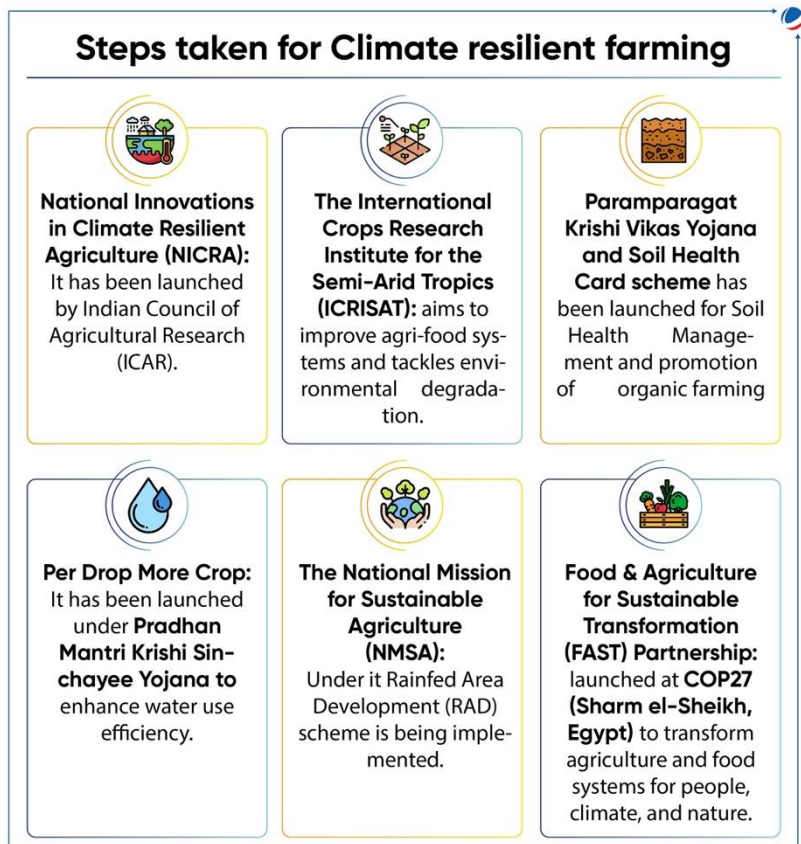
About Climate Resilient Farming

- It means the incorporation **of adaptation, mitigation and other practices in agriculture** which increases the **capacity** of the system to respond to various climate related disturbances by resisting damage and recovering quickly.
- It will essentially involve **judicious and improved management** of natural resources viz., **land, water, soil and genetic** resources through adoption of best practices.
- **Significance:**
  - Reduces **hunger and poverty** in the face of climate change for **forthcoming generations.**
  - **These practices** can alter the current situation and sustain agricultural production from the local to the global level.

Challenges in adopting Climate Resilient Farming

- **Multidimensional intervention:** It involves operating across various scales, making interventions a complex undertaking.
  - Also, **diverse stakeholders require collaboration** between teams with varied backgrounds and methods, posing human resource and policy challenges**.**
- **Skill issues:** Lack of knowledge and training due to weak extension services (research-farmer linkages), skill gaps and large-scale illiteracy amongst the farmers.
- **Structural issues:** Over dependence on rainfall, inadequate supply of seeds, fragmentation of land holding and inadequate post-harvest infrastructure.
- **Delayed benefits:** Some practices **take time** to show results, which requires sustained motivation and support.
- **Policy issues:** Policies like Minimum Support Price (MSP) and subsidised fertilisers leads to **monocultures,** excessive extraction of **water,** loss of **soil health,** and destruction of **natural pollinators.**

Way Forward

- **Creation of Single Nodal Agency at National Level**: Issues related to Climate Change and its effects impacting agricultural needs to be handled by a **single Authority** at the National level**.**
- **Strategies and technologies for climate change adaptation:**
  - **Technology:** AI-driven analytics and decision support systems will aid farmers in making **informed choices** regarding weather patterns and soil conditions. For **e.g.,** Weather Information Network Data System (WINDS)
  - **Adoption of heat tolerant varieties:** for **e.g.,** Adoption of HDCSW-18, DBW-187 (wheat varieties) etc. by Punjab farmers and improved **varieties of rice** (CR Dhan 201, NICRA Aerobic Dhan 1, CR Dhan 412 etc.)
  - **Better Livestock Feed management:** Some feeding methods include **altering feeding time or frequency** and **modification of diet composition**, and **training producers** in production and conservation of feed for various ago-ecological zones**.**
  - **Water management**: For **e.g.,** groundwater recharge techniques; adoption of scientific water conservation methods; altering the fertilizer and irrigation schedules; adjusting the planting dates etc.
- **Upscaling of proven Resilient Practices:** For **e, g.,** nation-wide adoption of **Climate Resilient Villages (CRVs)** models established under the NICRA project.
- **Implementation of measures related to GHG reduction from Agriculture:** For e.g., System for Rice Intensification (SRI) has the potential to increase rice yield **by 36-49%** while using **22-35% less water**.
- **Awareness at Panchayat level**: An aware **Sarpanch** will act as a **force multiplier** and in turn educate the farmers who are the **front-line warriors** about the effects of Climate Change on Agriculture.

Steps taken for Climate resilient farming

National Innovations in Climate Resilient Agriculture (NICRA): It has been launched by Indian Council of Agricultural Research (ICAR).

The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT): aims to improve agri-food systems and tackles environmental degradation.

Paramparagat Krishi Vikas Yojana and Soil Health Card scheme has been launched for Soil Health Management and promotion of organic farming

Per Drop More Crop: It has been launched under **Pradhan Mantri Krishi Sinchayee Yojana to** enhance water use efficiency.

The National Mission for Sustainable Agriculture (NMSA): Under it Rainfed Area Development (RAD) scheme is being implemented.

Food & Agriculture for Sustainable Transformation (FAST) Partnership: launched at **COP27 (Sharm el-Sheikh, Egypt)** to transform agriculture and food systems for people, climate, and nature.

5.12. INDIAN GHARIAL

Why in the News?

After 75 years, officials of the Forest Department confirmed the presence of Indian Gharial in Greater Kaziranga.

About Gharial

- **Scientific Name:** *Gavialis gangeticus*
- **Conservation status:**
  - **IUCN:** Critically Endangered
  - **Wildlife (Protection) Act, 1972:** Schedule I
  - **CITES:** Appendix I
- **Characteristics**
  - Gharial **derives its name from ghara**, an Indian word for pot because of a **bulbous knob** (narial excrescence) present at the end of their snout.
  - Only mature males have this bulb.

- o **Gharials exhibit sexual dimorphism** — or differences in characteristics between males and females of the same species — in both size and appearance.
  - o Unlike other crocodiles, the **gharials feed on warm-blooded species** and even the largest gharial adults feed exclusively on fish.
  - o Gharials are not man-eaters. Its jaws make it **physically incapable of devouring any large mammal**, including a human being.
- **Habitat:**
  - o Gharials **reside exclusively in river habitats** with deep, clear, fast-flowing waters and steep, sandy banks.
  - o Females lay their eggs in steep, sandy river banks.
- **Distribution:**
  - o Historically, the Gharial range spanned to **Indus, Ganga, Brahmaputra and Mahanadi-Brahmani-Baitrani River systems** of India, Bhutan, Bangladesh, Nepal and Pakistan.
  - o **Currently,** their major population occurs in **three tributaries of the Ganga River: the Chambal and the Girwa Rivers in India and the Rapti-Naryani River in Nepal.**
    - ✓ Small populations are also found in the Ken River, Yamuna River, Brahmaputra River, Ghaghara River and Bhagirathi-Hoogly River.
- **Major Threats:** Alteration of habitat, Depletion of prey base due to increased intensity of fishing, destruction of the habitat, harvesting of eggs and poaching for the use of its body parts as medicines etc.
- **Conservation Efforts:**
  - o **Project Crocodile was started in 1975** with the aid of the United Nations Development Programme and FAO.
  - o **The Gharial reserves** of India are located in **three States – Uttar Pradesh, Madhya Pradesh and Rajasthan.**
  - o In collaboration with the University of Tokyo, **Japan and WWF-India has initiated a study on Gharial Bio-logging Science** to understand the underwater behaviour and surrounding habitat of a free-ranging gharial.

5.13. TRIPLE DIP LA-NINA

Why in the News?

A recent study has revealed that the unprecedented **triple dip La-Niña** had peculiar impact on air quality in peninsular as well as North India.

More on News

- The recent triple-dip **La Niña conditions** (2020–2023) had **widespread impacts on the ocean and climate** across the globe.
- During the **winter of 2022–23** that coincided with **retreating phase** of the **triple dip La-Niña, India** experienced a **peculiar trend in Air Quality:**
  - o **Poor Air quality in peninsular India:** The **dominance of higher northerly wind** in the transport level **forces influx and relatively slower winds** near the surface, trapping pollutants and notably increasing PM2.5 concentration.
  - o **Improved Air quality in North India: Weaker western disturbances,** and unique wind patterns with the **absence of rain and clouds** and faster ventilation led to a significant **improvement in air quality in the North.**
- **Observations were contrary to trends** seen in recent decades, where in winter northern parts of country witness increased pollution levels.
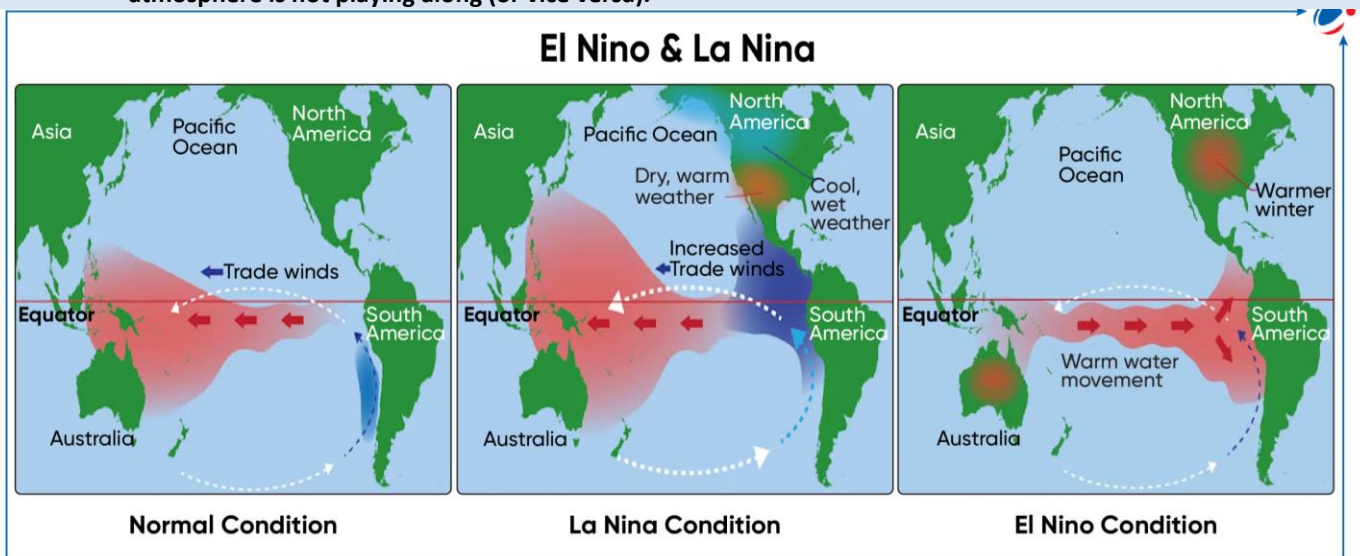
About Triple dip La Niña

- A triple-dip La Niña is a **rare event** that occurs when the **La Niña effect lasts three years in a row.**
- La Niña is a phase of the **El Niño Southern Oscillation (ENSO).**

About El Niño Southern Oscillation (ENSO)
- ENSO is a naturally occurring large-scale **climatic phenomenon** involving **fluctuating ocean temperatures** in the **central and eastern equatorial Pacific (referred as El Niño and La Niña)**, coupled with **changes** in the overlying **atmosphere (referred to as Southern Oscillation).**
- **ENSO has 3 phases**
  - o **La Niña**: A cooling of the ocean surface with **below-average sea surface temperatures (SST),** in the central and eastern tropical Pacific Ocean.

- ✓ La niña **causes the jet stream to move northward and to weaken over the eastern pacific.**
- ✓ The **normal easterly winds** along the equator **become even stronger.**
- ✓ In general, the **cooler the ocean temperature anomalies**, the **stronger the La Niña** (and vice-versa
- ✓ **Impacts:**
  - ▪ It enhances the nutrient-rich **cold water up-welling off the coast of Peru and Ecuador.**
  - ▪ It causes **better than normal Monsoon in Ind**ia and sometimes may also cause floods.
- o **El Niño:** It is the **reverse of La Niña.** A warming of the ocean surface with **above-average SST,** in the central and eastern tropical Pacific Ocean.
  - ✓ Easterly winds along the equator **weaken** or in some cases reverse to **westerly winds.**
  - ✓ In general, the **warmer the ocean temperature anomalies**, the **stronger the El Niño** (and vice-versa).
  - ✓ **Impacts**
    - • It results in **suppression** of the nutrient-rich **cold water up-welling off the coast of Peru and Ecuador.**
    - • It weakens the Indian Monsoon and may also cause to drought.
- o **Neutral:** Neither El Niño or La Niña. Often **tropical Pacific SSTs** are generally **close to average**.
  - ✓ However, there are **some instances** when the ocean can look like it is in an **El Niño or La Niña** state, but the **atmosphere is not playing along (or vice versa).**

El Nino & La Nina

Normal Condition | La Nina Condition | El Nino Condition

- • While **ENSO cycles** typically last **9-12 months** and reappear intermittently every 2-7 years, **triple-dip La Niña** conditions persist for **three successive years.**
  - o Earlier the triple-dip La Niñas happened in **1998-2001, 1973-1976, and 1954-1956.**

Factors responsible for the uniqueness of the triple-dip La Niña of 2020–2023

- • The 2020–2023 triple-dip La Niña was **distinct as it did not follow a strong El Niño**, causing researchers to reevaluate current understanding of development of extended La Niñas.
  - o So far, it was believed that **strong El Niños** cause a **significant loss of heat** from **the equatorial Pacific Ocean to the atmosphere** and to **higher latitudes**.
    - ✓ This creates a **large ocean heat deficit** that can **take years to recover**.
- • **Possible explanation for 2020-23 Triple dip La Niña**
  - o **Inter-basin interaction of ENSO:** ENSO – which was previously thought to be driven by processes primarily occurring within the tropical Pacific Ocean basin – is **more susceptible to inter-basin interaction**s involving the **Indian and Atlantic Oceans**.
  - o **North and South Pacific Ocean**: Many recent studies have also argued that **influences from the North and South Pacific Ocean** may play an important role in promoting prolonged La Niña events.
  - o **Bush fire in Australia:** It has even been suggested that **smoke from the extensive Australian bushfires in 2019– 2020** may have helped to trigger the recent La Niña.
  - o **Climate change:** A recent comparative study of the **1998–2001 and 2020–2023 triple-dip La Niñas** concluded that **changing conditions** in the tropical Pacific Ocean and atmosphere, **possibly due to climate change**, could **be altering the character of El Niño and La Niña events.**
    - ✓ Such changes could be tilting the odds towards **more strong multi-year La Niña events.**

Conclusion

The 2020–2023 triple-dip La Niña and recent studies on it underscore the idea that **there may be significant sources of ENSO variability** originating outside the tropical Pacific Ocean and that we need a more global approach for understanding and predicting ENSO cycle variations.

5.14. CROWD DISASTER MANAGEMENT

Why in the news?

Recently a platform at Delhi's Kalkaji temple collapsed leading to injuries to many people including one death.

About crowd disaster

- A **crowd** is a **group of people gathered together usually for a common purpose** based upon emotions.
- **Crowd movements** involve a combination of **voluntary and involuntary forces:**
  - **Voluntary force:** When crowd density is **optimal**, people's movement is governed by **social force** (a physical response to a social interaction) which is a voluntary force.
  - **Involuntary:** When crowd density is **critical**, people's movement is governed by **involuntary forces** which includes pushing each other in a tightly packed situation.
    - ✓ Such **uncoordinated rush or push of people**, may result in **crowd disaster or stampede.**
- Majority of the crowd disasters in India have occurred at **religious places, venues of music concerts, night clubs and shopping malls.**

Do you know?

> The **worst stampede** in recorded history took place in **Chongqing** (China) during World War II when Japanese Bombed the city in June, 1941, which triggered mass panic at an air raid shelter, killing approximately 4,000 people.

Factors that may prompt crowd disasters are as follows

- **Structural:** Disaster caused by collapse of structures. Example, **Morbi Bridge Collapse** across Machchhu River in Gujarat.
- **Fire/Electricity:** Fire in the habitation or a shop, non-availability of fire extinguisher, short circuit from electrical generator, etc. Example, **Uphaar Cinema Fire in 1997** that happened due to fire code violations.
- **Administrative or Managerial Measures:** Underestimation of audience/staffing/services, closed/locked exit, sudden opening of entry door, etc.
- **Crowd Behaviour:** Mad rush to exit/parking space, last minute change in platform for train arrival/departure, etc. Example, **stampede at the Mahakumbh Mela in 1954.**

Disaster Management in India
- India has a well-defined administrative structure for **managing disasters extending up to the village level.**
- **Central Government has supportive role** for physical and financial resources and **complementary role** in for transport, early warning systems, etc.
- **Disaster Management Act 2005**, provides **three-tier institutions** for disaster management:
  - **National Disaster Management Authority (NDMA):** Headed by the Prime Minister, and mandated to lay down the policies, plans and guidelines for Disaster Management.
  - **State Disaster Management Authorities (SDMAs):** Headed by respective Chief Minister, and has mandates similar to that of NDMA's.
  - **District Disaster Management Authority (DDMAs):** Headed by District Magistrate/ District Collector; mandated to act as the district planning, coordinating and implementing body for disaster management.
- The Act also establishes **National Institute of Disaster Management** (NIDM) as a premier institute **for capacity development** in Disaster Management.

- **Security:** Security agency firing/teargas/using force leading to panic, weapon brandished in the crowd, Ineptitude of the police in effectively enforcing prohibitory orders, etc.
  - **Example Seoul crowd tragedy (2022)** happened primarily due to lack of safety precautions and other police errors.
- **Lack of coordination among stakeholders:** Such as lack of understanding of **range of duties entrusted, communication delays, coordination gap** between agencies, etc.

Crowd Management

- **Risk management planning**
  - The first aim of any Crowd Management process is to **prevent a serious situation from developing**.

- o Fruin, a renowned theorist in crowd behaviour, suggested **FIST** model to better understand the crowd behaviour and the causes of Stampede. FIST refers to
  - ✓ **F:** Crowd Force
  - ✓ **I:** Information upon which the crowd acts;
  - ✓ **S:** Physical Space involved, both in terms of individual density and larger scale architectural features;
  - ✓ **T:** Time the duration of the incident.
- o This model is **usefu**l for **venue operators and event organisers** when developing proactive **strategies to address** the four elements of the model **during event risk management planning.**
- **Governance**: As crowd disasters are **local events**, its management is **primarily the responsibility of the organizers and local/district administration** with support, guidelines from the state and the national authorities.

NIDM's Crowd Management Strategies and arrangement

- **Understanding visitors and stakeholders:** Knowing **crowd type** of (age, gender, region, etc.), **Motives of visitors** (social, entertainment), arrangement to provide timely information to **the media personnel.**
- **Crowd management strategies and arrangement**
  - o **Capacity Planning:**
    - ✓ **Infrastructure:** Long term perspective is needed for **infrastructure development** and will depend on popularity, periodicity of event, weather, terrain, local population etc.
    - ✓ **Staging Points (queue complex):** Plan for **physical or virtual locations** through which each **visitor must pass**
    - ✓ **Multiple routes** to facilitate movement of vulnerable groups such as children, women, etc.
  - o **Understanding Crowd Behaviour:** Individual behaviour in a crowd is often influenced by behaviour of others. It is therefore essential to **identify and separate trouble creating persons** at the earliest.
    - ✓ Research has shown that understanding of crowd behaviour has led to **community-based approach to crowd control** instead of force based control.
  - o **Crowd Control:** Crowd control enforces or restores order by **restricting or limiting group behavior. For this:**
    - ✓ Ensure **high visibility of crowd controlling Staff**, **involve various stakeholders** including **organizers/Temple trusts, Law enforcement agencies**, **Community stakeholders** (NGOs, Business Associations, etc.).
- **Risk Analysis and preparedness: Mock drills of the plan implementation** may also lead to **identifying the gaps** in arrangements and fix them in advance.
- **Other measures**
  - o **Timely Information Management and Dissemination among stakeholders**
  - o **Safety and security measures like** CCTV monitoring of entire crowd, special plan for VIPs, ensure fire safety standards, etc.
  - o **Health, Hygiene and Medical Services as** Immediate medical attention after a fatal incident can save life.
  - o **Use public transportation as much as possible** and minimize the impact of undesired crowd and traffic.

Challeneges to Effective Crowd Managment

Sense of urgency in Crowd toward an entry point causing Mob Craze/Rush.

Fatigue experienced by congregated crowd due to delay and time lapse can create Stampede.

Environment Catastrophe e.g. earthquake, Flood during an event can lead to crowd disaster.

Rumour and False information during an crowd event can possibly lead to riots, agitation or anarchy.

Constitutional and Legal Provisions regarding Crowd Management

Article 19: Article 19 (1) (b) provides citizens **right to assemble peacefully and without** arms. However, **under Article 19(3) the** Government can impose reasonable restrictions on such right.

Police Act of 1861: Lays down **conditions** that may be **imposed for regulating lawful processions** and assemblies to prevent public inconvenience.

Disaster Management Act 2005: Deals with vehicular and human traffic, and other areas **related to crowd management.**

Conclusion

Recurring stampedes at places of mass gatherings, which include religious places, railway stations and venues of sports/social/ political events, are of serious concern to the nation. However, since crowd disasters are essentially man-made, they can be prevented with holistic planning and efficient execution.

5.15. NEWS IN SHORTS

5.15.1. NITI AAYOG LAUNCHES GROW REPORT AND PORTAL

- NITI Aayog unveiled the Greening and Restoration of Wasteland with Agroforestry (GROW) report.
- Report emphasizes potential of **converting wastelands into productive agroforestry zones.**
  - It employed **remote sensing and GIS techniques** to evaluate the **suitability of agroforestry practices** across all districts of India and introduced an **Agroforestry Suitability Index (ASI)** for national-level prioritization.
  - NITI Aayog also launched **"GROW-Suitability Mapping" portal on Bhuvan (a geoportal of ISRO)** for ensuring universal access to state and district-level data.
- **Wastelands** are lands which are unproductive, unfit for cultivation, grazing and other economic uses.
  - According to **Wasteland Atlas of India 2019,** wastelands constitute **16.96% of geographical area** of India in 2015-16.

India's Initiatives for Agroforestry

- **National Agroforestry Policy in 2014**
- **Sub-Mission on Agro-forestry** under National Mission for Sustainable Agriculture
- Agroforestry component under **Rashtriya Krishi Vikas Yojana**
- India joined **Bonn Challenge pledges** to bring into restoration 13 million hectares (mha) of degraded and deforested land by the year 2020.

- **Agroforestry** is a collective name for land-use systems where **trees are managed together with crops and/or animal production systems** in agricultural settings.
  - Presently, agroforestry covers **8.65% of India's total geographical area.**

- **Three main types:**
  - ✓ **Agrisilvicultural** systems are a combination of crops and trees.
  - ✓ **Silvopastoral systems** combine forestry and grazing of domesticated animals on pastures or on-farm.
  - ✓ **Agrosylvopastoral** systems where trees, animals and crops can be integrated.
- **Significance of Agroforestry**
  - **Mitigating climate change** through microclimate moderation and carbon sequestration
  - **Enhancing productivity**, soil fertility and conserving soil
  - Optimizing **use of arable land.**

5.15.2. TERAI ARC LANDSCAPE (TAL)

- Terai Arc Landscape (TAL) recognized as the **United Nation World Restoration Flagship.**
- Along with TAL, 6 other initiatives have been recognised (refer to infographics).
  - Recognized initiatives will be eligible for technical and financial UN support.
  - In 2022, **Namami Gange initiative** has been also recognized under it.
- **About Terai Arc Landscape (TAL)**
  - A Trans-boundary biodiversity hotspot, launched in 2001.
    - ✓ **TAL** is **Critical habitats** for **tigers,** rhinos, elephants, etc.
  - Aims to conserve ecosystems of the **Terai** and **Churia hills.**
    - ✓ Covers several protected areas such as Corbett Tiger Reserve, Rajaji National Park etc.
  - Extend over 900 km from the **Bagmati River (Nepal)** in the **east** to the **Yamuna River (India)** in the **west.**
    - ✓ Stretching across 5.10 million hectares and over seven million people depend on the Landscape.
- **About World Restoration Flagship (commenced in 2022)**
  - Recognized under the **UN Decade on Ecosystem Restoration (2021-30).**
  - Led by **UN Environment Programme (UNEP)** and the **Food and Agriculture Organisation** (FAO) and other partner organisation.
  - **Objective**: Prevent, halt, and reverse the degradation of ecosystems on every continent and in every ocean.
  - **Selection Criteria**: On the basis of Geographic and probability of success criteria.

- o Progress is monitored through the **Framework for Ecosystem Restoration Monitoring.**

Recognized other Six World Restoration Flagships initiatives

- Restoring Mediterranean Forests Initiative
- Living Indus initiative
- Acción Andina Initiative
- Sri Lanka Mangrove Regeneration Initiative
- Regreening Africa initiative
- Forest Garden Program

5.15.3. GLOBAL ENVIRONMENT FACILITY (GEF) COUNCIL MEETING

- First Global Environment Facility (GEF) Council meeting of **Global Biodiversity Framework Fund (GBFF) held in United States.**
- **GBFF** aims to scale up **financing** for **implementation of Kunming-Montreal Global Biodiversity Framework (KMGBF)**.
  - o **Ratified by 186 countries** and **launched in 2023 at Seventh GEF Assembly in Vancouver, Canada.**
  - o **Decisions of GBFF Council** are to be taken by **consensus.**
  - o **World Bank** invited to serve as **Trustee of GBFF**.
- **Key highlights of meeting**
  - o GEF's member government have **agreed to invest $1.1 billion for international action on biodiversity**, climate change, nature renewal, and pollution control.
  - o They **endorsed $203 million for 21 climate change adaptation projects** funded by Least Developed Countries Fund and Special Climate Change Fund.
  - o **Spain announced 10 million euros to GBFF**, adding to contributions announced by Canada, United Kingdom, Germany, and Japan.

- o **GBFF Resource Allocation Policy** and **Project Cycle Policy** were approved to allocate donor funds based on availability.
- **About KMGBF**
  - o **Adopted at COP15 (held in Montreal)** to UN Convention on Biological Diversity.
  - o KMGBF has **set 23 targets to be achieved by 2030** which include **30% conservation of land and sea, 50% reduction of invasive species,** raising at least $200 billion per year etc.

About GEF — Washington D.C.

- **Genesis:** Established in **1992 Rio Earth Summit,** it is a **partnership of 18 agencies** to address world's most challenging environmental issues.
- **Membership:** GEF has 186 member countries — is India a member ✓
- **Governance:** GEF's main governing body i.e. Council comprises **32 members appointed by constituencies of GEF member countries** (14 and 16 from developed and developing countries respectively, and 2 from economies in transition).
- **Functions:** GEF serves as a "**financial mechanism**" to five conventions:
  - Convention on Biological Diversity.
  - UN Framework Convention on Climate Change.
  - Stockholm Convention on Persistent Organic Pollutants.
  - UN Convention to Combat Desertification.
  - Minamata Convention on Mercury.

5.15.4. SPECIES THREAT ABATEMENT AND RESTORATION (STAR) METRIC

- STAR metric, **developed by International Union for Conservation of Nature (IUCN)** in partnership with

other organizations and experts, has been expanded for use in marine areas.
- o It was first unveiled in **2021 for use in terrestrial areas**.
- **The STAR metric** utilizes existing data from **IUCN Red List of Threatened Species** to quantify extinction risks and threats faced by species.
  - o STAR assesses the **potential of specific actions at specific locations to contribute to international conservation targets**.
  - o STAR estimates the contribution of two kinds of action – **threat abatement and habitat restoration.**

5.15.5. CONSERVATION RESERVE

- Telangana's State Board for Wildlife (SBWL) approved the corridor area between **Tadoba-Andhari Tiger Reserve** (Maharashtra) and **Kawal Tiger Reserve** (Telangana) as a **conservation reserve**.
  - o **SBWL** is established under the **Wildlife (Protection) Amendment (WPA) Act, 2002**, headed by Chief Minister or Administrator in case of UT.
- **About Conservation Reserve:**
  - o A protected area under the '**Wildlife (Protection) Act (WPA), 1972'** (added through the WPA Act of 2002).
  - o Acts as **buffer zone** to or **connectors** and migration corridors between national parks, wildlife sanctuaries and protected areas.
  - o Declared by the **State Government,** after consulting with the central government and the local communities.
  - o It is administered with the help of the **Conservation Reserve Management Committee**.

5.15.6. ENERGY CHARTER TREATY

- The UK to leave 'Outdated' Fossil Fuel Friendly Treaty ie. The Energy Charter Treaty.
- **About The Energy Charter Treaty**
  - ○ It provides a **multilateral framework for energy cooperation** that is unique under international law.
  - ○ It entered into legal force in April 1998.
  - ○ It is designed to **promote energy security** through the operation of more **open and competitive energy markets** while respecting the principles of sustainable development and sovereignty over energy resources.
  - ○ Currently, there are **53 Signatories** and Contracting Parties to the Treaty.

5.15.7. BRUMATION

- During the winter months, American alligators go into a state of brumation, a type of hibernation.
- Hibernation is a period of inactivity that allows animals to survive when food is scarce and the weather is harsh.
- **About Brumation:**
  - o Period of dormancy exhibited **by reptiles and amphibians** in colder months.
  - o **Reptiles** are **ectothermic** (their body temperature is dependent on their environment), hence require brumation.
  - o In it, reptiles may **retreat to underground burrows** or **other sheltered areas**.
- **Other types of hibernation:**
  - o **Diapause**: a state of arrested growth or reproduction of many hibernating or estivating arthropods
  - o **Aestivation**: Summer dormancy in invertebrates and fish
  - o **Torpor:** Short-term physiological state of decreased activity

5.15.8. WHITE RHINOS

- World's first white rhinoceros In-Vitro Fertilization (IVF) pregnancy could save subspecies.
- Scientists has announced the **first successful embryo transfer in white rhinoceros using IVF method** that could save **Critically endangered northern white rhino subspecies** from extinction.
- **Other biotechnologies to protect species**
  - o **Bio-banks** store biological samples (cell, tissues etc.) for research and as backup resource to preserve genetic diversity.
  - o **Biosynthesis** creates substitutes for animal-derived products like safer fungicides from printed DNA to protect endangered species.
  - o **Gene drive** can be harnessed to eliminate invasive species like rats with high efficiency and minimal harm to native wildlife.
- **About Rhino**
  - o **Five species of rhino: 2 African (White Rhino, Black Rhino)** and **3 Asian [Greater One Horned Rhino (Indian rhino), Sumatran Rhino, and Javan Rhino].**
  - o **Threat**: Habitat loss, poaching for horn, climate change etc.

Difference between White Rhino and Indian Rhino

Features	White Rhino (African Rhino)	Indian Rhino (Asian Rhino)
Size	**Second-largest land mammals** after elephants	**Largest of all Asian** rhino species
Appearance	**Barrel-shaped with a flat back** **2 Horns** Wallow in mud	Knobby skin that appears to be **armor-plated** **One Horn** **Good swimmers**
Habitat	**Long and short grass savannah areas** in grasslands	**Tropical** and **Subtropical Grasslands, Savannahs,** and **Shrub-lands**
Distribution	Namibia, Uganda, Rwanda etc.	**India** (Assam, West Bengal and Utter Pradesh), Nepal etc.
Conservation status	**Near threatened (IUCN)** (**Southern white** rhino subspecies is **Near threatened**)	**Vulnerable (IUCN)** **Schedule I (Wildlife Protection Act, 1972)**
Note: Northern White, black, Javan, and Sumatran rhinoes—are categorized as critically endangered under IUCN's red list.		

5.15.9. INDIAN SKIMMERS

- India and Bangladesh submit a joint proposal to list Indian skimmers (also known as Indian scissors bill) under the **Convention on Migratory Species.**
- **About Indian Skimmer**
  - Indian skimmer is found in the coastal estuaries of western and eastern India. It occurs primarily on l**arger, sandy, lowland rivers, around lakes and adjacent marshes**, **estuaries and coasts**.
  - It **breeds colonially** on large, exposed sand-bars and islands.
  - It **feeds on** surface-dwelling **fish, small crustaceans and insect larvae.**
- **Protection Status**
  - **IUCN Red List:** Endangered
  - **CITES:** Not listed
  - **WPA, 1972:** Schedule I

5.15.10. NEEM TREE (AZADIRACHTA INDICA A. JUSS)

- The Neem Summit has been organized by collaboration with lCAR-Central Agroforestry Research Institute.
- **About Neem Tree**
  - **Native** to Indian sub-continent.
  - **Climate:** Grow in arid, semi-arid, wet tropical and sub-tropical climates and is tolerant to high temperature up to 49 °C.
  - **Type:** Evergreen tree (deciduous in drier areas).
  - **Benefits:**
    - ✓ Has a medicinal property.

- ✓ Act as very efficient, natural air filters trapping dust particles, absorbing gaseous pollutants.
- ✓ **Other**- Pesticides, mosquito repellents, fertilizers (neem coated urea), etc.

5.15.11. HYPERLOCAL WEATHER FORECASTING

Ministry of Agriculture & Farmers Welfare have initiated the **Weather Information Network and Data System (WINDS)** to generate long-term, **hyper-local weather data.**

About WINDS

- It set up a robust mechanism to **integrate** weather data, pooled from **different weather observation systems** in the country, into a **single national level** WINDS portal.
- Under this programme, more than **2 lakhs ground stations** will be installed,
  - which can help in **enhancing weather data utilisation** and thus in improving weather predictions and decision making.

About Hyperlocal Weather Forecasting

- Hyperlocal weather forecasting provides **granular** and **localized weather predictions**,
  - It enables farmers to make **informed decisions** about **planting, irrigation, and harvesting** based on real-time weather data specific to their location.

- This approach utilizes advanced technology, such as **high-resolution weather models**, **weather sensors**, and **data analytics.**

Why is hyperlocal weather forecasting required in India?

- **Monsoon Variability:** Tropical climates are **more unpredictable** and thereby more **difficult to predict**, as opposed to **US and UK** which have more systematic weather systems
- **Disaster Preparedness and Response:** Predicting rain, cyclones, heatwaves and drought accurately are **critical** to informed decision making on **disaster management.**
- **Urban Heat Island Effect:** Where urban areas experience higher temperatures compared to surrounding areas. This localized heating **complicates temperature forecasting** and require **localized** forecasting.

5.15.12. FLOOD MANAGEMENT AND BORDER AREAS PROGRAMME (FMBAP)

- Union Cabinet approves continuation of Flood Management and Border Areas Programme (FMBAP)
- **FMBAP** continuation has been approved for period of 5 years from 2021-22 to 2025-26.
  - It was initially launched during Eleventh Five Year Plan (2007–2012).
- **FMBAP** aims to supplement the efforts of the **State Governments** to protect human life, land and property from flood fury by providing **technical guidance** and **financial assistance**.
  - Also, promotes **bilateral co-operation** in the field of water resources with neighboring countries.
- **Key Features of Scheme**:
  - **Type**: Centrally sponsored Scheme
  - **Ministry:** Ministry of Jal Shakti
  - **Sub-components**:
    - ✓ **Flood Management Programme (FMP)**
      - Covers critical works related to flood control, anti-erosion, drainage development and anti-sea erosion, etc.
      - **Funding Pattern**: 90%:10% between Centre and 8 North-Easter States and Hilly States (For rest state 60%:40 %).
      - 427 projects have been completed under it which have benefitted 4.99 mha of land and provided protection to 53.57 million people.

- ✓ **River Management and Border Areas (RMBA):**
  - Covers **flood control** and **anti-erosion** works on common border rivers with neighbouring countries.
  - Hydrological observations and flood forecasting.
  - Investigation & pre-construction activities of **joint water resources projects** (with neighbouring countries) on common border rivers.
  - **Funding Pattern**: 100% central assistance.

5.15.13. ATMOSPHERIC RIVER

- California (the USA) has been hit by two back-to-back Atmospheric River storms.
- **Atmospheric Rivers**
  - Atmospheric Rivers indicate **narrow, elongated corridors of concentrated moisture transport** associated with **extra-tropical cyclones**.
  - Typically **located within low-level jet**, an area of strong winds in lower levels of atmosphere, ahead of **cold front in an extra-tropical cyclone.**
  - These are **largest transport mechanisms of freshwater** on Earth**.**
  - Strong landfall by interacting with topography, can deposit **significant amounts of precipitation in short periods** of time leading to **flooding and mudslides.**

5.15.14. ATLANTIC MERIDIONAL OVERTURNING CIRCULATION (AMOC)

- Researchers developed an **early warning indicator for the breakdown of the AMOC.**
  - AMOC has been labeled as **one of the tipping elements** in the climate system.
- **About AMOC**
  - The **AMOC circulates water from north to south** and back in a long cycle within the Atlantic Ocean.
    - ✓ This circulation brings warmth to various parts of the globe and also carries nutrients necessary to sustain ocean life.
  - It is driven by **differences in temperature and salt content**.
  - It is **being eroded** by faster than expected melt-off of Greenland's glaciers and Arctic ice sheets.
  - **Implications of AMOC collapse:** Rise in Atlantic Sea levels; Flipping of wet and dry seasons in the Amazon; More erratic fluctuations in temperatures; warmer southern hemisphere.

5.15.15. RIP CURRENTS

- Indian National Centre for Ocean Information Services (INCOIS) and ISRO to monitor and issue operational forecast alerts of rip currents.
- **About Rip Currents**
  - A **strong flow of water running from a beach back to open ocean**, sea, or lake.
  - They can be **as narrow as 10 or 20 feet in width** though they may be **up to ten times wider**.
  - **Prevalent along East, Gulf, and West coasts of U.S.,** as well as along shores of Great Lakes.
  - They **do not pull people under water rather** they pull people away from shore.

Answer Writing for
CIVIL SERVICES MAINS EXAMINATION

Answer writing holds paramount importance in the UPSC Mains exam as it serves as the primary means for candidates to demonstrate their knowledge, understanding, analytical ability, and time management skills. Effective answer writing is pivotal in showcasing one's ability to synthesize information, critically evaluate diverse perspectives, and present balanced arguments concisely. Proficient answer writing is instrumental in securing high scores and distinguishing candidates in a competitive environment, ultimately determining their success in the rigorous selection process for the UPSC Mains examination.

COMPONENTS OF AN IMPACTFUL ANSWER
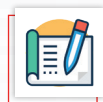
Identification of Context: Understanding the specific theme or topic of the question, and situating the response within its relevant context.

Content Competence: Demonstrating a comprehensive grasp of the subject matter, supported by accurate facts, relevant examples, and insightful analysis.

An impactful Introduction: Engagingly setting the stage for the answer, capturing the examiner's attention while providing a brief overview of the discussion to follow.
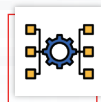
Structure and Presentation: Organizing the answer coherently with clear headings, subheadings, or bullet points, and presenting information logically and aesthetically for easy comprehension.
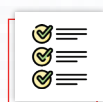
Balanced Conclusion: Summarizing key points concisely, offering insights or recommendations if applicable, and providing a satisfying closure to the argument or discussion.
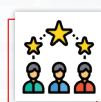
Language: Employing precise, formal language appropriate to the context, avoiding jargon, colloquialisms, or ambiguity, and demonstrating fluency and clarity in expression.

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6. SOCIAL ISSUES

6.1. SENIOR CARE REFORMS IN INDIA

Why in the News?

NITI Aayog released a position paper titled **"Senior Care Reforms in India: Reimagining the Senior Care Paradigm".**
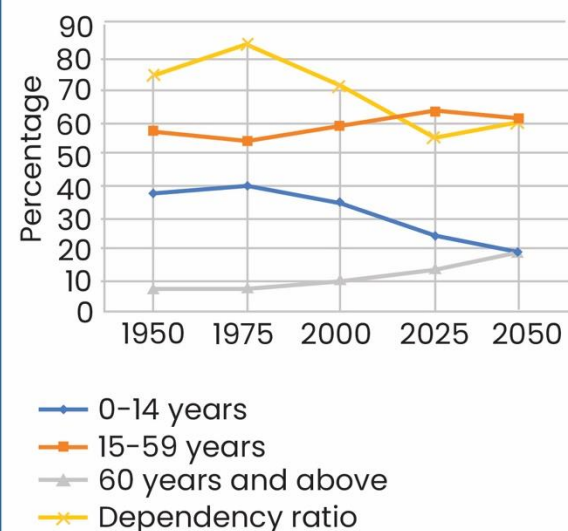
Senior care – An overview

- **Demography-specific:** In India, senior citizens, i.e. people aged 60 years and above, currently **comprise a little over 10% of the population**, i.e. **about 104 million.**
  - **58% of the total number of elderly** are women, out of which 54% are Widows
  - **7 out of 10 elderly persons** reside in rural areas.
- **Health:** 75% of the elderly have one or more chronic diseases and around 20% of the elderly in India have mental health issues.
- **Diet:** Food insecurity is increasing among India's elderly.
- **Pension:** 78% of the elderly population survives without a pension.
- **Access to Healthcare Finance:** Only 18% of seniors are covered by Health insurance.
  - Health-related expense is the most common cause of indebtedness (26%) in urban India.

Population by Broad age groups (In India from 1950–2050)

Legend:
- 0–14 years
- 15–59 years
- 60 years and above
- Dependency ratio

Challenges and Issues:

- **Health Domain: Quality healthcare** for the elderly remains **a challenge as multiple service providers** (like nursing agencies, physiotherapists, etc), continue to **work in silos.**
  - The health system, at present, is focused on **Reproductive, Maternal, and communicable diseases, and NCDs,** with **low priority for geriatric care.**
- **Social Domain:**
  - **Gaps in the implementation of social security schemes & programs**. E.g. only 12% of elderly people are aware of the Maintenance and Welfare of Parents and Senior Citizens Act 2007 and the Annapurna scheme.
  - **Regional Divide**: Considerable rural-urban inequality disfavouring rural residents.

> **Key learnings from across the world:**
> - **Japan:** "Healthy Japan 21 Program" to promote active ageing **through smart walk, smart diet, smart breath (non-smoking) & smart check-ups.**
> - **The UK:** - Free public healthcare to all citizens through the National Health Service (NHS).
> - **Germany:** Healthcare coverage is **largely driven by private insurance, with the government playing a policy-making role.**

  - **Gender-based disparity:** Female older adults undergo the experience of poor ageing in comparison to their male counterparts.
  - **Inadequate elder-friendly infrastructure:** Basic facilities like accessible transportation, disabled-friendly toilets, accessible buildings, etc. to enable unrestricted mobility are either missing or not maintained properly, thereby limiting the access of seniors to public places.
- **Economic Domain:** Many adults reach old age **without sufficient savings, insurance, or public or private pensions** to live on or to fund long-term care.
  - Nearly 70% of the elderly are dependent for everyday maintenance on family & relatives
  - **Elder financial abuse** has received recognition as a growing socio-economic, and public health problem.
- **Digital Domain**: Insufficient digital access; Paucity of digital training modules for the elderly.
  - According to an Age Well Foundation Survey, approximately 85.8% of respondents were digitally and computer illiterate.

- **Contribution of care work and care workers remain neglected:** Care work and care workers remain undervalued and underpaid in India. Care work is often viewed as a low-skilled job and is mostly performed by women.

Recommendations:

- **Efforts to Ensure Health Empowerment and Inclusion**:
  - **Promote health literacy among seniors** and their **caregivers** to enhance their understanding of geriatric health issues and related risks.
  - **Increase accessibility of services** - health camps, home-based care, mobile medical units, and other accessible platforms.
  - **Incentivize preventive health** – health checks, annual health assessments, vaccinations, etc.
  - **Strengthen research & set up research institutions** to enhance the knowledge repository of geriatric healthcare.
  - **Explore synergies between the public and private sectors** through PPP in geriatric healthcare to develop low-cost healthcare delivery models/practices for filling the infrastructure gap.
- **Efforts to Ensure Social Empowerment and Inclusion:**
  - **Awareness:** Efforts need to be made to sensitize the larger community on the needs and challenges experienced by the elderly, to facilitate their social inclusion.
  - **Legal reforms** for the elderly concerns. Also, **strengthen legal awareness** to inform elderly persons of their rights.
  - **Build and strengthen provisions of Assisted Living Facilities (ALFs)** like adult day-care facilities and residential care facilities.
  - **Elder for the elderly model**: Establishing peer support groups where seniors can exchange experiences and information about various issues.
  - **A 'one-stop' centralized portal**: A national portal for senior care - must be developed for senior citizens to provide easy access to services to them.
- **Efforts to Ensure Economic Empowerment and Inclusion:**
  - **Reskilling of the elderly population:** Initiatives to foster age-friendly labour markets and employment opportunities.
  - **Increase coverage of public funds and infrastructure:** Extending pension support to the elderly population from the unorganized sector as well. There is a need to revise the pension amounts to account for inflation.
- **Efforts to Ensure Digital Empowerment and Inclusion:**
  - **Improving access to digital devices for seniors** by making them **affordable** through senior discounts.
  - **Focus on increasing digital literacy,** especially among the elderly population.
- **Private sector synergies through Public Private Partnership (PPP) models and Corporate Social Responsibility (CSR) funds** can be explored in areas such as elder care homes, Private sector Insurance, Skill-building programs etc.

Senior Care Support Framework in India
- **Constitutional Provisions:**
  - **Article 41:** The State shall **make effective provision for securing the right to work, to education, and to public assistance** in cases of unemployment, **old age, sickness**, and disablement, etc.
  - **7th Schedule of the Indian Constitution;** Item **No. 9 of the State List and item 20, 23 & 24** of the **Concurrent List** relates to the **old age pension, social security and social insurance, and economic and social planning.**
- **Legal Measures:**
  - **Section 20 of the Hindu Adoption and Maintenance Act, 1956** makes it an obligation to maintain an aged parent.
  - **Income Tax Act** allows senior citizens to claim a discount in tax.
  - **The Maintenance and Welfare of Parents and Senior Citizens Act, 2007.**
  - **NALSA (Legal Services to Senior Citizens) Scheme, 2016.**
- **Policy Support:**
  - **National Policy for Older Persons (NPOP).**
  - **National Social Assistance Program (NSAP):** Indira Gandhi Old Age Pension Scheme (IGNOAPS) and Indira Gandhi National Disability Pension Scheme (IGNDPS)
  - **Atal Vayo Abhyudaya Yojana (AVYAY)** - Integrated Program for Senior Citizens.
- **Welfare Schemes & Programmes:**
  - **Senior Able Citizens for Re-Employment in Dignity or the SACRED portal**: To connect senior citizens with job providers in the private sector.

- o **The Senior Ageing Growth Engine (SAGE) initiative**: It has been launched by the Ministry of Social Justice and Empowerment government to promote and incentivize senior care products and services.
- **Other Welfare Measures**: Senior Citizens' Welfare Fund; Vayoshreshtha Samman; Accessible India Campaign (Sugamya Bharat Abhiyaan), RASHTRIYA VAYOSHRI Yojana etc.

Scan the QR code to know more about **Elderly in India.**

Weekly Focus #84: Towards Empowered Ageing in India

6.2. MENSTRUAL LEAVE POLICY

Why in the news?

There have been several discussions regarding providing a Paid Menstrual Leave policy in India.

What is menstrual leave?

It is a type of leave where women and trans women may have the option of taking a **paid leave from their workplace during the period of menstruation.**

Significance of providing menstrual leave policy in India

- **Aligns with fundamental rights:** Menstrual leave could be in line with **Article 21 (Right to Life) and Article 14 (Right to Equality)** of the Constitution.
  - o Additionally, the Constitution empowers the State to make **special provisions for women and children under Article 15(3).**
- **Addresses the unique health needs of women**: Menstruation is accompanied by a variety of moderate to severe symptoms such as cramps and fatigue, etc., impacting women's daily lives.
  - o Further, lack of proper sanitation facilities at the workplace can impact women's hygiene and reproductive health.
- **Mitigates presenteeism**: It would provide an opportunity for society and employers to reevaluate attitudes surrounding absenteeism and work ethic.

Know the term
- **Presenteeism:** Refers to the lost productivity that occurs when **employees are not fully functioning in the workplace** because of an illness, injury, or other condition.

- **Boosts productivity**: It will help create a positive work environment and culture, enhancing overall productivity, and fostering healthier workplace dynamics.
- **De-stigmatizes discussion around women's health:** Discussion about menstruation among all employees may foster support for women's reproductive health and reproductive rights.

Status of menstrual leave policy in India
- **At the National level:**
  - o There is **no law** governing menstrual leave in India and **also there is no centralised direction for 'paid menstruation leave' in India.**
  - o **Draft Menstrual Hygiene Policy 2023:** It recognises the need to address the issue of gender discrimination and create an enabling work environment which supports leaves and work-from-home options.
  - o **The Right of Women to Menstrual Leave and Free Access to Menstrual Health Products Bill, 2022:** A private member bill proposing paid menstrual leave of three days in any establishment registered with the government.
- **At the state level**:
  - o **1992: Bihar government** introduced a policy that granted female employees two days of paid leave every month for menstruation-related reasons.
  - o **2023: Kerala Government** granted menstrual leave for female students studying in all state universities coming under the Department of Higher Education.
- Private firms such **as Zomato, Swiggy, Byju's**, and several others have provided paid menstruation leave, thus setting the standard for industry practices.

Issues/Challenges related to menstrual leave

- **Potential discrimination in workplace**: Offering specific leave for menstruation may inadvertently lead to biases or stereotypes against women, impacting hiring decisions, promotions, and overall career advancement.
- **Perpetuating Sexist Beliefs and Attitudes**: Menstrual leave may perpetuate the **gender stereotypes and notions of biological determinism**, like assumptions that women are unfit for the workplace and, thus, justify gender discrimination in society.
- **Resentment among employees**: Accommodating menstrual leaves may disrupt workflow, increase workload for other team members, or create resentment among employees who do not receive similar benefits.
- F**inancial strain:** Providing additional leave benefits may result in increased operational costs, affecting budgets and profitability, particularly for small businesses and startups.
- **Implementation in informal sector**: Informal workers, Freelancers and gig workers often lack traditional employee benefits, making it difficult to extend benefits.
- **Social stigma**: Even if provided, Female employees may feel hesitant to seek benefits due to societal stigma around discussing menstrual issues in public.

Way Forward

- **Implement Menstrual leave Policies** by incentivizing private firms to provide menstrual leave and conveying to them the benefits of enhanced female participation.
- **Seek Alternatives which offer flexibility** to women, such as working from home, customized work schedules, etc.
- **Creating an inclusive workplace environment** by ensuring equal access to hygienic facilities, private spaces for menstrual hygiene management, and stocking essential supplies like sanitary pads, tampons, heating pads, etc.
- **Destigmatizing menstruation** through education and awareness campaigns on menstrual health and hygiene.
- **Reconsider healthy work culture** by creating sick, parental, and vacation leave policies that are **responsive to worker needs**, including the provision of additional paid leave.

> **Global initiatives on menstrual leave policy**
> - **Japan (1947):** Introduced menstrual leave in the **labour law** allowing menstrual leave **on request**.
> - **South Korea (2001):** Labor law provides for monthly "physiologic leave," under which all female workers can get a day's leave every month.
> - **Indonesia (2003):** Allows female workers experiencing menstrual pain to take leave on the first two days of their cycle.
> - **Other countries with provision for menstrual leave:** Zambia, Vietnam, Taiwan etc.

6.3. SURROGACY (REGULATION) AMENDMENT RULES, 2024

Why in the news?

Ministry of Health and Family Welfare notified Surrogacy (Regulation) Amendment Rules, 2024 **amending the Surrogacy (Regulation) Rules, 2022.**

Do you know?

➤ **Mayer-Rokitansky-Kuster-Hauser (MRKH)** Syndrome is a rare congenital disorder that affects female reproductive system and cause infertility.

Surrogacy (Regulation) Rules, 2022

- **Background**
  - An amendment to Surrogacy (Regulation) Rules 2022 in March 2023 **prohibited the use of donor gametes** and required both the male and female gamete must come from the intending couple.
  - In **October 2023** Supreme Court **in the Arun Muthuvel vs. Union of India case** allowed a woman with Mayer-Rokitansky-Kuster-Hauser (MRKH) Syndrome to undergo surrogacy with a donor egg.
    - ✓ The Court said that **Amendment** impends the intending couple from achieving parenthood through

Types of Surrogacy
- **Altruistic surrogacy:** It involves **no monetary compensation** to the surrogate mother other than the medical expenses and insurance coverage during the pregnancy.
- **Commercial surrogacy**: It includes surrogacy, or its related procedures **undertaken for a monetary benefit or reward (in cash or kind)** exceeding the basic medical expenses and insurance coverage.
  - The government **banned surrogacy for foreign nationals in 2015.**

surrogacy are and is **prima facie contrary** to objective of the Surrogacy (Regulation) Act, 2021

- **Recent Amendment:** The 2024 Amendment to **Surrogacy (Regulation) Rules, 2022 allow surrogacy using a donor gamete.**
  - Benefits of this provision could be availed **if District Medical Board certifies that either of the intending couples suffers from a medical condition** necessitating the use of a donor gamete.

Surrogacy (Regulation) Act, 2021

Surrogacy is regulated in India as per **Surrogacy (Regulation) Act, 2021** and rules framed under this act.

Key features of the Act

- **Defines surrogacy:** Surrogacy refers to a practice whereby **one woman bears and gives birth to a child for an intending couple** with the intention of handing over such child to the intending couple after the birth.
- **Regulation of surrogacy:**
  - **Prohibits commercial surrogacy** but allows altruistic surrogacy.
  - **Provides for compulsory registration** of surrogacy clinics.
  - **Surrogacy is permissible when it is,**
    - ✓ for intending couple **having a medical indication** necessitating gestational surrogacy
    - ✓ for **altruistic** surrogacy purposes
    - ✓ **not for producing children for sale**, prostitution or any other form of exploitation.
    - ✓ for any **condition or disease specified** through regulations.
- **Eligibility criteria for surrogate mother**
  - A **willing & married** woman between the **ages of 25 to 35 years** having a **child of her own.**
  - No woman shall be a surrogate mother more than **once in her lifetime.**
  - Should possess a **certificate of medical and psychological fitness** for surrogacy from a registered medical practitioner.
- **Eligibility criteria for couples:** The intending couple should have a **'certificate of essentiality'** and a **'certificate of eligibility'** issued by the appropriate authority.
- Under the act**, an Indian woman who is a widow or divorcee** between the **ages of 35 to 45 years** can also avail the surrogacy, subject to the fulfilment of other conditions.

Certificate of essentiality for couples
- Certificate of proven infertility of one or both members of the intending couple from a District Medical Board
- An order of parentage and custody of the surrogate child passed by a Magistrate's court
- Insurance coverage for a period of 36 months covering postpartum delivery complications for the surrogate.

Certificate of eligibility for couples
- Between 23 to 50 years old (wife) and 26 to 55 years old (husband)
- They do not have any surviving child (biological, adopted or surrogate); except for child and who is mentally or physically challenged, suffers from life threatening disorder etc.

- **Rights of surrogate child:** Child born out of surrogacy is **deemed to be a biological child of the intending couple or intending woman** with entitlement to all the rights and privileges available to a natural child.
- **Prohibition of abortion:** No person, organisation, surrogacy clinic, laboratory or clinical establishment of any kind shall force the surrogate mother to abort at any stage of surrogacy except in such conditions as may be prescribed.
- **National Assisted Reproductive Technology and Surrogacy Board:** Minister of Health and Family Welfare as chairman. Its functions include to:
  - Advise the Central Government on policy matters relating to surrogacy;
  - Review and monitor the implementation of the Act,
  - Lay down the code of conduct of surrogacy clinics;
  - Set the minimum standards of physical infrastructure, laboratory and diagnostic equipment and expert manpower to be employed by the surrogacy clinics;
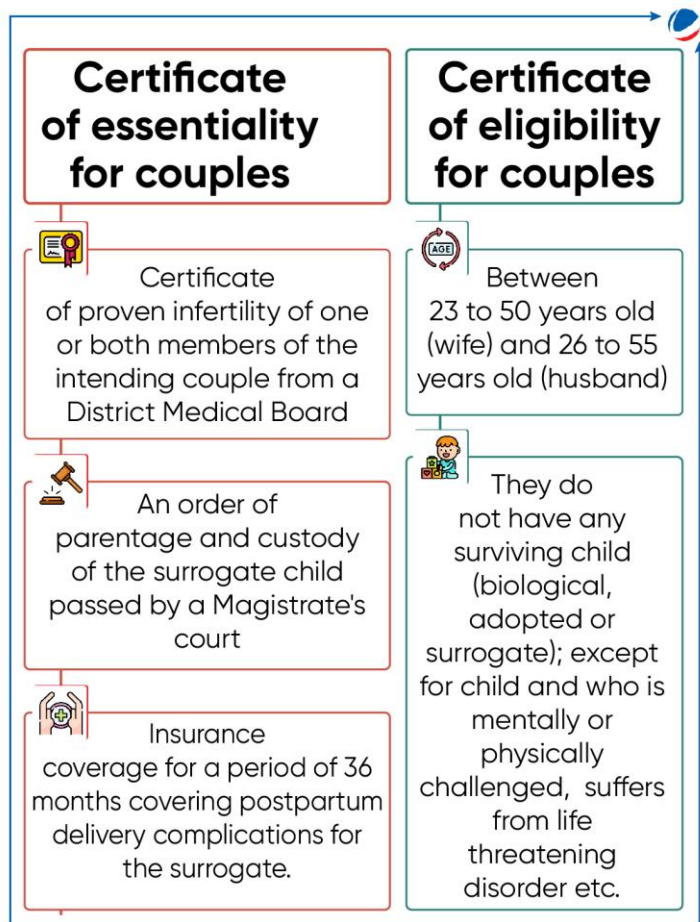
- o Oversee the performance of various bodies constituted under the Act;
- o Supervise the functioning of State Assisted Reproductive Technology and Surrogacy Boards.
- **State Assisted Reproductive Technology and Surrogacy Boards:** Constituted at the State level and Union territory having Legislature.

Issues associated with surrogacy regulation framework in India.

- **Complete ban on commercial surrogacy:** This may relegate commercial surrogacy to an underground unlicensed business.
  - o Also, the ban on commercial surrogacy denies women the use of their reproductive ability for monetary gain.
  - o In **Devika Biswas vs. Union of India (2016)**, the Supreme Court held that Article 21 includes the reproductive rights of a person.
- **Limited Availability:** Finding altruistic surrogates willing to undergo the process can be challenging.
- **Reinforces Patriarchal norms:** Altruistic surrogacy may lead to coercion of women (particularly vulnerable ones) within families, to become surrogates.
  - o Thus, it reinforces patriarchal control over the reproductive choices of a woman.

Way forward

- **Awareness:** To eliminate the exploitation of surrogate mothers they need to be made aware of their rights and the associated risks to gain their informed consent.
- **Clarity:** There is a need to clearly define terms such as close relatives, infertility etc. Also, the definition of infertility should be expanded to take into account the medical factors, and diseases of the intended parents.
- **Reduce the age limit:** For intending women who intend to avail surrogacy from a minimum of 35 years.
- **Make more inclusive**: The possibility to include unmarried women, same-sex couples, and unmarried and single men from availing of surrogacy should be explored.

6.4. NATIONAL AYUSH MISSION

Why in the news?

Recently, **a comprehensive report on the National AYUSH Mission (NAM)** has been released by the Parliamentary Standing Committee on Health and Family Welfare.

About National AYUSH Mission (NAM)

- A **centrally sponsored scheme.**
- Launched by **the Ministry of Ayush in 2014** to focus on developing, educating, and propagating **India's traditional medical systems**- Ayurveda, Yoga & Naturopathy, Unani, Siddha, Sowa-Rigpa, and Homoeopathy (AYUSH).
- **Objective:**
  - o Increasing accessibility to Ayush services
  - o Promoting the cultivation of medicinal plants used in these systems
  - o Strengthening educational institutions for Ayush
  - o Creating awareness about the benefits of Ayush practices

Components of National Ayush Mission

Co-location of Ayush facilities at
- Primary Health Centres (PHCs)
- Community Health Centres (CHCs)
- District Hospitals (DHs)

Ayush Gram

Ayush Public Health Programmes

Supply of essential drugs

Setting up of up to 10 bedded/30 bedded/50 bedded integrated Ayush Hospitals

Upgradation of existing/ setting up of new standalone Government / Panchayat aided Ayush Dispensaries

Upgradation of existing standalone Government Ayush Hospitals

Health and Wellness Centres (HWCs/ Arogya Mandirs)

- **Tenure:** Till 2026
- **Achievements of NAM: 8.42 Crores beneficiaries** availing Ayush services in 2022-23 (from 1.50 Crores in 2020-21)
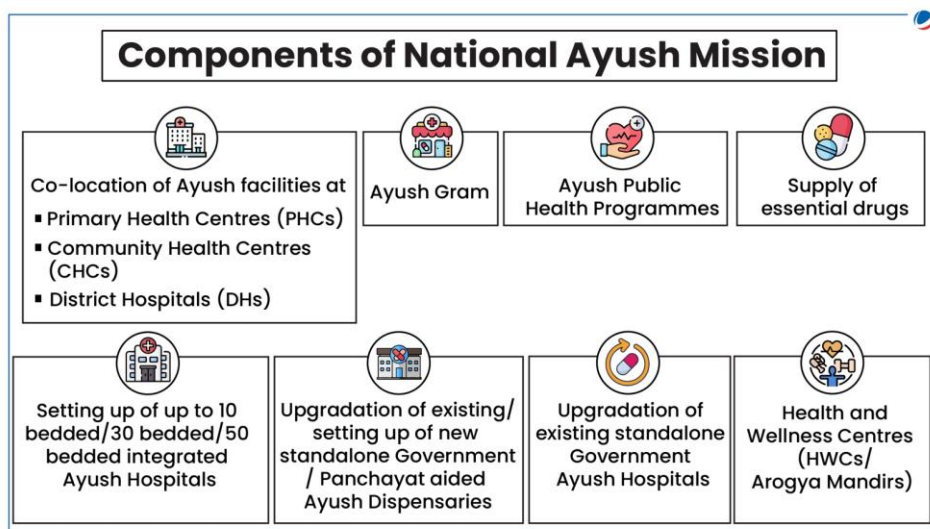
Challenges highlighted by the Report

- **Underutilization of Fund:** As per Revised Estimates for 2022-23, only about 85% funds were utilized.
- **Concerns related to quality of the medicines:** Concerns have been raised over the high metal contents in the Ayush drugs, which damage people's health.
- **Infrastructural Delays:** 69% of the integrated Ayush hospitals approved under NAM are still either under construction or the construction has not started yet and **only about 65% of the sanctioned A-HWCs have been established**.
- **Administrative Delays:** Due to late allocation of funds, overlapping functions between entities, and delays in submitting Utilisation Certificates (UCs) etc.
- **Inadequate administrative set-up of Ayush in States/UTs:** Some states and UTs do not have a separate Department of Ayush.
- **Exclusion of SowaRigpa from the National Ayush Mission.**

Way Forward: Recommendations of the report

- **Deepening Quality Control and Standardization:**
  - **Investing in advanced analytical labs** and robust testing protocols
  - **Developing user-friendly systems** for healthcare professionals and consumers to report adverse events related to Ayush medicines.
  - **Regular post-marketing surveillance** of Ayush medicines to monitor real-world safety and efficacy.
  - **Harmonizing Ayush quality standards** with international benchmarks like WHO.
- **Boosting Research and Evidence-Based Practice**
  - **Increasing funding for high-quality clinical research** on efficacy and safety of Ayush therapies, focusing on chronic diseases and preventive care.
  - **Encouraging collaboration between Ayush and allopathic researchers**.
  - **Utilizing patient data from local health centres** to conduct large-scale epidemiological studies through measures such as upgrading infrastructure, training Ayush practitioners in research skills, and standardising data collection.
- **Bridging the Integration Gap**
  - Developing clear **referral pathways and collaborative protocols** between Ayush and allopathic healthcare systems.
  - Integrating **Ayush practitioners into primary healthcare teams** and community health campaigns.
- **Overcoming delays** through creating specific action plans for AHWCs, training programs for existing staffs, providing financial incentives to states for better implementation and streamlining processes through technology.
- **Building Consumer Confidence and Advocacy through** measures like-
  - Launching **nationwide awareness campaigns** highlighting the scientific basis and benefits of Ayush.
  - **Promoting responsible advertising and patient education** on the safe and effective use of Ayush medicines.

Other challenges in implementation of NAM

- Low acceptance and Limited awareness about efficacy of **AYUSH treatments**
- **Poor Quality** of AYUSH Education and Practitioners
- **Issues related to AYUSH medicines:** Slower healing compared to allopathic treatment; Lower quality and supply of raw materials; lack of price control; adulteration etc.
- Limited integration with mainstream healthcare system
- **Limited quality research** on certain AYUSH practices

Case Study: Learnings from China's Traditional Chinese Medicine (TCM) policy

- **Integration with public healthcare system:** TCM is part of insurance coverage and an essential medicine list and is integrated with modern medical treatment facilities.
- **Innovation:** Modern medicine education already incorporates TCM education, while innovative programs involve establishing leading TCM universities with diverse disciplines.
- **Globalisation:** Foreign policy focus involves the globalisation of TCM and academic institutions outside China promote education and research in TCM.

6.5. ALL INDIA SURVEY ON HIGHER EDUCATION (AISHE) 2021-2022

Why in the News?

The **Ministry of Education** released the All-India Survey on Higher Education (AISHE) 2021-2022.

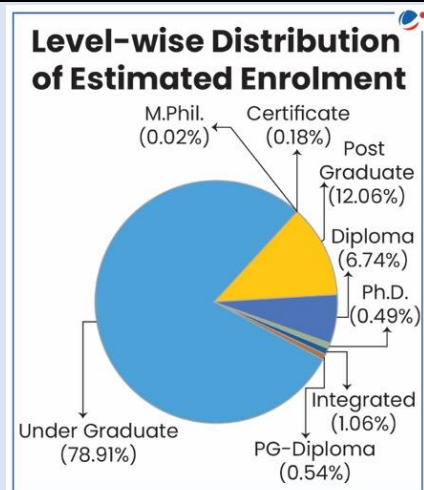**About the All-India Survey on Higher Education (AISHE)**

- **The All-India Survey on Higher Education (AISHE) was initiated in 2011.**
- The survey has been conducted since the **XII Five Year Plan** under the **scheme Higher Education Statistics and Public Information System (HESPIS).**
- The Survey **intended to cover all the Institutions in** the country engaged in **imparting Higher Education.**
- For the first time, all the major Stakeholders in Higher Education, such as the University Grants Commission, All India Council for Technical Education, Medical Council of India as well as State Governments participated in the data collection exercise.
- The entire survey was conducted through **Electronic Mode and a dedicated portal was developed for this purpose.**

> The Institutions, under AISHE are classified in the following three broad categories: -
> - **University/University Level Institutions: -** The Institutions which are empowered to award degrees under some Act of Parliament or State Legislature.
> - **Colleges/Institutions** which are not empowered to provide degrees in its name and **therefore are affiliated/ recognized with universities.**
> - **Stand-alone Institutions (not affiliated with universities):** These Institutions generally run Diploma/PG Diploma level programmes for which they require recognition from one or other Statutory Bodies. E.g. Polytechnique.

Key Highlights of the Report:

Number of Institutions	• The total number of Universities / University level institutions registered is **1,168, Colleges 45,473 and Standalone Institutions 12,002.** • 17 Universities (of which 14 are State Public Universities) and 4,470 Colleges are exclusively for women. • **Government Universities constituting 58.6% of total Universities**, contribute 73.7% of total enrolment, Private Universities account for 26.3% of total enrolment.

Student Enrolment	• The total enrolment in higher education has increased to nearly **4.33 crore in 2021-22 from 4.14 crore in 2020-21.**
	  o The estimated Gross Enrolment Ratio (GER) in Higher Education for the age group 18-23 years in India is 28.4.
	  o GER in HEIs is significantly low as compared to the global average of 40%.
	  o For Scheduled Caste and Scheduled Tribe students, the GER is 25.9 and 21.2 respectively.
	• **Gender Parity Index (GPI),** the ratio of **female Gross Enrolment Ratio (GER)** to male GER **is 1.01 in 2021-22.**
	  o GPI has continued to be above **1 since 2017-18** i.e., **female GER continues to be more than male GER for fifth consecutive year.**
	• Undergraduate level enrolment is highest **in Arts (34.2%),** followed by **science (14.8%**), Commerce (13.3%) and **Engineering & Technology (11.8%).**
	
	Level-wise Distribution of Estimated Enrolment
	M.Phil. (0.02%)
	Certificate (0.18%)
	Post Graduate (12.06%)
	Diploma (6.74%)
	Ph.D. (0.49%)
	Integrated (1.06%)
	PG-Diploma (0.54%)
	Under Graduate (78.91%)

Infrastructure for Institution	• Availability of different infrastructure facilities in HEIs in 2020-21:
	  o Libraries (97%)
	  o Laboratories (88%)
	  o Computer centres (91%, 86% in 2019-20)
	  o Skill Development Centre (61%, 58% in 2019-20)
	  o Connectivity to National Knowledge Network (56%, from 34% in 2019-20)

Representation of Foreign Students	• India hosts 46,878 foreign students, with **Nepal leading at 28%, followed by Afghanistan at 6.7%.** • The highest number of foreign students are enrolled in **Undergraduate courses, (74.8%) followed by Post Graduate courses (15.8%).**

Related News

Accreditation System for HEIs

- Government plans to Overhaul Accreditation system for Higher Educational Institutes (HEIs).
- Recently, Ministry of Education has accepted the proposed reforms in the accreditation system of HEIs as recommended by **Dr. Radhakrishnan Committee.**
  - o Committee was formed **to strengthen Assessment & Accreditation of HEIs** as **envisioned in the National Education Policy, 2020.**

- o **Accreditation** is assessment of quality of education.
- **Key Recommendation of Dr. Radhakrishnan Committee**
  - o **Composite Assessment System (CAS):** Amalgamate Programme-Accreditation and Institutional-Accreditation.
  - o **Binary Accreditation:** Either accredited or not accredited.
    - ✓ NAAC's Executive Committee has decided to **implement it in next four months**.
    - ✓ No new applications will be accepted as per the present methodology thereafter.
  - o **Maturity-Based Graded Accreditation:** Level 1 to Level 5 to encourage HEIs to evolve in-depth or in-breadth in disciplines.
    - ✓ NAAC has decided to implement it by **December 2024**.
  - o **One Nation One Data Platform:** To ensure integrity and transparency in handing institutional data.
  - o **"Stakeholder validation":** To effectively integrate stakeholders as part of the accreditation and ranking process.
  - o **Other proposals**: Enable choice based ranking system for diverse users, bring down periodicity of re-accreditation, etc.

Existing Accreditation System for HEIs.

University Grants Commission (UGC) accords recognition to HEIs under the **'UGC Act 1956'**.

National Assessment and Accreditation Council (NAAC) is an autonomous institution of UGC for quality assurance in the functioning of HEIs.

Multiple agencies within the ambit of the Union Government (and even some States) have been mandated **for periodic approvals, assessment, accreditation, and ranking of HEIs.**

Scan the QR code to know more about **Higher Education in India.**

Weekly Focus #57: Higher Education in India: The Cornerstone of our Future

6.6. ALLIANCE FOR GLOBAL GOOD- GENDER EQUITY AND EQUALITY

Why in the News?

Recently, India announced an 'Alliance for Global Good- Gender Equity, and Equality' at the World Economic Forum (WEF) Annual Meeting in Davos, Switzerland.

About the Alliance

- It is a collective of Governments, Industry and Development organisations.
- The **idea of this alliance** emerged from the **G20 Leaders' Declaration** and India's abiding commitment to the cause of women-led development.
- **Objective:** To bring together global best practices, knowledge sharing and investments in the identified areas of women's health, education, and enterprise.
- **Key partners of the Alliance**
  - o **Network Partner:** World Economic Forum
  - o **Institutional Partner:** Invest India
  - o **Supported by:** The Bill & Melinda Gates Foundation
  - o **Anchored by:** Confederation of Indian Industry (CII) Centre for Women Leadership
    - ✓ CII Centre for Women Leadership was launched **Government of India in 2023** at the CII National Council Meeting **in New Delhi.** It was created in partnership with **Bill and Melinda Gates Foundation.**
- The alliance will follow up on the activities of the **Engagement Group and initiatives under the G20 framework**-

Alliance aligns with following SDGs

SDG 3 - Good Health and Well-Being

SDG 5 - Gender Equality and Empowerment

SDG 4- Quality Education

SDG 17 - Global Partnership for Development

World Economic Forum

Davos, Switzerland

Genesis: Established in 1971 as a **not-for-profit foundation** and received status of an **international organization for public-private cooperation** from the Swiss authorities in 2015.

Major Publications: Energy Transition Index, Global Competitiveness Report, Global Gender Gap Report

Mission: Engages political, business, academic, civil society and other leaders of society to shape global, regional and industry agendas.

- o **Business 20 (B20):** Official G20 dialogue forum with the global business community, established in 2010. 2023 B20 Summit was hosted by India.
- o **Women 20:** Official G20 engagement group focused on gender equity.
- o **G20 Alliance for the Empowerment and Progression of Women's Economic Representation (G20 EMPOWER):** An alliance of G20 business leaders and governments, launched in **2019,** that aims to accelerate women's leadership and empowerment in the private sector.

Related News
SWATI Portal
- Principal Scientific Advisor to the Government of India launched "Science for Women-A Technology & Innovation (SWATI)" Portal.
  - o It **aims** to create **a single online portal representing Indian Women and Girls in STEMM** (Science, Technology, Engineering, Mathematics, and Medicine).
  - o **Objectives**: Scale up efforts to exponentially include every Indian woman in science and enable reliable long-term research on equality, diversity, and inclusivity.
  - o Developed, hosted and maintained by **National Institute of Plant Genome Research (NIPGR), New Delhi.**

6.7. NEWS IN SHORTS

6.7.1. ADOPTION

- Delhi High Court said that **Right to adopt children is not a fundamental right within Article 21.**
- HC also said that **Right to adopt children** cannot be raised to a **level granting Prospective Adoptive Parents (PAPs) the right to demand their choice** of who to adopt.
- Therefore, HC upheld **Regulation 5 (7) of Adoption Regulations 2022.**
  - o **Under Regulation 5 (7) couples with two or more biological children** shall **onl**y be considered for **special needs children** and **hard-to-place children** (applicable retrospectively).
    - ✓ special needs child means a child who is **suffering from any disability a**s provided in **Rights of Persons With Disabilities Act, 2016.**
    - ✓ hard-to-place child means a child who has **not been placed in adoption** after going through procedure mentioned under rule.
  - o Under **Regulation 5 (2)** Other **PAPs,** irrespective of **marital status**, with or without **a biological child** (son or daughter) can go for adoption subject to following:
    - ✓ **Married couple** need **consent of both spouses**
    - ✓ **Single female** can adopt a child of **any gende**r
    - ✓ **Single male** shall **not adopt a girl child.**
- The 2022 **Regulations** are issued under the **Juvenile Justice (Care and Protection of Children) Act or JJ Act of 2015.**

About JJ Act 2015 (Amended in 2021)

- **JJ Act, 2015 is a secular Act** that governs adoption of an orphan / abandoned / surrendered child.
  - o **Hindu Adoption Maintenance Act, 1956 (HAMA)** also governs adoption in India.

- It establishes **Central Adoption Resource Authority (CARA)** under Ministry of Women & Child Development,
  - o CARA is the **nodal body** to monitor and regulate **in-country and inter-country adoptions** of Indian children.

6.7.2. GHAR PORTAL

- **GHAR (GO Home and Re-Unite) Portal** was launched earlier by **National Commission for Protection of Child Rights (NCPCR).**
  - o The portal **digitally monitor and track restoration and repatriation of childre**n as per the protocols under the Juvenile Justice (Care and Protection of Children) Act, 2015.
- **About NCPCR**
  - o Apex body for **safeguarding children's rights.**
  - o Constituted under the **Commission for Protection of Child Rights (CPCR) Act, 2005.**
    - ✓ It is a statutory body.
  - o Consists of **1 chairperson and 6 members.**
  - o Present reports to **central government annually.**
  - o NCPCR has responsibilities under **POCSO Act (2012), RTE Act(2009)** as well.

6.7.3. MINISTRY OF EDUCATION (MOE) - AICTE INVESTOR NETWORK

- Ministry of Education launched MoE-**AICTE Investor Network jointly established by AICTE and MoE's Innovation Cell** (MIC).
- It aims to **bring students, faculty, investors and market on one platform** to **strengthen culture of innovation** and address issue of **start-up funding**.

- It will provide **crucial financial support, mentoring, and strategic guidance** to early-stage student or faculty-led startups.

6.7.4. SUPPORT TO STUDENTS FOR PARTICIPATING IN COMPETITIONS ABROAD (SSPCA)

- All India Council for Technical Education (AICTE) launched SSPCA **to bolster global competitiveness of Indian students in technical education**.
- **Objectives:** To provide **travel assistance registration fee** to a team of **minimum 2 to 10 Bachelor students** for attending competition on **scientific event at international level**.
- **Eligibility:** A team of Students in the field of technical education enrolled and undergoing a **technical course notified by AICTE** in an **AICTE-approved technical institution**.

- **Grant:** Entire amount subject to a maximum 1 lakh per student.

6.7.5. DIGITAL DETOX

- Karnataka Government announced Digital Detox Initiative in collaboration with **All India Game Developers Forum (AIGDF) and NIMHANS.**
- **Digital Detox** is a period of time during which one intentionally reduces amount of time spent online on electronic devices, like mobiles, laptops, etc.
- Initiative seeks to ensure **responsible gaming**, through -
  - **Awareness**, **Digital Detox centres** for personalized guidance, **Community connection** through workshops, etc.
- **Need of Digital Detox:** Mental health challenges, decreasing attention spans and strained real-world connections due to overdependence on technology, etc.

THE PLANET VISION

In a world facing unprecedented environmental challenges, staying informed and empowered is more crucial than ever. VisionIAS brings you **'The Planet Vision'**, a simplified, informative, and interactive magazine to delve into the complexities of the environment.

With the belief, that individual efforts and awareness are the key to a sustainable future, the magazine seeks to inspire and educate people to **develop a deeper understanding and appreciation for the environment, nature & planet.**
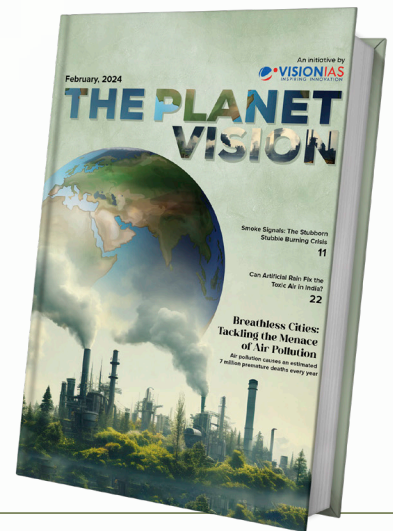
Objectives of 'The Planet Vision'

Sensitise the young generation: Highlighting pressing environmental issues and their multifaceted impacts.

Inspire Action and Promote Sustainable Lifestyle: Inspiring stories and case studies to motivate readers to make environmentally conscious choices.

Bridge Environmental Science and Public Understanding: Presenting complex scientific concepts in a simple and interactive manner.

Showcase Solutions: Spotlight innovative technologies, projects, and initiatives that offer solutions to environmental challenges.

Highlight Local Efforts: Showcase local conservation efforts, community initiatives, and grassroots projects that make a positive impact on the environment.

Who is the magazine for?

The Magazine is designed for students, eco-conscious individuals, educators, environmentalists, and anyone who cares about the health of our planet.

Key elements of the 'The Planet Vision'

Cover Stories: Thought-provoking articles about a critical ongoing environmental issue, along with the mitigation strategies adopted at the national and international levels.

Briefing and Developments: Stay informed about the latest environmental news, trends, and solutions.

Protect and Preserve: Inspirational stories of local conversation efforts.

Environment and You: Illustrating ways to make environmentally conscious choices in everyday life.

Green Tech: New and emerging technologies in the field of environment.

Interactive elements:

- **Snapshot:** Telling a story through capturing images.
- **Quizzes and crosswords:** To test your understanding and knowledge as a reader.

> Look deep into nature, and then you will understand everything better.
>
> –Albert Einstein

Scan the QR code, to download and read the Magazine:

7. SCIENCE AND TECHNOLOGY

7.1. CRITICAL TECH SECTORS

Why in the news?

The Ministry of Electronics and Information Technology (MeitY) recently unveiled **draft road maps for Critical Tech Sectors**.

More on news

- Draft Roadmaps were prepared by **Centre for Development of Advanced Computing (C-DAC)**, giving emphasis on **indigenisation of software and hardware in the critical sectors**.
- They aim to solve **a series of issues by different time spans between now and 2047**, the centenary of Indian independence, with **specific domestic research goals** outlined.
- **They aim to synergize efforts** of stakeholders to align with **NITI Aayog's strategy for Research and Development.**

What are Critical Technology Sectors?

- **Critical Technologies are those technologies identified by government as 'Critical'** for a nation's
  - future economic growth,
  - national security, and
  - technological advancement.
- **These often involve**:
  - cutting-edge research,
  - innovation, and
  - strategic importance.
- These sectors typically **receive heightened oversight from the government and improving technology investment environment.**
- They are **important for state's critical infrastructure.**
  - As they offer **safe, cost-effective and reliable service** and can act as a **predictive tool** for forecasting potential failures.
- **Examples of Critical Technology Sectors** include Artificial Intelligence (AI), Quantum computing, Internet of Things, and Blockchain.

Significance of Critical Tech Sectors:

- **Global Partnership**: They promote **India's technological leadership;** cooperation with partners to advance and maintain shared technological advantages, **making India trustworthy international technology partner.**
- **Indigenisation**: Critical technologies help deter foreign hostile forces from **economic espionage, strengthen the protection of key technologies**.
  - It avoids the **damage to national and industrial interests caused by illegal technology outflows.**
- **Economic growth**: Drives **innovation and competitiveness** across key industries and creates job opportunities and boosts GDP growth.
- **Strengthening Mobile security and Privacy**: **Enterprise-grade security systems** are particularly crucial for businesses **to safeguard their intellectual property, customer data**, and operational continuity.
- **Cryptography:** Robust cryptographic techniques are essential for **protecting sensitive data, securing online transactions, and maintaining trust in digital interactions**.
- **IoT Security:** It is crucial to mitigate the risks like disrupting critical services and ensure **the resilience of IoT ecosystems**.

Critical technology collaborations with other countries:

- **U.S.-India initiative on Critical and Emerging Technology (iCET)** has six priority sectors – defence, space, quantum, artificial intelligence, semiconductors and telecommunications.
- **India and Australia** signed the **Framework Arrangement on Cyber and Cyber – Enabled Critical Technology Cooperation** in June 2020.
- **India and EU** have also signed an intent of cooperation in the area of **High-Performance Computing** in 2022.
- In 2023, **India and Japan** have also entered into a **Memorandum of Cooperation (MoC)** on **semiconductor supply chain** partnership.

Government Initiatives for Critical Tech Sectors

- INDIAai – National AI Portal of India
- National Quantum Mission
- Digital India futureLABS

Challenges in developing critical tech sectors

- **Education and Skills Gap**: Despite producing a large number of STEM graduates, there's often a **gap between the skills taught** and **those required by industries.**
- **Brain drain:** India faces brain drain in **AI algorithms and hardware accelerators** as many opt post graduate training in USA and Europe.
- **Research and Development Funding**: While India has made strides in R&D, there's still a need for increased funding and investment in R&D to foster innovation and technological breakthroughs.
- **Global Competition**: India faces stiff competition from other **countries like China, USA**, etc., particularly in emerging technology sectors such as AI and quantum computing.
- **Environmental Concerns**: Technology sectors growth requires addressing energy consumption, electronic waste management, and sustainable manufacturing practices.

Way Forward: Key Highlights of the Roadmaps

Critical tech sector	Roadmaps	Target
Quantum Technologies	**Focus on developing superconducting materials**	From 2023-2028
	Public key infrastructure	From 2023-2034
Cryptography	Create **centre of excellences for cryptography**	By 2034
	Focus on **quantum-resistant cryptography**, **novel non-linearity schemes**, etc.	From 2024-2034
Mobile Security	Indigenous ecosystem for **Secure OS and Mobile hardware**	By 2030
	Deploy "self-defending security" and "quantum-backed security" for mobile systems	By 2047
Internet of Things (IoT) security	Develop an **IoT sandbox**, IoT network security orchestration, and automation	From 2024-2047
	Work on **Zero trust architecture**, **New chip design and standards.**	From 2029-2047
Cyber Forensics	Develop '**Social Media Analytics**'	By 2026
	Create '**Dark Web Forensics**' and **forensics tools for sectors like deepfakes**, UPI apps, and tools **for reconstructing events from CCTV footage**.	By 2030

7.2. BRAIN-COMPUTER INTERFACE (BCI)

Why in the News?

Neuralink, an Elon Musk company has successfully installed a wireless brain-computer interface (BCI) implant in a human patient.

More about News

- In 2023, Neuralink was granted permission by the US Food and Drug Administration (FDA) for human trials.
- It aims to build a **next-generation brain implant with at least 100 times more brain connections** than devices currently approved by FDA.
- Initial results of trial showed promising **neuron spike detection**.
  - Spike refers to use electrical and chemical signals to send information around the brain and to the body.
- Neuralink also announced that their first product will be named **Telepathy**.

About Brain–Computer Interface (BCI)

- It is a system that **determines functional intent** - the desire to change, move, control, or interact with something in our environment - **directly from brain activity**.
  - In other words, BCIs allow controlling an application or a device using only our mind.
  - **Using a BCI skips over the need to have voluntary control of your muscles** to interact with devices around you. It replaces the execution of a physical movement.
- **It has three main parts:**
  - **A device** to detect and record signals coming from the brain.
  - **A computer to process and analyze** the recorded brain activity.
  - **An application/device to control**.
- **Another important part of a BCI is feedback:** The system must somehow let the user know what decision or intended action the computer was able to interpret.
- **Types of BCIs:**
  - **Non-Invasive:** In it, sensors are placed on the scalp to measure the electrical potentials produced by the brain.
    - ✓ E.g. Electroencephalography (EEG), Functional Magnetic Resonance Imaging (fMRI) etc.
  - **Semi-invasive:** The electrodes are placed on the exposed surface of the brain.
    - ✓ E.g. Electrocorticography (ECoG) which is the process of recording electrical activity in the brain by placing electrodes in direct contact with the cerebral cortex or surface of the brain.
  - **Invasive:** Chips/Sensors are placed directly into the cortex, measuring the activity of a single neuron.
    - ✓ E.g. Neuralink's Implant.

> **About Telepathy**
> - It will facilitate **Brain–Computer Interface (BCI)**.
> - The Ultra-fine threads in it will help in **transmitting signals** from the **brain.**
>   - It will allow users to control a computer or phone just by thinking.
> - The aim is to **restore functions lost when the communication pathways** between brain and body break down.

Applications of BCI

- **Helping people with physical disabilities and ageing:** BCIs can enable precise control of prosthetic limbs, giving amputees natural motor skills. It can also help older people train their motor and cognitive abilities.
- **Treatment for diseases:** Parkinson's disease, epilepsy and spinal cord injuries etc. can be treated.
- **Facilitate brain research**: Scientists could use BCIs to improve understanding of the brain. Some researchers have used a BCI to detect the emotions of patients in a vegetative or minimally conscious state.
- **Improving human performance:** BCIs can now be used as a neurofeedback training tool to improve cognitive performance, augment human capabilities and human-computer interactions.
  - BCI could be used to affect alertness and to improve subjects' performance in a cognitively-demanding task.

Concerns related to BCI

- **Technical and user challenges:** Each person generates unique brain signals, which are difficult to measure clearly. Also, Translation of brain signals to speech by a BCI could cause harm if it is not accurate.
- **Data Privacy and Security:** BCIs are vulnerable to cyberattacks as hackers could use malware to intercept brain-wave data generated by the device.
- **Social impact:** Reported costs of wearable BCIs range from hundreds to thousands of dollars, which may result in unequal access.
- **Ethical issues:** BCIs may raise questions about what constitutes consent and about potential unfair advantages conferred by certain human enhancements.
- **Medical issues:** Potential for implants' tiny wires to migrate to other areas of the brain and thus may unintentionally influence other brain functions, or cause any unwanted side effects such as seizures, headaches, mood changes, or cognitive impairment.

Conclusion

Over the next few decades, BCI research and development is likely to continue to grow and we may see greater widespread use of BCIs in people's daily lives. Also, there is a need to improve the accuracy, reliability and efficiency of BCIs so as to realise its full potential.

About Neurons

- **Brain is made of up millions of cells called neurons**, also known as nerve cells.
  - These neurons **work together in large networks to coordinate and control processes in body**.
  - Their work varies from understanding what we see, hear, smell, taste etc.
- **Neurons** are **information messengers**.
  - They use **electrical and chemical signals to send information** between different areas of the brain, as well as between the brain, the spinal cord, and the entire body.
  - Specialized projections called **axons allow neurons to transmit electrical and chemical signals** to other cells.
  - Neurons **can also receive these signals via** rootlike extensions known as **dendrites.**
- **There are three kinds of neurons:**
  - **Sensory neurons** carry information from the sense organs (like eyes and ears) to the brain.
  - **Motor neurons** control voluntary muscle activity, such as walking and talking, and carry messages from nerve cells in the brain to the muscles.
  - **Interneurons** pass signals from sensory neurons and other interneurons to motor neurons and other interneurons.
- **On the basis of structure Neurons are also classified as Multipolar neurons (**single axon and symmetrical dendrites), **Unipolar neurons** (single axon), **Bipolar neurons** (At the end of one side is the axon, and the dendrites are on the other side), **etc.**
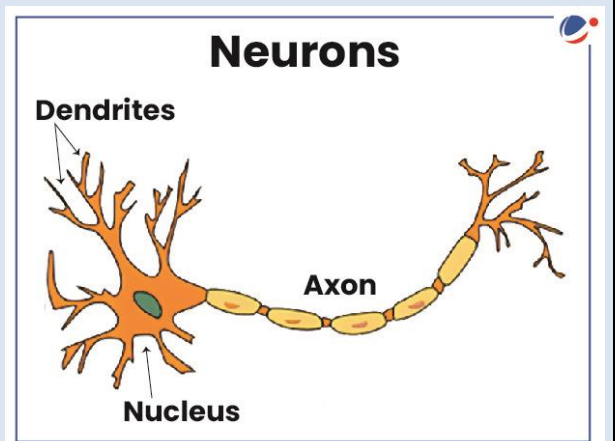
How neurons work?

- A **nerve impulse is transmitted** from one neuron to another **through** junctions **called synapses.**
- Chemicals called **neurotransmitters are involved in the transmission of impulses** at these synapses.
- The **released neurotransmitters bind to their specific receptors**, present on the post-synaptic membrane.
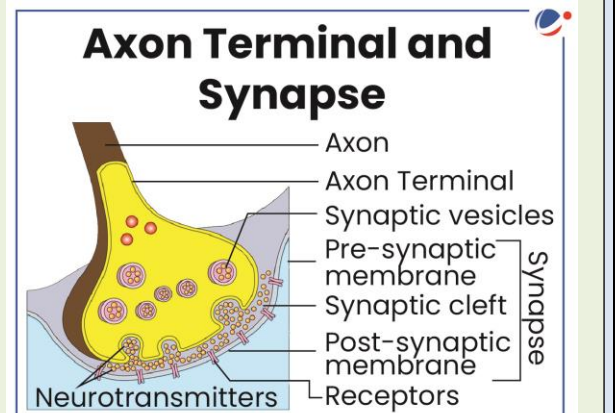
7.3. ELECTRONIC INK (E-INK)

Why in the News?

A new crowdfunded phone called the **Minimal Phone** by the Minimal Company **features** power-friendly monochrome E-Ink display.

About E-Ink display

- E-Ink also known as **electrophoretic ink** is a specific **type of E Paper display.**
  - **E Paper** is a broad term for **any display** designed to **mimic the appearance of real paper.**
- It utilizes the **same ink used in the printing industry** today and **mimics the appearance of ordinary ink on paper**.
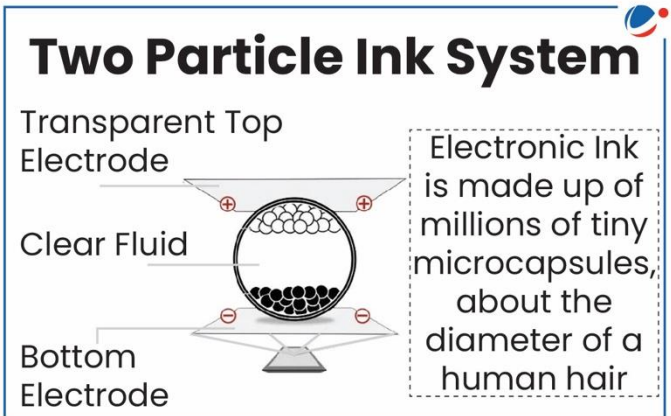
- o Originally, E-Ink was only available in **monochrome, but colour E-Ink** became available in **2010.**
- The screens **work using tiny microcapsules** filled with **positively charged white particles** and **negatively charged black ones** suspended in fluid inside the display (refer to the infographics).
  - o By applying positive or negative electrical **charges to different areas of the screen**, the white or black **particles can be made to rise to the surface**, creating the **text and images on the display.**
- It was **originally developed in the 1990s at MIT** and is now owned by E Ink Corporation.
- **Applications:** In cell phones, signs, and e-readers like the Amazon Kindle.

Advantages of E-Ink display

- **Eye comfort**: Unlike LCD and LED displays that use a backlight, E-Ink displays reflect light – just like paper. This makes them **easier on the eyes for long reading** sessions.
- **Outdoor visibility**: The lack of backlighting also means that they are **easier to read under brighter lighting conditions**, which isn't the case with LCD/LED displays at all – legibility actually takes a hit under bright sunlight
- **Long battery life**: They require very little power since they don't need a backlight and **only use energy when the image changes**.

Limitations of E Ink displays

Low Refresh Rates: Usually, a refresh rate of 60 Hz is considered ideal. However, e-ink displays have a refresh rate of 1 Hz or less.

Expensive: As manufacturing will be difficult and patent/ licensing costs.

Niche-Specific: Focused on specific industries i.e mostly, these technologies are associated with **e-readers, smartwatches** and **electronic shelf labels (ESL).**

Color Limitation: As the pigments in the e-ink are oriented in two directions, it limits the color diversity that people expect. Hence less preferable for animations and videos.

Working of other display technologies
- **Liquid Crystal Display (LCD):** An LCD consists of a layer of liquid crystals sandwiched between two transparent electrodes. When an electric current is applied, the crystals align to control the amount of light passing through them, creating the image you see on the screen.
- Light-emitting diode (LED): It is a semiconductor device that emits light when an electric current is passed through it.
- Organic LED (OLED): OLED is a flat light emitting technology, made by placing a **series of organic thin films between two conductors.** An OLED display **follows the same principle as a LED display,** but operates in a slightly different manner.
  - o **A LED** panel **requires a dedicated backlighting** setup to produce light. However, an **OLED panel can produce its own light.**

7.4. SATYENDRA NATH BOSE

Why in the News?

The eminent physicist **S.N.Bose** was **remembered on his 50th death anniversary**.

About S.N.Bose (1894-1974)
Early life
- Hailed from **Nadia district of West Bengal**.
- Joined the **Presidency college of Kolkata**
  - o His teachers included **Prafulla Chandra Ray** and **Jagadish Chandra Bose**.
- Worked in **the Physics department of University of Calcutta and Dacca University**.
Rewards and Recognitions
- Referred as **"Father of the God Particle"**
  - o The **fundamental particle 'Bosons'** were named after him.
- Awarded **Padma Vibhushan** in 1954.
- **Rabindranath Tagore** dedicated his only book on science – '**Vishwa Parichay'** to SN Bose.
- Served as **Vice- Chancellor of the Visva-Bharati** (1956-58)
- **S. N. Bose National Centre for Basic Sciences (**Kolkata) was established in 1986 in his remembrance.

Satyendra Nath Bose (S.N.Bose)

Scientific Contributions of S.N Bose

- **Bose-Einstein Condensates (BEC):** It is a quantum phenomenon predicted by Bose and Einstein (1925). It is a **state of matter created when particles are cooled to near absolute zero** (-273.15 degrees Celsius/0 Kelvin).
  - **All the atoms become a single entity** at this point, and possess quantum properties, wherein each particle together functions as a wave of matter
  - Referred to as the **'fifth state of matter',** it was proved experimentally by Weimann, Cornell and Ketterle for which they received Nobel prize in 2001.
  - **Properties of BEC include:**
    - ✓ **Super fluidity**: BEC has zero viscosity and can flow without resistance.
    - ✓ **Super conductivity**: The zero resistance leads to optimal conductivity.
    - ✓ **Coherence**: All particles in the BEC are in the same quantum state behaving as a single entity.
    - ✓ **Macroscopic Occupation**: In a BEC, a number of particles occupy a same quantum state, leading to a macroscopic wave function.
- **Bose-Einstein Statistics:** Earlier proposed as **a statistical procedure for counting possible states of a quantum system** composed of identical particles with integer spin for light quanta in 1924 by Bose.
  - The statistics **was extended to gas molecules by Einstein.**
  - Particles which obey Bose-Einstein Statistics principle are referred as **"Bosons".**
    - ✓ Bosons are **particles with integer spin** and include **photons** (light), **gluons** (particles that act as force carriers in the nucleus), the **Higgs boson**, and the **W and Z bosons.**
- **X-ray diffraction cameras:** Designed and constructed by him for rotation and powder photography.
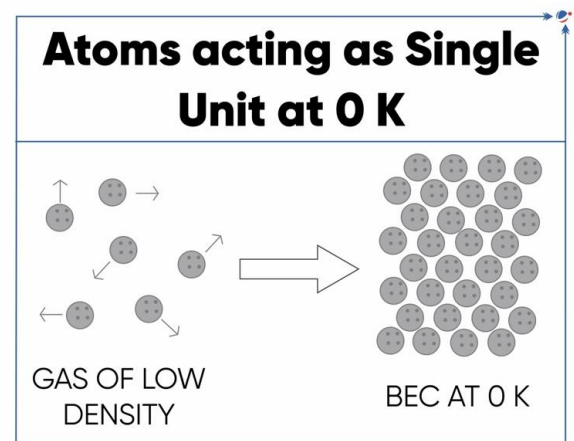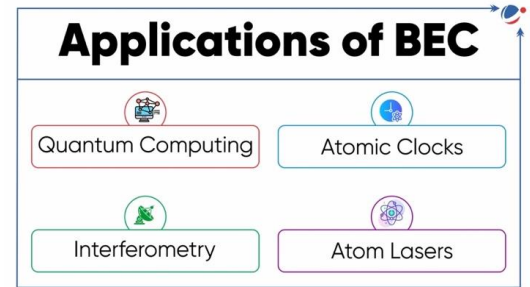
7.5. STREAMLINING FOOD REGULATIONS IN INDIA

Why in the News?

The Food Safety and Standards Authority of India (FSSAI) endorsed **multiple amendments** geared towards **simplifying food safety regulations**.

Amendments approved by FSSAI

- **Elimination of multiple certifications**: Food businesses would not have to go to different authorities for mandatory certification.
  - **Only FSSAI certification** will be mandatorily required for food products.
  - Bureau of Indian Standards **(BIS) or AGMARK certification will not be required** for food products.
    - ✓ **Presently, Food Safety and Standards (Prohibition and Restriction on Sale) Regulations 2011** have prescribed mandatory certification under BIS Act and AGMARK Scheme.
    - ✓ **BIS certification is mandatory for some food products** e.g infant formula, packaged drinking water, milk powder etc.
    - ✓ **AGMARK is mandatory for blended edible vegetable oils** and fat spreads.
- **First comprehensive manual of methods of analysis** for ensuring regulatory compliance of food products.
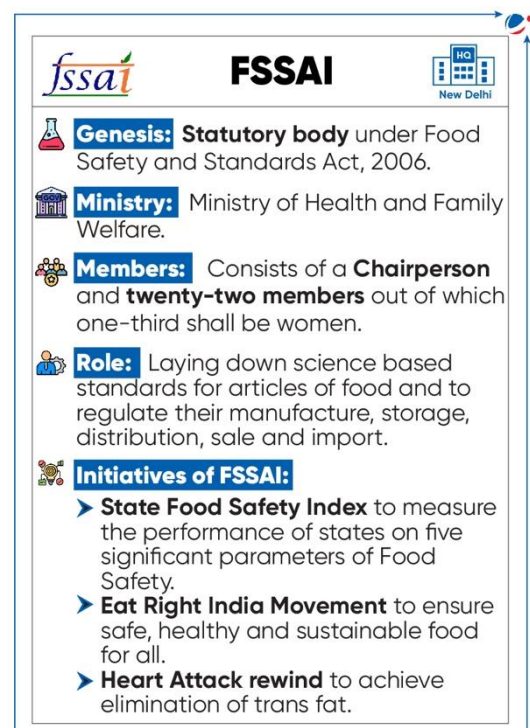
- **Expansion of Standards**: Like **standards of Mead (Honey wine)** and **Alcoholic Ready-to-drink (RTD) beverages**, revision of standards of milk fat products, standards for **Haleem** etc.
- **About Food safety regulations in India**
    - **Food Safety and Standards Act, 2006:** Overarching regulation on food safety establishing FSSAI as the primary food safety authority.
    - **Food Safety and Standards Regulations, 2011:** Contains labelling requirements and standards for packaged food, permitted food additives, microbiological requirements etc.
    - **Various FSSAI Food Safety Standards:** Developed by Scientific Committee and Scientific Panels, the principal arms of FSSAI in standard development process.

> **About AGMARK**
> - AGMARK is a **certification mark for agricultural produce**, assuring that they conform to a grade standard notified **by Directorate of Marketing & Inspection (DMI**) under **Agricultural Produce (Grading Marking) Act, 1937.**
> - **Nature:** Agmark certification scheme **is essentially voluntary,** except few items mandated by FSSAI.
> - **Ministry**: Ministry of Agriculture and Farmers' welfare

BIS
New Delhi — HQ

Genesis: BIS is the **National Standard Body of India** established under the **BIS Act 2016.**

Membership:
- BIS is a member of **International Organization for Standardization (ISO)** and through the Indian National Committee (INC) is a member of **International Electro-technical Commission (IEC).**
- BIS is also a member of regional standards bodies like **Pacific Area Standards Congress (PASC) and South Asian Regional Standards Organization (SARSO).**

Ministry: Ministry of Consumer Affairs and Food and Public distribution

Ex-officio president of BIS: Minister for Consumer Affairs, Food and Public Distribution

7.6. NEWS IN SHORTS

7.6.1. PROTON IMPROVEMENT PLAN (PIP-II) PROJECT

- India's Department of Atomic Energy (DAE) begins construction phase for contributions to Proton Improvement Plan (PIP-II) project.
- PIP-II is the **first particle accelerator on U.S. soil (at Fermilab) to** be built with significant **contributions from international partners**.
    - Institutions from **India, France, Italy, Poland and UK** are part of collaboration. India will contribute **$140 million worth components**.
    - It will power the **world's most high-energy neutrino beam** to the under construction Deep Underground Neutrino Experiment (DUNE) at Long-Baseline Neutrino Facility (LBNF).
- Particle accelerators **propel charged particles (Protons, Atomic Nuclei, Electrons etc.)** at high speeds, close to the speed of light.
    - Accelerators feature **four principal components** – **Source** for producing particles, **Composite device** to speed them up, **Metallic tubes in vacuum** to allow free movement and **Electromagnets** to steer the beam particles.
- **Some Large Particle Accelerators:**
    - **Large Hadron Collider (LHC)**: Most powerful accelerator, located at CERN in Geneva. Significant achievements - discovery of **Higgs Boson**, previously unknown **hadrons** etc.
    - **Stanford Linear Accelerator Centre (SLAC), USA:** Longest linear particle accelerator in the world. Significant achievements - discovery of **quark** and tau **leptons**.
    - **European Synchrotron Radiation Facility (ESRF):** Located in Grenoble, France, and is home to most intense hard x-ray source in the world.

Significance of Particle Accelerators

Fundamental research: Colliding sub-nuclear particles near speed of light, allowing **search for new particles and forces and understanding origins of universe.**

Health: Sterilizing medical equipment and synthesizing radiopharmaceuticals for **cancer diagnosis and therapy.**

Environment: Detect trace chemical elements in air, water or soil.

Industry: Improving durability of materials.

7.6.2. LASER COOLING OF POSITRONIUM

- In a first, CERN Scientists carry out LASER cooling of Positronium.
- An international team of physicists from **Anti-hydrogen Experiment: Gravity, Interferometry, Spectroscopy (AEgIS)** collaboration has achieved this breakthrough.
  - **AEgIS** is one of several **experiments at CERN's Antimatter Factory** with goal of **direct measurement of Earth's gravitational acceleration (g) on antihydrogen**.
  - AEgIS is a **collaboration of physicists** from a number of countries in **Europe and from India**.
- **Positronium (Ps)**, discovered in 1951, is the **lightest known atom**, consisting only of an **electron (e⁻)** and a **positron (e⁺)**.
  - Ps has a **very short lifetime**, annihilating into gamma rays in **142 billionths of a second**.
  - Because it comprises **just two point-like particles**, the electron and its antimatter, it's a **perfect system for experiments under AEgIS**, provided it can be **cooled enough to measure it with high precision**.

About CERN (European Council for Nuclear Research)

- **Founded in:** 1954
- **Location:** Franco-Swiss border near Geneva.
- It has **23 Member States.**
- **India** is an **Associate Member** at CERN.
- **Mission:** To uncover what the universe is made of and how it works.

- **Matter – Antimatter**
  - Matter comes in many forms—**solids, liquids, gases, and plasmas** - consisting of **subatomic particles** that give them mass and volume.
    - **Sub-atomic particles** include **protons and neutrons** (also known as **baryons**), **electrons and neutrinos** (also known as **leptons**), and other particles.
  - **All subatomic particles either have their own anti-twins** (antiquarks, antiprotons, antineutrons, and antileptons such as antielectrons) or straddle between matter and antimatter.
    - **Anti-particles** can combine to form **anti-atoms** and, in principle, could even form **anti-matter region.**

7.6.3. INSAT-3DS WEATHER FORECASTING SATELLITE

- ISRO successfully launched the Ministry of Earth Sciences (MoES) funded INSAT-3DS weather forecasting satellite.
- GSLV-F14 placed INSAT-3DS into the intended **geosynchronous transfer orbit** and then to a **Geo-stationary Orbit** (refer to the box**).**
  - It was launched from **Satish Dhawan Space Centre** in **Sriharikota** (Andhra Pradesh).
- **INSAT-3DS Satellite**
  - It is a follow-on mission of **Third Generation Meteorological Satellite.**
  - It will aid presently operational **INSAT-3D and INSAT-3DR** which are dedicated **meteorological geostationary satellites.**
  - **Onboard payloads:** Imager Payload, Sounder Payload, Data Relay Transponder, and SA&SR transponder.
  - **Indian Industries** have significantly contributed to its making.
- **GSLV-F14:** GSLV-F14 is **16th flight of India's Geosynchronous Satellite Launch Vehicle (GSLV)** and **10th flight with Indigenous Cryogenic stage.**
  - **GSLV is a three-stage** launch vehicle having a **liftoff mass of 420 tonnes.**
    - **First stage** comprises a **solid propellant motor**.
    - **Second stage** comprises **earth-storable liquid propellants.**
    - **Third stage** is a **cryogenic stage.**
  - GSLV can launch spacecraft capable of performing **communications, navigation, earth resource surveys,** and any other proprietary mission.
- **Geosynchronous Transfer Orbit (GTO):** Transfer orbits are **a special kind of orbit used to get from one orbit to another**.
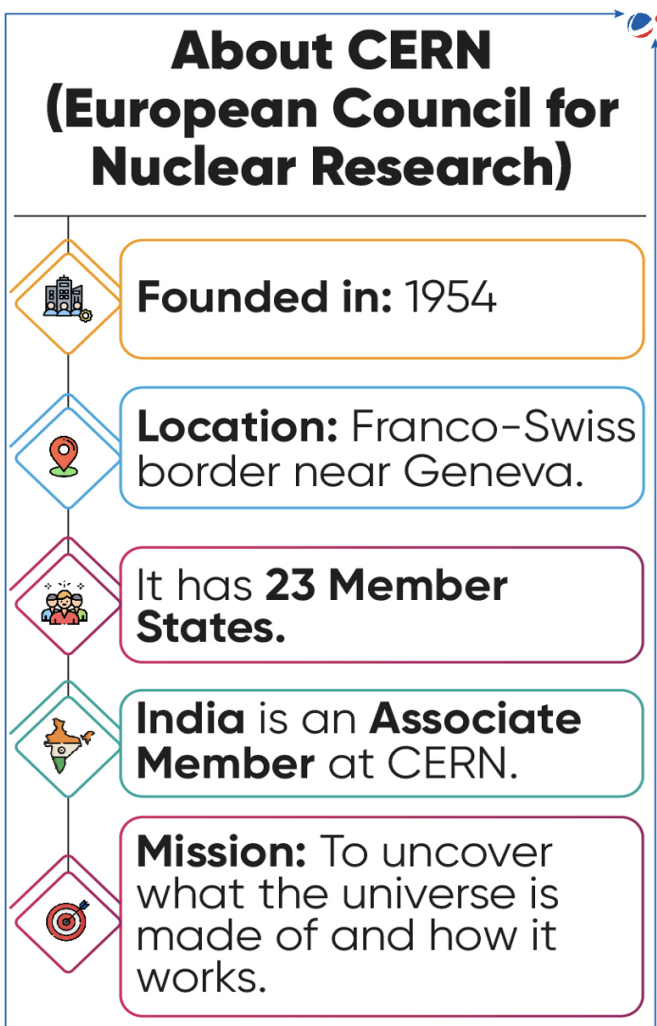
- To attain geosynchronous (and also geostationary) Earth orbits, a spacecraft is launched into an **elliptical orbit with an apoapsis altitude (**point at which an orbiting object is farthest away from the body it is orbiting) of **around 37,000 km.** This is called a GTO.
- **Geostationary orbit (GEO):** Satellites in **GEO** circle Earth **above the equator from west to east** by travelling at the **same rate as Earth.**
  - This makes **satellites in GEO** appear to be **'stationary'** over a fixed position.

Objectives of INSAT-3ds satellite

- Monitor Earth's surface, carry out Oceanic observations and its environment.
- Provide **vertical profile** of various **meteorological parameters** of **Atmosphere.**
- Provide **Data Collection and Data Dissemination capabilities.**
- Provide Satellite Aided **Search and Rescue services** (SA&SR).

7.6.4. CARTOSAT-2

- ISRO confirmed successful de-orbiting and atmospheric re-entry of Cartosat-2 at its end-of-life.
- **About Cartosat-2**
  - Launched in **2007.**
  - Placed in Sun-synchronous orbit.
  - **Advanced remote sensing satellite** capable of providing scene-specific spot imagery.
- **De-orbiting of Cartosat-2:** ISRO lowered its perigee (point in the orbit of a satellite at which it is nearest to the earth) using leftover fuel to comply with international guidelines on space debris mitigation.
  - De-orbiting of Cartosat-2 represents a significant step for ISRO in ensuring **long-term sustainability of outer space activities.**

7.6.5. WATER DISCOVERED ON ASTEROIDS

- Asteroids named **Iris and Massalia** (rich in silicate) were found to emit the unique wavelength that "unambiguously" indicated the **presence of water molecules.**
  - Discovery was made by **studying SOFIA's observations.**
    - ✓ SOFIA was NASA's **airborne astronomical observatory** that was **retired** in **2022.**
- **Asteroids**
  - They **are small, rocky objects that orbit** the Sun. They are much smaller than planets.
  - **Significance of water on asteroids**
    - ✓ Can **shed light** on **how water was delivered to Earth.**
    - ✓ Could be **helpful in search for extraterrestrial life**.

7.6.6. PLANKTON, AEROSOL, CLIMATE, OCEAN ECOSYSTEM (PACE)

- **SpaceX has recently launched NASA's PACE satellite** to monitor ocean, atmosphere, and climate.
- PACE was placed in **a sun-synchronous orbit**, which means that it will always be synced to the same position relative to the Sun.
- **Objectives**
  - Will help in understanding **how the ocean and atmosphere exchange carbon dioxide.**
  - Will reveal how aerosols might fuel phytoplankton growth in the surface ocean
  - Will contribute to **new global measurements of ocean color, cloud properties, and aerosols.**

7.6.7. YUVA VIGYANI KARYAKRAM (YUVIKA)

- Indian Space Research Organisation (ISRO) is organizing a special program for School Children called **"Young Scientist Programme" or YUVIKA.**
- **Key objectives**:
  - Impart **basic knowledge on Space Science, Space Technology, and Space Applications** to the younger students.
  - Encourage more students to pursue **Science, Technology, Engineering, and Mathematics (STEM) based research** and aligned careers.
- Program envisages **classroom training, practical demonstration of experiments**, model rocketry interactions with ISRO scientists, and field visits.
- **Eligibility:** Students studying in Class 9 within India are eligible to apply.

7.6.8. WHO AWARDS COUNTRIES FOR ELIMINATING TRANS-FAT

- World Health Organisation (WHO) awards countries for progress in eliminating industrially produced trans-fatty for first time.
- WHO has awarded **first-ever validation certificates to Denmark, Lithuania, Poland, Saudi Arabia, and Thailand** in eliminating industrially-produced trans-fatty acids iTFA.
  - Total of **53 countries have now best practice policies in effect for tackling iTFA in food**, improving food environment for 46% of world's population.
- **To be validated for trans-fat elimination**, countries should demonstrate:
  - A **best-practice for iTFA elimination policy is in effect** in country; and
  - Applicant country has **adequate monitoring and enforcement systems in place**.
- **WHO criteria for Best practices in iTFA elimination policies**
  - Mandatory **national limit of 2 grams of iTFA per 100 grams** of total fat in all foods;
  - Mandatory **national ban on production or use of Partially Hydrogenated Oils** (**PHO**- major source of trans-fat) as an ingredient in all foods.
  - **Combination of PHO ban and iTFA 2% limit**.
- Trans-fats are **unsaturated fats produced from vegetable oils**.
  - There are **two forms of trans-fat** i.e. **Naturally-occurring trans-fats** (dairy and meat products), **Industrially produced trans-fat** (packaged foods, cooking oils etc.).
  - They are source of **non-communicable disease** and **associated with increased risk of heart attacks.**

Steps taken to regulate TFA
- **India**
  - **Eat Right India Movement** by Food Safety and Standards Authority of India (FSSAI).
  - FSSAI made mandatory to **declare TFA content on nutrition label.**
- **Global**
  - **REPLACE initiative** by WHO.
    - ✓ **REview** dietary sources of industrially-produced trans-fat (iTF).
    - ✓ **Promote** replacement of iTF.
    - ✓ **Legislate** to eliminate iTF.
    - ✓ **Assess** trans-fat content in food supply.
    - ✓ **Create** awareness of negative health impact.
    - ✓ **Enforce** compliance with policies.

7.6.9. WHO LAUNCHED GLOBAL INITIATIVE ON DIGITAL HEALTH (GIDH)

- The initiative was earlier **announced at the G20 Health Ministers meeting in India**.
- The GIDH will be a **WHO Managed Network of stakeholders** to address challenges such as duplication of efforts and "products-focused" digital health transformation.
  - **GIDH Secretariat** will be hosted in **WHO Headquarters (Geneva).**
- **Objective:**
  - **Align efforts** to support of the **Global Strategy on Digital Health 2020–2025**
  - **Support quality** technical assistance to develop and strengthen standards
  - **Facilitate** the use of **digital transformation tools**
- **Foundational Pillars of GIDH**
  - **Country Needs Tracker** to facilitate digital health investments
  - **Country Resource Portal** to identify traditional as well as innovative resource opportunities
  - **Transformation Toolbox** for quality-assured tools to strengthen country capacity to manage the national digital health transformation.
  - **Convening and Knowledge Exchange** to promote strengthened collaboration and knowledge exchange
- **Digital Health initiatives of India**
  - **Ayushman Bharat Digital Mission, launched in 2021**
    - ✓ It aims to establish a **National Digital Health Ecosystem by creating an online platform enabling interoperability of health data** within the health ecosystem
    - ✓ Through components like Ayushman Bharat Health Account (ABHA) Number, Health Facility Registry, Healthcare Professionals Registry etc.

Foundational pillars of GIDH

1 Country Needs Tracker	2 Country Resource Portal	3 Trans-formation Toolbox	4 Convening & Knowledge Exchange
Resource optimization and alignment with country priorities		Quality assured digital solutions and strengthened local capacity	
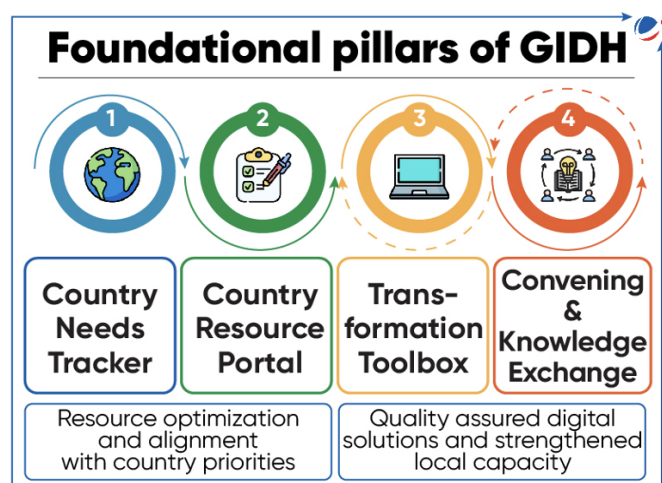
7.6.10. SAMPLING OF DRUGS, COSMETICS & MEDICAL DEVICES

- **Central Drugs Standard Control Organisation (CDSCO) notified Regulatory guidelines** for sampling of drugs, cosmetics & medical devices.
- CDSCO has issued new guidelines to **ensure quality and efficacy of drugs and cosmetics** by **adopting uniform drug sampling methodology for drugs inspectors** under drug regulatory authorities of state and central.
  - o **Section 22 & 23 of Drugs & Cosmetics Act 1940** prescribes detail procedure for samples to be taken by Drugs Inspectors for routine drugs quality surveillance.
- **Key highlights**
  - o **Establish a centralized database** of outlets selling 'not of standard quality' or spurious drugs.
  - o **Each drugs inspector** with consultation of controlling authority shall **prepare a sampling plan on monthly basis & annual basis for finalizing sampling locations** to cover entire jurisdiction/ area under their office.

Need for sampling of drugs, cosmetics and medical devices

- Persistent **concerns around quality of medicines** manufactured in country. Report of deaths in **Gambia and Uzbekistan** due to Indian cough syrup.
- Currently, there is **no defined methodology** for sample selection or location of sampling.
- Sampling was **done randomly with individual knowledge of drug Inspectors.**
- **Coverage Gap** i.e. existing sampling practices mainly **target drugs from big brands in urban or suburban locations,** neglecting rural and remote areas.

Drug regulation in India
- It is based on **Drugs and Cosmetics Act (DC Act), 1940** and **Drugs and Cosmetics Rules, 1945**.
- **DC Act 1940 created CDSCO** under **Ministry of Health and Family Welfare** to prescribe standards for ensuring **safety, efficacy and quality** of **drugs, cosmetics,** diagnostics and devices in India.
  - o **Drug controller general of India** (**head of CDSCO**) approves licences for specified categories of drugs like blood and blood products, Vaccine etc.

7.6.11. GUINEA WORM DISEASE (GWD)

- According to World Health Organization, world is near to eradicate GWD.
- **About GWD (Dracunculiasis)**
  - o It is an infection **caused by parasite Dracunculus medinensis.**
  - o **Spread by drinking water** containing Guinea worm larvae. Larvae are immature forms of worm.
  - o **Affects people in rural, deprived, and isolated communities** who depend mainly on open stagnant surface water sources like ponds.
    - ✓ Also **infections in animals, particularly in dogs**, have been reported.
  - o It is **one of the Neglected Tropical Diseases.**
  - o There is **no vaccine and drug** to prevent the disease and treat patients.
  - o **India successfully eradicated GWD in 2000.**

7.6.12. RHODAMINE-B

- Sale of cotton candy has been banned in Tamil Nadu after samples reveal **use of toxic industrial dye (Rhodamine-B)** as artificial colouring agent.
  - o It is **prohibited in the food industry** by Food Safety and Standards Authority of India (FSSAI).
- **Rhodamine-B:**
  - o Rhodamine-B is an organic chloride salt **used as a colouring agent for dyeing in textile, paper, leather, and paint industry**.
  - o **Impact on human health:**
    - ✓ **Immediate effect:** Stomach fullness, itching, and breathing problems.
    - ✓ **Potential Chronic Health Effects:** Liver dysfunction, Intestine cancers, neurotoxicity, and Kidney failure.

7.6.13. KALA AZAR

- India hit target towards eliminating **Kala Azar for the first time in 2023** by reporting less than one case per 10,000 population across all blocks
- About **Kala Azar**
  - o It is also known as **Visceral Leishmaniasis and is a protozoan** parasitic disease.

- o **Causing agent:** Infected female phlebotomine sandfly.
- o **Symptoms:** Irregular fever, weight loss, enlargement of the spleen and liver, and anaemia.
- o The disease is endemic in **Bihar, Jharkhand, Uttar Pradesh and West Bengal.**
- o **Areas infected:** Brazil, East Africa, and India.

7.6.14. MAGLEV (MAGNETIC LEVITATION)

- In a significant breakthrough, China's maglev train **surpassed its previous record of 623 km/h.**
- Maglev is a system in which the **vehicle runs levitated from the guideway** (corresponding to the rail tracks of conventional railways).
  - o In Maglev, **superconducting magnets suspend the** train above a U-shaped concrete guideway.
  - o Like ordinary magnets, these **magnets repel one another** when matching poles face each other.
- **Advantages**
  - o Produce **no emissions** as they lack engine**.**
  - o **No friction** between wheels and rail enables **higher speeds**
  - o Any t**wo trains travelling the same route cannot** catch up and **crash** into one another.

Working of Maglev Train
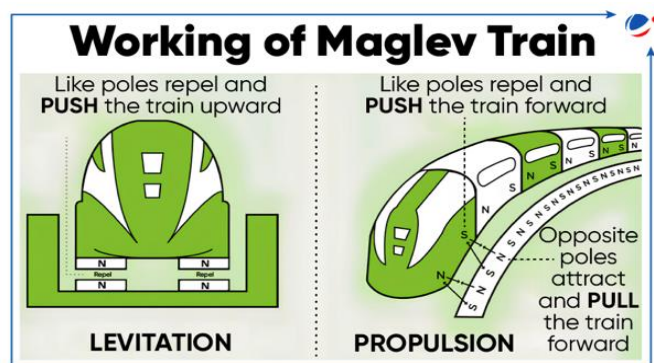
7.6.15. C-BOT

- Goa-based **National Institute of Oceanography** has launched an **autonomous underwater vehicle called C-bot.**
- C- bot is a **robot** with advanced features for **increased surveillance over coral reefs.**
  - o It can travel to a **depth of 200 metres underwater**.
  - o It will **help Indian Navy perform bathymetry studies** (mapping of sea floor) to help plot navigation channels.
  - o It will help in **finding the active hydrothermal vents** where geothermally heated water seeps up from deep below the ocean floor.

7.16.16. ERRATA

In January 2024 Monthly Magazine in Article 7.11.1 Square Kilometre Array Observatory (SKAO) Project, there was misplaced box on "Steps taken in India" in the article. Kindly ignore this box for the article.
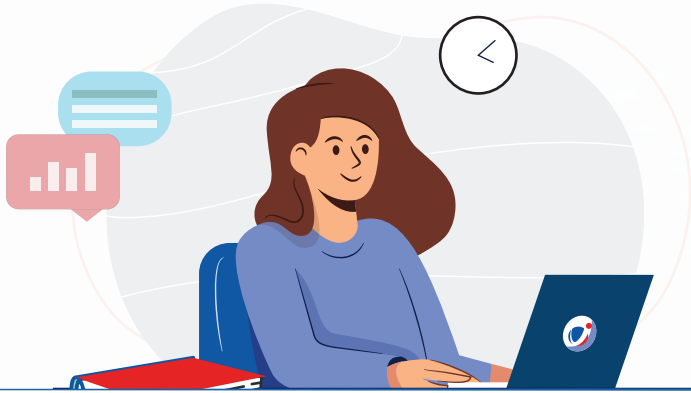
Mastering CSAT:
A Strategic Roadmap for UPSC Prelims Examination

The UPSC Prelims is the initial, highly competitive stage of the Civil Services Examination, consisting of two objective-type papers: General Studies and the Civil Services Aptitude Test (CSAT). These papers assess a candidate's knowledge, understanding, and aptitude.

With the CSAT's growing complexity, achieving the 33% qualifying score is challenging. Aspirants must navigate time management, adapting to changing difficulty levels, maintaining balance with General Studies, and finding quality practice materials. This underscores the importance of a well-planned strategy.

Scan QR Code for **Instant Personalized Mentoring**

Strategic Framework for CSAT Preparation

Initial Self-Assessment: Begin with a self-evaluation using the previous year's CSAT papers to identify strengths and areas for improvement.

Study Plan: Develop a structured study plan, focusing on high yielding areas and selecting reliable study sources.

Regular Practice and Post-Test Analysis: Solving and analyzing previous year papers and mock tests to familiarize with the exam format and question types, ensuring a strategic approach to covering the comprehensive syllabus effectively.

Seeking Personalized Mentorship: Engage with mentors to receive customized strategies for improvement. Alongside essential stress management guidance, ensuring a focused and balanced preparation journey.

Reasoning: Sharpen your logical and analytical reasoning by practicing diverse question types from Clocks, Calendars, Series & Progression, Direction, Blood Relation, Coding-Decoding, Syllogism, and so on.

Focus on understanding patterns and building a step-by-step approach to solving problems.

Maths and Basic Numeracy: Strengthen foundational mathematics by revisiting basic concepts and practicing regularly.

Utilize shortcuts and mental math techniques for quicker calculations.

Comprehension: Improve your reading speed and comprehension by regularly reading newspapers.

Practice summarizing paragraphs and infer the main ideas to enhance understanding.

Elevate CSAT preparation with VisionIAS's **CSAT Classroom Program.** This comprehensive course is designed to build fundamental concepts, enhance problem-solving abilities, and foster critical thinking. Featuring offline/online and recorded classes, personalized mentoring, and regular practice through tutorials, it sets you on the path to mastering the CSAT.

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8. CULTURE

8.1. MAA KAMAKHYA ACCESS CORRIDOR

Why in the News?

Recently, Prime Minister laid the foundation stone for the **Maa Kamakhya Access Corridor in Assam**.

About Maa Kamakhya Access Corridor

- It **aims to boost the tourism in the region** by improving the **ease of access and comfort for the devotees.**
- It is designed on **similar lines of Kashi (U.P) and Mahakal (M.P) corridors.**
- The project was sanctioned under the **Prime Minister's Development Initiative for North Eastern Region (PM-DevINE) scheme.**
  - **PM-DevINE** is a **Central Sector Scheme**, launched during Union Budget 2022-23.
  - **Objectives:**
    - ✓ Fund infrastructure projects.
    - ✓ **Social development in North East Region.**
    - ✓ **Livelihood activities for youth and women**; and
    - ✓ **Fill the development gaps**.
  - **Ministry:** Ministry of Development of North East Region.

About Maa Kamakhya Temple

- **One of the Maha Shakti Peeths in India**.
- Dedicated to **Maa Kamakhaya /Kameswari** (referred as Goddess of desire).
- **Geographical location**: Located on the **Nilachal Hills** overlooking **river Brahmaputra** on the outskirts of Guwahati (Assam)
- **History**
  - **Reconstructed in 1562 at the behest of Naranarayan** (King of Koch dynasty) as the former temple was **destroyed by Kala Pahar**.
  - Finds mention in the inscription of the **Allahabad pillar of Samudragupta**.
  - **Dedicated to different forms of Mother Shakti**, namely **Sundari, Tripura, Tara, Bhuvaneshvari, Bagalamukhi and Chinnamasta**
- **Architecture**
  - **Nilachal Style of architecture** is used in the reconstruction of the temple.
  - It is **a combination of two different styles** namely, the **nagara style** (North Indian) and **Saracenic style** (Mughal).
  - The dome made of bricks is a **sixteen-sided polygon decorated with horizontal bands**.

Kamakhya Temple
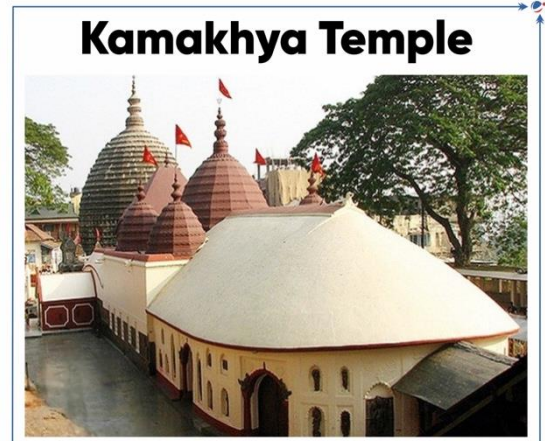
Shakti Peeths
- **Shakti Peeths are places of worship dedicated to Sati or Shakti.**
- There are total **of 51 Shakti Peeths** including India, Nepal, Bangladesh, Pakistan, China and Sri lanka of which **18 are referred as Maha Shakti Peeths**
- **Some other Shakti peeths outside India are**
  - **Guhyeshwari Shakti Peeth (Nepal)**
  - **Kottari Devi Shakti Peeth (Pakistan)**
  - **Indrakshi Shakti Peeth (Sri lanka)**
  - **Dakshayani Devi Shakti Peeth (Tibet, China)**
  - **Maa Bhabani Shakti Peeth (Bangladesh)**

18 Maha Shakti Peeths
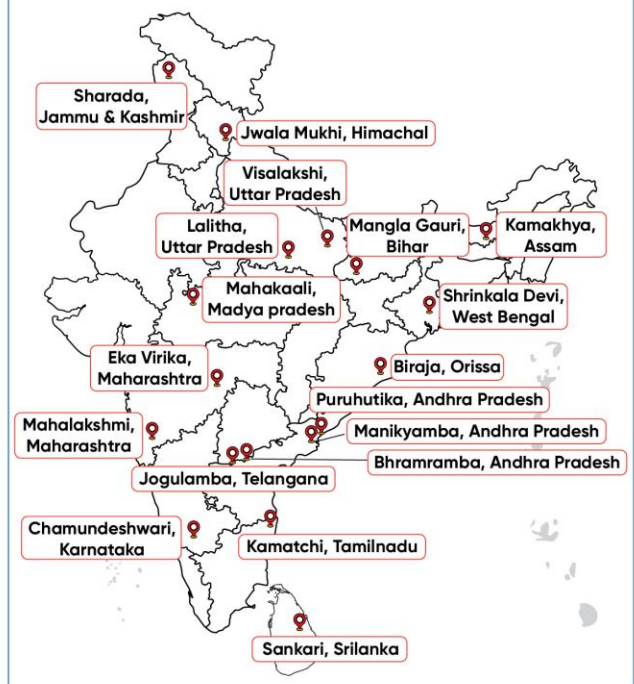
- o The temple complex **consists of three major chambers**.
  - ✓ The **western chamber is rectangular**, while the **middle chamber is square,** and the **third chamber is formed of a cave.**
  - ✓ While the middle chamber comprises of **inscriptions and images of Naranarayana (Koch King)** the **third chamber comprises of a yoni-like cleft** in the bedrock of a cave along with a **natural spring.**
- **Festivals**
  - o A week-long **fertility festival** called **Ambubachi Mela** is held every June in the temple complex.
    - ✓ During the period i.e., **the seventh to the tenth day of the Hindu month of "Asadha"**, the shrine is closed as it is believed that Goddess goes through the annual cycle of menstruation.
    - ✓ Traditional belief is that the **goddess worshipped as mother earth**, enters her annual menstrual cycle during the period**.**
    - ✓ All agricultural work **like digging, ploughing, sowing, and transplanting of crops are forbidden during the festival.**

> **Do you know** ?
> > Umananda Devaloi (located on the Peacock Island) is a Shiva temple located at the Umananda Island in the middle of river Brahmaputra

- **Centre of Tantrism**: It is referred as a prime centre for **tantric Shaktism** in the country.
  - o Tantrism refers to the branch of knowledge that **protects and liberates its practitioners.**
  - o Tantrism, however, is **divided into three major streams.**
    - ✓ **Agama**: The one that comes directly from the lips of Lord Shiva.
    - ✓ **Nigama**: the one that comes from Shakti
    - ✓ **Yamala:** one that comes neither from Lord Shiva nor Shakti

About Tantrism
- Tantrism is the **umbrella term that refers to the search for spiritual power and enlightenment** by means of the **Mantras** (repetition of sacred syllables), **Mandals** (symbolic drawings), and **Looms** (secret rites elaborated in Tantra texts)
- The tantric lineages **exist in both Hinduism and Buddhism**.
  - o While the Hindu tantrism is further **divided into Shaivism and Shaktism** in which Lord **Bairava and Kali or Yoginis are worshipped** respectively.
  - o In Buddhism, **Vajrayana Buddhism** is known for its tantric tilt, in which **Tara, Mahakala, Yamantaka etc. are worshipped.**

Other famous temples in Nilanchal hills

- The **complex is surrounded by many other temples** like **Bhubaneswari, Kali, Tara, Chhinnamasta, Bagala, Bhairavi, Doomavati, Matangi and Kamala**
  - o All these temples along with Kamakhya are **collectively known as the Dasa-mahavidya**.
- **Five temples of Lord Shiva** namely Kameswara, Siddheswara, Kedareswara, Amratokeswara, Aghora and Kautilinga are present along the nilancal hills.
  - o All these temples together form the **Kamakhya temple complex.**

8.2. MARATHA MILITARY LANDSCAPES

Why in the News?

Maratha Military Landscapes will be India's nomination for recognition as UNESCO World Heritage List for the year 2024-25.

About Maratha Military Landscapes

- It was **included in Tentative List of World Heritage sites in 2021**.
- Represent an extraordinary fortification and military system envisioned by the Maratha rulers.
- It is nominated in the category of **cultural criteria**.

Suvarnadurg Fort

- The inception of the Maratha Military ideology dates back to 17th Century during the reign of the **Maratha King Chhatrapati Shivaji Maharaj.**
  - It continued through subsequent rules until Peshwa rule till 1818 CE.
- It covers forts from **Maharashtra** and **Tamil Nadu**.
- It is a result of **integrating** the landscape, terrain and physiographic characteristics distinctive to the
  - **Sahyadri** mountain ranges,
  - the **Konkan** Coast,
  - **Deccan Plateau** and
  - the **Eastern Ghats** in the Indian Peninsula.

Other World Heritage Sites in Maharashtra
- **Cultural**- Ajanta Caves, Ellora Caves, Elephanta Caves, Chhatrapati Shivaji Maharaj Terminus (formerly Victoria Terminus), and Victorian Gothic and Art Deco Ensembles of Mumbai. - **Natural**- Western Ghats of Maharashtra, Kerala, Tamil Nadu, Karnataka, Goa, and Gujarat. is serial property in natural category (2012).

Key Features of Forts in Maratha Military Landscapes	
Hill forts	
Salher	- Witnessed an important battle in 1672 fought between the Marathas and the Mughals.
Shivneri fort	- Birth place of Chhatrapati Shivaji.
Lohgad	- Located near the Buddhist caves at Bhaje.
Raigad	- Selected by Chhatrapati Shivaji for his permanent capital.
Rajgad	- Recognized as the **first political base of 'Hindavi Swarajya'**; Rajgad, formerly known as Murumdev (name based on the mountain Murumbadev, on which it was built). - Capital of the Maratha Empire. - It was one of the 17 forts that Chhatrapati Shivaji Maharaj kept when he signed the **Treaty of Purandar in 1665.**
Gingee Fort (Tamil Nadu)	- It has three distinct hilltop citadels and a massive boundary of thick walls and cliffs
Island forts	
Sindhudurg	- Occupies an islet in the Arabian Sea.
Suvarnadurg	- Presumably built by the rulers of Bijapur in the 16th century A. D.
Khanderi fort	- Built during the reign of the Maratha king Shivaji in 1679 CE to keep a check on the Siddhis at Murud-Janjira fort
Hill-forest fort	
Pratapgad	- Major fight with Afzal Khan took place near this fort.
Hill-plateau fort	
Panhala Fort	- Became Maratha state capital under Tarabai.
Coastal fort	
Vijay durg	- Shivaji captured this fort from Adil Shah of Bijapur and renamed it as "Vijay Durg. - It was called the "Eastern Gibraltar".

Maratha Empire at a Glance	
Foundation	- The Maratha Empire formally began with the rise of **Chhatrapati Shivaji** in 1674. - It dominated a large portion of India during the 17th and 18th century.
Capitals	- Raigad Fort, Gingee, Satara, and Pune
Reigned	- At its peak, the Maratha Empire extended from Peshawar in the north to Thanjavur in the south.
Administration	- An administrative system known as '**Ashtapradhan**' was formed by Shivaji. - It consisted of a council of **eight ministers**. - The eight ministers were **Peshwa** (Prime Minister), **Amatya** (Finance Minister), '**Sachiv**' (Secretary), **Mantri**(Interior Minister), '**Senapati**' (Commander-in-Chief), **Sumant**(Foreign Minister), **Nyayadhyaksh** (Chief Justice), and **Panditrao** (High Priest).
Revenue Policy	- **Sardeshmukhi** (exaction of 10 % imposed upon the revenues of the entire Maratha kingdom) and **Chauth** (i.e. 1/4th of the total revenue) were important taxes.

	o **Chauth** was claimed from the neighbouring chieftains whose territories did not form part of their Maratha Empire.
Peshwa's Domination and Decline	• After the death of **Shahu I ji** Maharaj, in 1749, the P**eshwa Balaji Baji Rao** became the virtual ruler of Maratha Empire. • With the defeat of third Battle of Panipat (with Ahmad Shāh Abdali,1761) the decline of Peshwa started. • Finally, Maratha Empire was taken over the British.

Conclusion

Maratha Empire emerged as strong power at time when Mughal power was at its peak. With the help of their mighty forts and tactics they were able to defeat their opponents expand their empire. Addition of forts in the UNESCO Heritage List will promote preservation of forts.

> **About World Heritage Sites (WHS)**
> • It is any of the areas or objects inscribed on the **UNESCO World Heritage List**.
> • These sites are designated as having **outstanding universal value** under the **World Heritage Convention** of **1972**.
> • Sites are selected under three categories i.e., **cultural**, **natural**, and **mixed**.
>   o There are 42 **World Heritage Sites** in India. Out of these, 34 are cultural, 7 are natural, and one is of mixed type.
> • WHS are nominated on the basis of the tentative list submitted the members.
>   o For inclusion in World Heritage List, **a site must meet one of the ten selection criteria.**

8.3. BHARAT RATNA

Why in the news?

P.V. Narasimha Rao, Chaudhary Charan Singh, MS Swaminathan, L K Advani, Karpoori Thakur received India's highest civilian award Bharat Ratna.

About Bharat Ratna

- It is **India's highest civilian award**, **granted by President** to individuals for outstanding service across any field, irrespective of race, occupation, position, or gender.
- **Recommendations**: Made by **the Prime Minister of India to the President** (No formal recommendations for this are necessary)
- **Recognition**: Recipients receive a Sanad (certificate) signed by the President along with a medallion. **Notably, the award does not come with any monetary grant.**
- **Establishment**: It was **instituted by former President Dr. Rajendra Prasad on January 2, 1954.**
- **Regulations: Article 18(1)** of the Indian Constitution **prohibits** awardees from using **'Bharat Ratna' as a title, prefix or suffix to their name.**
  - However, they **are allowed to include 'Awarded Bharat Ratna by the President'** or 'Recipient of Bharat Ratna Award' in their **biodata, visiting cards, letterheads**, etc.

Design of Bharat Ratna Medal

- **Shape and Inscriptions:** It designed in the shape of a peepal leaf, with 'Bharat Ratna' inscribed in Devanagari script beneath a sunburst figure.
- **Reverse Side:** It features the phrase 'Satyameva Jayate' written in Devanagari script, placed under an inscription of the state emblem.
- **Materials:** The emblem, sun, and rim of the award are made of platinum, while the inscriptions are crafted in burnished bronze.
- **Production:** The awards are manufactured at **Kolkata's Alipore Mint.**

- **Initial Awardees: Dr. Sarvapalli Radhakrishnan, Dr. CV Raman, and Chakravarti Rajagopalachari were the first recipients of the Bharat Ratna in 1964.**
  - Notably, the award is also **open to non-Indians**, as demonstrated by the likes **of Mother Teresa, Khan Abdul Ghaffar Khan, and Nelson Mandela.**
- **Additional Information:**
  - **Initially**, the award was **not conferred posthumously**, but **this changed in 1966** when awarded to Lal Bahadur Shastri.
  - **The youngest recipient and first sportsperson** to be honored with the award was **Sachin Tendulkar** in 2014.

- o **A maximum of three awards** can be given each year, with an exception occurring this **year 2024 and in 1999 when five and four individuals received the honor respectively.**

About PV Narasimha Rao:

- **Personal Life:** PV Narasimha Rao was born on June 28, 1921, in Telangana, India. He pursued higher education in law and literature. Rao proficient in multiple languages including Telugu, English, Urdu, Sanskrit, and Hindi.
- **Political Career:** PV Narasimha Rao had a distinguished political career spanning several decades.
  - o He served as the **Chief Minister of Andhra Pradesh from 1971 to 1973**, showcasing early leadership skills.
  - o On the national stage, he held **key ministerial portfolios including External Affairs, Home Affairs, Defense, and Human Resource Development.**
  - o His tenure as **Prime Minister from 1991 to 1996** was marked by significant economic reforms and diplomatic initiatives.
- **Reforms Taken Up by Him:**
  - o **Economic Reforms:** He **spearheaded economic liberalization in India**, **dismantling the restrictive policies of the license raj**. He introduced measures to make Indian industries more competitive, attract foreign investment, and foster market-oriented growth.
  - o **Constitutional Reforms:** His tenure witnessed significant constitutional amendments, including **the 73rd and 74th Constitutional Amendments Act**, which decentralized governance and empowered local bodies.
  - o **Diplomatic Initiatives:** He played a pivotal role in India's foreign policy, hosting **the Seventh Summit of the Non-Aligned Movement in 1983** and leading **a Special Non-Aligned Mission to West Asia** to resolve the Palestinian Liberation Organization issue. He also established **diplomatic ties with Israel** and initiated **the Look East Policy** to strengthen engagement with Southeast Asian countries.
  - o **Improvement of Indo-US Relations:** He worked towards improving relations with the United States, fostering cooperation in trade, defense, and technology transfer.

About Chaudhary Charan Singh:

- **Personal Life:**
  - o Born on December 23, 1902, in Nurpur, Meerut district, Uttar Pradesh.
  - o Raised in a peasant farming family
  - o Influenced by the **Arya Samaj's ideal of a casteless Hindu society and Gandhi's teachings on rural development.**
- **Political Career:**
  - o **He served two terms as the Chief Minister of Uttar** Pradesh from 1967 to 1968, followed by a second term in 1970.
  - o **He held cabinet-level positions in Uttar Pradesh from 1951 to 1967.** During this time, he focused on legislation concerning revenue, land, agriculture, forests, and law & order.
  - o He briefly served **as the Prime Minister of India from July 1979 to 1980. His tenure was short-lived,** lasting for about a year.
- **Reforms taken up by him:**
  - o **Introduced the Debt Redemption Bill (1939):** He was the chief architect of land reforms in U.P and took a leading part in formulation and finalisation of the Dept. Redemption Bill 1939, which brought great relief to rural debtors.
  - o **Drafted the Land Utilization Bill (April 1939)** to transfer proprietary interest in agricultural holdings to tenants.

Books and Literary Work of Chaudhary Charan Singh

Abolition of Zamindari: Two Alternatives (1947)

Agrarian Revolution in Uttar Pradesh (1957)

Joint Farming X-Rayed: The Problem and Its Solution (1959)

India's Poverty and Its Solution (1964)

India's Economic Policy: The Gandhian Blueprint (1978)

Economic Nightmare of India: Its Cause and Cure (1981)

  - o **Role in Eradication of the Zamindari System in Uttar Pradesh:** It was due to his efforts that the legislations such as the **Uttar Pradesh Zamindari and Land Reform Act, 1952,** resulted in the abolition of Zamindari throughout the State.

- o **Uttar Pradesh Consolidation of Holding Act, 1953:** Paved the way for consolidation of land holdings of rich and medium peasants.
- o **Uttar Pradesh Soil Conservation Act, 1954:** aimed at containment of gradual soil erosion and decline in productivity of soil, were placed on the statute book.
- o **Land Holding Act 1960**: He was instrumental in bringing about this law which aimed at lowering the ceiling on land holdings to make it uniform throughout the State.

Related News : Padma Awards
- President approved conferment of **132 Padma awards** for 2024.
- **Padma Awards, which were instituted in the year 1954**, is announced **annually** on the occasion of Republic Day **except for brief interruption(s) during the years 1978 and 1979 and 1993 to 1997.**
- The award is given in **three categories**, namely,
  - o **Padma Vibhushan** for **exceptional and distinguished service**
  - o **Padma Bhushan** for **distinguished service of a high order**
  - o **Padma Shri** for **distinguished service**
- The award seeks to recognize works of distinction and is given for distinguished and exceptional achievements/service in all fields of activities/disciplines.
- **The awards are given on recommendation of The Padma Award Committee:**
  - o It is **headed by the Cabinet Secretary** and **includes Home Secretary, Secretary to the President and four to six eminent persons** as members
  - o **Recommendations** are then submitted **to the Prime Minister and the President of India** for approval.
- **All persons without distinction** of race, occupation, position or sex are eligible for these awards.
  - o However, **Government servants including those working with PSUs, except doctors and scientists, are not eligible for these Awards.**
- **A higher category Padma award** can be granted **only after a five-year gap** from the previous award, **but exceptions can be made by the Awards Committee** for deserving cases.
- The President presents the comprising a **Sanad (certificate) and a medallion.**
- The total number of awards in a year (excluding posthumous and to non-residents) is capped at 120.
- It is **not a title under Article 18.**

8.4. RANI CHENNAMMA

Why in the News?

Recently, 200th anniversary of the **Kittur or Kitturu Revolt,** led by Rani Chennamma, was commemorated.

About Rani Chennamma

- She was born in 1778 at Kakati village in present day Karnataka.
- She married **Raja Mallasarja** of Kittur, who ruled the province until 1816.
- After Mallasarja's death in 1816, his eldest son, Shivalingarudra Sarja, ascended the throne, but he died soon.
- After this, she **adopted a child**, Shivalingappa, and made him heir to the throne.

Clash with the British East India Company (EIC)

- British East India Company did not accept her adopted son as legal heir as per the **Doctrine of Lapse** and ordered her to exile her adopted son.
  - o It was the first instance of imposition **Doctrine of Lapse** in 1824 **(refer to box)**, even before officially articulated by **Lord Dalhousie**.

Rani Chennamma

Do you know
> **Rani Chennamma** gave refuge to **Rajaram,** the **2nd son** of the great **Shivaji,** when he was on the run from Mughal forces.

- She then defied EIC's order to **exile adopted child** and sent letter against the order to Lord **Elphinstone**, the then Lieutenant-Governor of Bombay, to plead the cause of Kittur, but her request was turned down.
- The British tried to confiscate the treasures and jewels; this led to the **Kittur Revolt.**

About Kittur Revolt (1824)

- It is regarded as the **first Indian armed rebellion** against British EIC. Also, one of the earliest **woman-led anti-colonial** struggles.
- In the first battle, in October 1824, British forces lost heavily.
  - o Also, British officers were taken as hostages by her.
  - o She released them after a promise from the British that the war would end.
  - o But the British cheated her and re-started the war.

> **Doctrine of Lapse**
> - It was **one of the major annexation policies** of EIC.
>   - o Others are **Ring Fence Policy** and **Subsidiary Alliance**.
> - Under this, **any princely state or territory under the paramountcy of British EIC** would **automatically be annexed** if the ruler was either "**manifestly incompetent or died without a male heir**".
> - This Doctrine rejected the **long-established right** of an **Indian ruler** without an heir to choose a successor.
> - Province of Satara (1848), Jaipur (1849), Sambhalpur (1849), Bahat (1850), Udaipur (1852, Jhansi (1853), and Nagpur (1854) were annexed under it.
> - The doctrine was revoked after the revolt of the 1857.

- The British army attacked the Kittur Fort and captured it. She and her family were imprisoned and jailed at the fort in **Bailhongal**, where she died in 1829.
- Her lieutenant, **Sangolli Rayanna** played key role.

Conclusion

Rani Chennamma revolt against was just not against the East India Company but also against the society in which women were discriminated. Her revolt and sacrifice had played key role in national awakening during freedom struggle.

8.5. MAHARSHI DAYANAND SARASWATI

Why in the News?

Recently, 200th birth anniversary of renowned social and religious reformer Maharshi Dayanand Saraswati was commemorated.

Do you know?
> Dayanand Saraswati gave the popular slogan **'go back to the Vedas'.**

Maharshi Dayanand Saraswati

About Maharshi Dayanand Saraswati (1824-1883)

- **Early Life**
  - o He was born in Tankara in the state of Gujarat.
  - o His father's and mother's name was Karsan Ji Tiwari and Amritbai, respectively.
  - o His childhood name was **Moola Shankar**, he was also called **Dayaram**.
- **Education and Enlightenment**
  - o He attained enlightenment on the occasion of fasting on the day of Shivratri.
  - o By the age of 14, he had gained knowledge of the Yajurveda and hymns from the other Vedas.
  - o He received education from Guru Virjanand Ji in Mathura.

Key Contribution and Relevance of Ideas and Principles in Present Scenario	
Contribution	Relevance
Socio-religious	
- He considered **Vedas** as rock-bed of Hinduism and **infallible**, being the inspired one of God. - His aim was to re-establish the teachings of the Vedas. - He advocated for **Suddhi movement** to reconvert the other sects to Hindu order. - He established **Arya Samaj (1875)** as a reformist organization.	- He **criticized the activities like superstition, etc. Many of these elements are still being performed**. These are against the scientific temper. Therefore, his ideas need to be propagated to enlighten people. - In 19th century he promoted the idea of **widow remarriage** which is still not accepted by large number of people. Such narrow and patriarchal

o The first Arya Samaj unit was formally set up at Mumbai (then Bombay) and later headquarter was established at **Lahore**.	mind-set can be reformed by propagating his noble ideas.
o It condemned ritualistic practices like **polytheism**, **idol worship**, **pilgrimage** and **bathing** in holy rivers, **animal sacrifice**, offering in temples, sponsoring priesthood etc.	• His teachings are still relevant as society is facing many social issues such as corruption, caste based discrimination etc.
o It opposed **child marriages** and supported **widow remarriage**.	
o It is based on 10 principles propounded by him, which were based on the Vedas.	
o It also stood for the upliftment of depressed classes.	
Education	
• He established Gurukulas and Girl's Gurukulas. • The **DAV (Dayanand Anglo Vedic)** schools came into existence in 1886 to realize his vision. • The first DAV School was established at Lahore with Mahatma Hansarj as the headmaster.	• He was of the view that **education should be for all** it will play key role in **development of the society.** • In the current scenario also, it has relevance in empowering everyone especially people from marginalised section such as scheduled castes.
Political Consciousness	
• He also worked to **promote national awakening**. • He was the first to give the call for Swaraj as "India for Indian" in 1876.	• Idea of **national awakening** is still relevant but only objective has changed. At that time, we were fighting with the British but now we have to fight pressing issues such as communalism, terrorism, poverty etc.
Literary Work	
• Satyarth Prakash; Sanskarvidhi, Yajurved Bhashyam, Veda Bhashya Bhumika etc. • Edited journal named **Arya Patrika** edited by him also reflects his thought.	• His literary works are carrying forward his ideas to the masses.

Conclusion

Maharshi Dayanand Saraswati had immensely contributed in the different spheres of life. The noble ideas and thought promoted by him are still relevant and they are acting as guiding principles for the nation.

8.6. NEWS IN SHORTS

8.6.1. PARUVETA UTSAVAM

- Efforts are being made to get UNESCO to declare the **ongoing annual 'Paruveta utsavam' (mock hunting festival)**, as an 'intangible cultural heritage'.
- Festival starts **annually** on Makarasankranthi at **Sri Narasimha Swamy temple, Ahobilam** in **Andhra Pradesh** and lasts for about **40 to 45 days.**
- Ahobilam is situated amidst **Nallamala Forest in Eastern Ghats**, and is the **centre of worship of Narasimha**, the lion-headed avatar of **Lord Vishnu**.
- It is one of **108 Divya Desams** (Temples of Shri Vishnu).

8.6.2. HORI HABBA

- Casualties reported during Hori Habba raise concerns about animal and human safety.
- **Hori Habba** also known as Hatti Habba, is a **bull-taming rural sport** held in **Karnataka**.
- **Other Animal Sports in India**
  - o **Jallikattu:** Bull-taming sport held during Pongal in Tamilnadu.

  - o **Kambala:** A traditional buffalo race from coastal Karnataka.
  - o **Rooster fight (Cockfight)**: It is associated with gambling in many states including Andhra Pradesh.
  - o **Bulbul fights:** Held in Assam during Magh Bihu.
  - o **Bullock Cart Race:** Maharashtra, Karnataka, Tamil Nadu etc.

6.6.4. KUTIA KONDH TRIBE

- Two persons from **Kutia Kondh Tribe** attended **Republic Day parade** in New Delhi as special guests.
- **About Kutia Kondh (Kutia Kandha)**
  - o **They are Particularly Vulnerable Tribal Groups (PVTGs)** from **Odisha**.
    - ✓ Currently, **75 tribes are given status of PVTGs in India,** of which Odisha houses the most number of them (13).
  - o **Society and culture:**
    - ✓ Families are mostly **nuclear** and **patriarchal in character.**
    - ✓ **Kondhs worship nature.**

- ✓ Known for their buffalo sacrifice ritual, called "**Kedu" to worship their "Earth Goddess**".
- o **Agriculture:**
  - ✓ **Shifting cultivation**, or slash-and-burn agriculture.
  - ✓ Kondhs call it **dongar chaas or podu chaas.**

8.6.5. GRANTHAM INSCRIPTIONS

- Stones bearing **11th century Grantham inscriptions** and 16th century Tamil inscriptions were discovered near Kangayam in Tamil Nadu.
  - o **Grantha** is the script used in Tamil Nadu for **writing the Prakrit and Sanskrit language.**
- Grantha script traces its roots to **Pallava period** with **Mahendravarman's Tiruchirappalli rock cut cave** and other cave temple inscriptions.
- **Other Grantha inscriptions** include Narsimhan's Mamallapuram, Kanchi Kailasnatha temple inscriptions, Pandyan Nedunjadaiyan's Anaimalai inscription and inscriptions of Cholas of Thanjavur.

8.6.6. JNANPITH AWARD

- The 58th Jnanpith Award for the year 2023 has been awarded to **Jagadguru Swami Rambhadracharya ji** for **Sanskrit** and **Shri Gulzar for Urdu**.
- **Jnanpith Award**
  - o Instituted in 1961, the Award has been given **by Bharatiya Jnanpith** annually **since 1965** for outstanding contributions to **Indian literature.**
    - ✓ **Bharatiya Jnanpith**, formally established in 1944, is one of the **premier literary organizations** and **publication houses** in India.
  - o Recognized as the **highest literary award.**
  - o Conferred for **literature in Indian languages and English.**
  - o Presented by **Presidents, Prime Ministers and international celebrities.**

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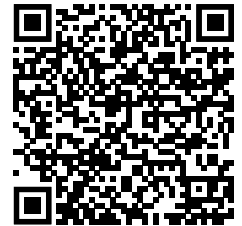
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9. ETHICS

9.1. USE OF UNFAIR MEANS (CHEATING) IN PUBLIC EXAMINATION

Introduction

Parliament passed the **Public Examinations (Prevention of Unfair Means) Act (PEA), 2024**. The Act deals with unfair means adopted or offences committed by various entities involved in conducting public **examinations by the Central Government and its agencies.**

Stakeholders, their interest in public examination and the impact of cheating

Stakeholder	Interest	Impact of cheating
Students	• Increased knowledge. • Secure employment prospects. • Develop confidence and skills like time management through healthy competition. • Assess their learning.	• Hinders the **learning process.** • Gives some students an **unfair advantage over the others.** • Achievements of students obtained **via sincere work are diminished**. • **Compromises** the serious candidates' prospects for the future.
Government and public authorities	• Select qualified officials. • Provide employment to youth. • Transparency, fairness and credibility in the hiring process.	• Unqualified candidates are selected, leading to **poor service delivery**. • Scams and postponement of examination **adds to the additional costs.** • Repetitive instances of cheating widened the **trust deficit between the public and the government.**
Society	• Develop qualified human resources to serve society. • Promote virtues like honesty, hard work etc.	• **Society is poorly served** if people are permitted to become credentialed, certified, and licensed through cheating. • Increase in the **social acceptability of cheating** in public life. • **Perpetuates moral corruption** in the society.
Examination centres, service providers	• Monetary gains from conducting exams	• **Loss of future opportunities and profits.**

Ethical reasonings against cheating in examinations

- **Violates deontological ethics:** Students have adopted unfair means (cheating) for favourable ends (results).
- **Against Utilitarianism:** Cheating does not serve the Society and does not satisfy its interests as people who are not capable of providing the needed knowledge and services are given positions.
- **Violates Categorical Imperative:** As per Immanuel Kant's categorical imperative one should only act in accordance with rules that could hold for everyone.
  - It would be reasonable to conclude that the would-be cheaters should not want to have inferior care and services from providers who cheated their way into positions.
- **Justice as Fairness Principle:** Cheating violates human liberties and equality of opportunities and supports unjust differences.
- **Virtue Ethics:** Virtues of truth, trust, and excellence of character do not support deception or dishonesty.

> I would prefer even to fail with honor than win by cheating.
>
> — Sophocles

Reasons for cheating in examinations

- **Ambiguous attitudes**: Parents and teachers sometimes support a culture that is accepting of cheating, such as allowing students to plagiarise.
- **Competitive and societal pressures**: In today's increasingly competitive atmosphere, doing well in exams is becoming more and more important for survival.

- o Further, success is often measured by whether a student has a passing grade rather than the ability to complete the learning process with integrity.
- **Delayed justice:** There is a general perception of the judicial system being slow and ineffective, lessening the fear of repercussions.
- **High-end technology:** Cheaters have access to many devices helping in cheating like spy mics, Bluetooth devices, and so on.
- **Institutional apathy**: Lack of proper monitoring systems to curb the use of unfair means and absence of appropriate punishments may further encourage cheating.
- **Ambition and Pursuit of self-interest**: Students may intentionally cheat to gain an unjust advantage over others.
- o Further, other entities may assist in cheating for monetary gains.
- **Altruistic cheating**: A person may use unfair means to benefit someone else, such as parents using monetary means to help out their children in an examination, friends helping out each other etc..

How 'Does PEA 2024' seek to prevent the use of unfair means in public examinations?

- **Wide definition of unfair means**: The Act lists 15 actions that amount to using unfair means in public examinations "for monetary or wrongful gain," like leakage of question paper/ answer key, directly or indirectly assisting the candidate, wilful violation of norms or standards, tampering with the computer network or a computer resource, creation of fake website, etc.
- **Strict punitive action**: All offenses under the Act will be **cognizable, non-bailable, and non-compoundable**. Penalties specified in the act-
  - o **For Persons resorting to unfair means and offences under the Act**: Imprisonment for a term 3-5 years and fine up to ten lakh rupees.
  - o **For Service provider**: Fine up to one crore rupees and proportionate cost of examination and being barred for a period of four years
  - o **Organized crimes**: Imprisonment of 5- 10 years and fine of up to one crore rupees.
- **Transparency and accountability**: In the event of a **violation, service providers (providing devices like computers)** must report to the police and the concerned examination authority.
- **Officers empowered to investigate**: An officer not below the rank of Deputy Superintendent of Police or Assistant Commissioner of Police.

Public Examination covered under the Act
Any Examination conducted by—
- Union Public Service Commission.
- Staff Selection Commission.
- Railway Recruitment Boards.
- Institute of Banking Personnel Selection.
- Ministries or Departments of the Central Government and their attached and subordinate offices for recruitment of staff.
- National Testing Agency.
- Such other authority as may be notified by the Central Government

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Way forward

- **Technologically based solutions:** New strategies need to be considered and employed to better manage the advancement of technology use for illegitimate purposes.
  - o For instance, the government decided to set up a **High-level National Technical Committee on Public Examinations** to develop protocols for insulating digital platforms.
- **Social stigma towards cheating**: Value-based education and making use of role models should be used to build negative attitudes towards cheating in society.
- **Parental Involvement:** Parents should support their children's learning without resorting to unethical practices making ethical learning at home.

Check your ethical aptitude

You have been studying for a public examination for a considerable amount of time, but you have not been successful in passing it by a very small margin. You were approached by a person who informed you that he works at the examination centre for your upcoming exam. He said that he could provide you with the key to a few questions in exchange for money. He stated that he has been engaging in this activity for a considerable amount of time, and because he is doing it on a very small scale, he is never caught. Hence, the likelihood of you being caught is likewise low.

On the basis of the case study answer the following questions:

- Identify the stakeholders and ethical concerns in the given situation.
- Evaluate the possible options available to you.
- What will be your ideal course of action?

9.2. AI AND CREATIVITY

Why in the News?

Recently, a music composer utilized Artificial Intelligence (AI) software to recreate the voices of deceased singers.

More about News

- **A 2020 World Economic Forum (WEF) study** projected **that AI would eliminate 85 million jobs by 2025 while creating 97 million new ones.**
- The emergence of AI in art, **exemplified by digitally resurrecting deceased celebrities, has brought forth complex challenges**.
- As AI becomes integrated into various artistic processes, **questions arise regarding the ethical and legal boundaries governing its use.**

Positives of AI in Creative Endeavours

- **Enhanced Productivity:** AI tools streamline **creative workflows, automate repetitive tasks, and assist artists in generating ideas**, ultimately increasing productivity and efficiency.
- **Innovative Exploration:** It enables artists to explore **new creative avenues, experiment with different styles and techniques**, and push the boundaries of traditional artistic practices.
- **Collaborative Potential:** It facilitates collaboration **between human creators and intelligent systems, fostering interdisciplinary partnerships** and inspiring new forms of creative expression.
- **Quality Improvement**: They improve the **quality and consistency of artistic output**, enhancing aspects such as sound quality, visual effects, and narrative coherence.
- **Accessibility**: It makes creative processes more accessible **to individuals with varying skill levels, backgrounds, and abilities, democratizing participation in the arts** and expanding opportunities for expression.

Ethical Issues

- **Artistic Integrity:** AI-generated content may raise concerns about **preserving the authenticity and integrity of artistic expression,** particularly when it is difficult to discern between human-created and AI-generated works.
- **Consent and Ownership:** Questions arise **regarding the rights of artists, creators, and participants involved in AI-driven projects, including issues related to intellectual property, ownership, and consent** for using personal data or creative contributions.
- **Preservation vs. Exploitation:** While AI can revive historical voices or artistic styles, ethical considerations arise **concerning whether such efforts aim to preserve cultural heritage or exploit the identities and legacies of individuals for commercial gain.**
- **Impact on Creativity and Innovation:** The widespread adoption of AI in creative industries may have **implications for human creativity and innovation, potentially leading to homogenization, loss of diversity, or reliance on formulaic approaches**.
- **Regulatory Oversight:** The lack of regulatory measures presents **challenges in safeguarding privacy and preventing discrimination, necessitating compliance, enforcement, and adaptation to evolving technologies.**

Way Forward

- **Ensure transparency and disclosure in AI-driven creative processes**, including clear attribution of AI-generated content and **obtaining informed consent from all involved parties.**
- **Uphold the authenticity and integrity of artistic expression,** acknowledging the **contributions of human creators and respecting their rights to control and be properly credited for their work.**
- **Develop ethical guidelines and best practices** for the ethical use of AI in creative endeavours, **addressing issues such as consent, ownership, fairness, and accountability**.
- **Advocate for regulatory oversight and governance mechanisms to ensure compliance with ethical standards** and protect the rights and interests of individuals involved in AI-driven creative projects.
- **Empower education and awareness** to enhance understanding of AI ethics among all stakeholders, enabling informed decision-making and advocacy for ethical practices in the creative industries.

10. SCHEMES IN NEWS

10.1. ANTYODAYA ANNA YOJANA (AAY)

Why in the News?

Recently, the Union Cabinet approved extending the sugar subsidy for AAY families through the Public Distribution System (PDS) for two **more years** i.e. till **2026.**

Antyodaya Anna Yojana (AAY)

Objectives	Salient features

• **Ensure food security** and create hunger-free India.
• **Covers the poorest of the poor in India** by supply of food and other important commodities for their daily needs at subsidized rates.
	• **Ministry:** Ministry of Consumers Affairs Food and Public Distribution System
	• **Launch year:** 2000
	• **Beneficiary:** AAY ration card holders
	  ○ States/UTs identify the households under AAY and issue ration cards to eligible households.
	• **Intended benefits:** AAY households receive-
	  ○ **35 kg of foodgrains per family per month free of cost** under Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) for a period of **5 years with effect from 1st January, 2024**.
	    ✓ PMGKAY subsumed National Food Security Act (NFSA) and PMGKAY launched during COVID-19 outbreak.
	  ○ **1 kg of sugar per family per month** through the Targeted Public Distribution System (TPDS).
	• **Eligibility Criteria:** Initially launched for one crore poorest of the poor families, then expanded coverage thrice to include-
	  ○ **Landless agriculture labourers**, marginal farmers
	  ○ **Rural artisans/craftsmen**, such as potters, tanners, weavers, etc.
	  ○ **Slum dwellers**
	  ○ Persons earning **livelihood on daily basis in the informal sector** like- porters, coolies, rickshaw pullers, etc.
	  ○ Households **headed by widows or terminally ill persons/disabled persons/ persons aged 60 years or more** with no assured means of subsistence or societal support.
	  ○ All primitive **tribal households**.
	  ○ All eligible Below Poverty Line (BPL) families of **HIV positive persons.**
	• **Responsibility of Centre and State:**
	  ○ **For foodgrain distribution**: The Central Government, through the Food Corporation of India (FCI), is responsible for **procurement, storage, transportation and bulk allocation** of food grains to the State Governments.
	    ✓ **Operational responsibility** including allocation within State, identification of eligible families, issue of Ration Cards etc., rest with the State Governments.
	    ✓ Additional cost of making foodgrains free-of-cost to be borne by Central Government.
	  ○ **For sugar subsidy:** Central Government gives subsidy of Rs.18.50 per kg per month of sugar to AAY families of participating States.
	    ✓ States/UTs bear the distribution cost, including margin to dealers and retailers as well as the transportation cost.

VISIONIAS
INSPIRING INNOVATION

Smart and Effective
Notes Making for UPSC CSE
Principles and Strategies

Why Notes Making? 📝

Note-making for the UPSC exam is a strategic tool that significantly enhances an aspirant's ability to understand, retain, and revise the vast curriculum effectively. This personalized study aid helps in breaking down complex topics into digestible pieces, facilitating easier recollection and efficient last-minute revisions.

Principles of Notes Making 📝

- **Personalize Notes:** Understand your learning style for effective customization which should be prepared in an integrated manner for both Prelims and Mains examination.
- **Format Choice:** Opt for digital, handwritten, or a hybrid approach based on learning ease.
- **Summarization and Organization:** Condense passages, use bullet points for clear organization.
- **Current Affairs Integration:** Enhance note relevance by integrating current affairs with static topics.
- **Language Precision:** Emphasize keywords, concepts, and examples; avoid complete sentences.

Scan to access Essential Learning **Resources.**

Smart Strategies for Effective Notes Making 📝

Reliable Sources
Choose reputable sources that meet the demands of the examination.

Summarize and Organize
Highlight or underline important points while reading, then summarize these in your own words.

Link to the UPSC Syllabus
To ensure easy referencing of subject, topic, and subtopic for efficient exam preparation.

Integrate Visual Aids
Use diagrams, flowcharts, and mind maps to visualize complex relationships between topics.

Current Affairs
Create a dedicated section and link it to corresponding static topics for a comprehensive understanding.

Regular Revision
Frequently revisit your notes to reinforce your memory and improve your retention.

💡 *Use bullet points, headings, and subheadings to structure your notes clearly.*

VisionIAS Smart Quality Content 🏅

Designed and developed for smooth understanding, learning, retention, and reproduction of content in the UPSC Examination. Further, it also facilitates smart and efficient note-making.

- **Simplified Complex Topics:** Makes tough subjects easier and more digestible for better understanding.
- **Up-to-date Information:** Offers latest, relevant study materials aligned with current exam requirements.
- **Analytical Skills Development:** Boosts essential critical and analytical thinking through quizzes.
- **Resource Optimization:** Uses infographics & smart presentations for more efficient time and resource utilization.
- **Enriched Presentation:** Utilizes thematic colors and tables for fast information identification and recall.

Scan to know more, **explore,** and **integrate the Smart Quality Content** in your learning.

Places in News: India

Kaziranga (Assam)
- **Indian Gharial** spotted in Greater Kaziranga after a gap of 75 years.

Tripura (Tripura)
- Tripura Board of Secondary Education (TBSE) has allowed both **Roman and Bengali scripts of the Kokborok language** in examination

Bandipur National Park (Karnataka)
- **A new proposed railway line** passing through Bandipur National Park has evoked protests over its ecological impact.

Kasaragod (Kerala)
- Laughing Gull from North America **spotted at Chittari estuary in Kasaragod district for the first time.**

Cochin International Airport (Kerala)
- Cochin International Airport Ltd (CIAL) and BPCL are setting up **World's First Green Hydrogen Plant at Airport Premises.**

Rollapadu Wildlife Sanctuary (Andhra Pradesh)
- **Great Indian Bustard (GIB) has not been spotted at Rollapadu Wildlife Sanctuary for years.**

Tamil Nadu (Tamil Nadu)
- **Kudavolai System** of Ancient Tamil Nadu bagged **third best tableaux awards** for Republic Day Parade 2024.

Kangayam (Tamil Nadu)
- Stones bearing **11th century Grantham inscriptions** and 16th century Tamil inscriptions were discovered near Kangayam

Places in News: World

France
Unified Payments Interface (**UPI**) launched at the iconic Eiffel Tower in France.

Iceland
Recently, a volcano erupted in Iceland.

Greece
Prime Minister of Greece paid State visit to India.

Iran
Iran announced **15–day visa-free policy for Indian tourists.**

Qatar
India and Qatar extended Liquefied Natural Gas (**LNG**) supply deal for another 20 years beyond 2028.

Thailand
Sacred Relics of Lord Buddha and his two disciples **Arahata Sariputra and Arahata Maudgalyayana** displayed in Thailand.

Suriname
A Parliamentary delegation from the Republic of Suriname, called on the President of India.

Chile
Chile records its deadliest wildfire.

Cameroon
Cameroon, a central African country, has adopted the Nagoya Protocol on **Access to Genetic Resources and the Fair and Equitable Sharing of Benefits** Arising from their Utilization.

Rwanda
As per UN document, **Rwandan Army** is using sophisticated weapons like surface-to-air **missiles in eastern DR Congo.**

Indonesia
Recently, India and Indonesia commemorated the **75th anniversary of** establishing their **diplomatic relations.**

Personalities In News

Personality	About	Ethical Values Exhibited by the Personality

Sant Ravidas	• PM unveiled statue of Sant Ravidas on his 647th birth anniversary.
	• **About Sant Ravidas**
	  ▷ Was a **poet, philosopher, and social reformer** during **15ᵗʰ century.**
	  ▷ Prominent **bhakti saint of Nirguna Sampradaya** in northern India.
	  ▷ Considered as **spiritual Guru of Meera Bai.**
	• **Key contributions**
	  ▷ **Worked against system of untouchability.**
	  ▷ His padas, devotional songs, and other **writings are mentioned in the Guru Granth Sahib** compiled by **5th Sikh's Guru, Arjan Dev.**
	  ▷ **Begumpura city** was pioneered by him as a city without any sorrow and full of peace and humanity.
		Social Justice
		• Moved by the dire conditions of people living in lower end of social ladder, he decided to devote his life for eradicating caste barriers by its spiritual and social critique.

U Tirot Sing (1802 - 1835)	• Khasi freedom fighter U Tirot Sing's statue was unveiled in Dhaka.
	• **About U Tirot Sing**
	  ▷ Also known as U Tirot Sing Syiem, was a **Khasi chief in early 19ᵗʰ century.**
	  ▷ Drew lineage from **Syiemlieh clan.**
	• **Key contributions**
	  ▷ **Declared war and fought against British** for attempts to take over control of the Khasi Hills.
	  ▷ In **Anglo-Khasi war (1829-33),** he used **guerilla tactics** to evade and strike the militarily superior colonial forces.
	• Eventually captured by British in January 1833 and deported to Dhaka.
		Patriotism
		• He fought against Britishers using the tactics of guerrilla warfare with great courage and commitment. Through his unique strategy, he was successful in inflicting great injury to enemies.

Vasudev Balwant Phadke (1845 – 1883)	• Home Minister paid tribute to **freedom fighter Vasudev Balwant Phadke** on **his death anniversary.**
	• **Key Contributions:**
	  ▷ Modern India's **first revolutionary,** he is regarded as the **"Father of the Armed Struggle for India's Freedom".**
	    ▪ He is said to be the inspiration for **Bankimchandra's Anandamath.**
	  ▷ During the great famine, Phadke toured the Deccan **fomenting disaffection against the British** and pleading for **Swaraj.**
	    ▪ He formed a band of about **300 Bhils, Kolis, Ramoshis and Dhangras** to attack British strongholds.
	  ▷ Established **Aikyavardhini Sabha** and **first school of national education** in Pune.
		Resilience and Inclusivity
		• His commitment to the freedom struggle, despite facing significant challenges and setbacks, showcases his resilience and determination.
		• His effort to mobilize and unite diverse groups for a common cause demonstrates his commitment to inclusivity, transcending social and caste barriers.

Rajkumari Amrit kaur (1889- 1964)	• She was **remembered on her Death Anniversary.** She played key role in both pre and post-Independence period. • **Key Contributions:** ▷ Participated in the '**Salt March**' and '**Quit India Movement**' ▷ Fought battle against the various evil practices such as – **Slavery, Purdah system, Child marriage and Devdasi.** ▷ She played an important role as a member of the **Drafting Committee of the Constituent Assembly.** ▷ First **Health Minister** of Independent India. 　▫ She also **laid the foundation of AIIMS, Delhi.** ▷ **Major literary work:** Woman in India, Challenge to Women, To women etc.	**Fortitude and Social Welfare** • She exhibited courage through her active participation in India's independence movement and her stand against social injustices like the purdah system and child marriage. • Her relentless efforts to improve public health showcases her commitment to healthcare and social welfare.
Field Marshal Kodandera Madappa Cariappa or KM Cariappa (1899- 1993)	• 125th birth anniversary of K.M. Cariappa was celebrated. • **Contribution** ▷ Served as **First Indian Commander-in-Chief of Indian Army** from 1949- 1953. ▷ He was instrumental in 　▫ **Integration of troops** and turning an imperial army into a national army. 　▫ **Raised the Brigade of the Guards** and **Parachute Regiments** on an all-India caste composition. ▷ **Awards:** 　▫ **Order of the Chief Commander of the Legion Merit** in 1949 by US President. 　▫ **Order of the British Empire** for his role in Second World War.	**Leadership and Integrity** • His exemplary leadership in transitioning the Indian Army from a colonial force to a national institution highlights his vision and capability to inspire others towards a common goal. • He showed commitment to building a national army based on merit reflecting his dedication to equality and fairness.
Kalpana Chawla (1962-2003)	• She was **remembered on her death anniversary.** • She was an Indian-born American astronaut and **first Indian-born woman to fly in space.** • **Life as an Astronaut** ▷ She flew on **STS-87 (1997) and STS-107 (2003),** logging 30 days, 14 hours and 54 minutes in space. ▷ She and her crew lost their lives during **Space Shuttle Columbia's** re-entry into the atmosphere in 2003. • **Honour and recognition** ▷ The **first exclusive meteorological satellite built** by ISRO was named Kalpana. ▷ **Kalpana Chawla award** for acts of bravery by women by the TN government. ▷ A **lunar crater Chawla is named after her.**	**Passion for Science and Courage** • Her dedication to education and work at NASA, where she specialized in fluid dynamics and conducted numerous scientific experiments in space, reflects her profound passion for science • She overcame societal and technical challenges to pursue her dreams in aerospace engineering and space exploration

WEEKLY FOCUS

Holistic coverage of the issue every week

TOPIC	DESCRIPTION	READ MORE
India Abroad: Legacy of Indian Diaspora	The Indian Diaspora stands as a testament to the rich tapestry of cultural heritage, migration, and global integration. This document delves into the driving forces behind expansion of diaspora population and its profound significance. It further examines the challenges arising and the strategic measures implemented by the Indian government to engage and support this global community.	
India's Creative Economy: From Imagination to Innovation	India's Creative Economy, a vibrant fusion of tradition and innovation, embodies the country's dynamic spirit and its pivotal role in shaping a future where culture and creativity fuel economic growth and societal progress. This document offers a thorough exploration of India's Creative Economy and addresses the key obstacles hindering its growth.	
Changing Dynamics of Family Structure in India	Amidst the kaleidoscope of India's cultural diversity, the family system stands as a cornerstone, embodying the intricate interplay of tradition, modernity, and the evolving societal values. This comprehensive exploration delves into the diversity of Indian family structures, and the significant transformations they have undergone. It further charts a course for navigating the future dynamics of family structures in India.	
Climate Change Negotiations (CCNs): From Rio (1992) to Dubai (2023)	Climate Change Negotiations stand at the forefront of international efforts to address the pressing challenge of global warming and its impacts on our planet. From the foundational roots of CCNs to the significant strides made post-Paris Agreement, the document provides a comprehensive overview of the journey. It also delves into the ongoing debates and critical issues that shape current negotiations.	

UPSC TOPPERS PREPARATION APPROACH & STRATEGIES

Insights from Toppers' Talk and Answer Scripts

Ishita Kishore, the UPSC topper of 2022, serves as a remarkable inspiration for her unwavering determination and relentless efforts making her as a beacon of motivation for aspiring candidates. Through her methodical preparation approach, she emerged triumphant in the esteemed Civil Services Examination securing top rank. Ishita extensively relied on VisionIAS Mains test series to refine her answer writing abilities. To gain further insights into Ishita's answer writing approaches, kindly scan the QR code provided.

TOPPER'S COPIES

Ishita Kishore
Rank 1, 2022

UPSC CSE TOPPERS 2022

Waseem Ahmad Bhat — RANK 7 2022

Waseem Ahmad Bhat, an exceptional achiever who secured an All India Rank 7 in his third attempt in the UPSC Civil Services Examination 2022. He also achieved All India Rank 225 in his first attempt in 2020 and currently, he is training as an Assistant Commissioner Income Tax.

Waseem was a student of the **VisionIAS Foundation Course**, Batch in 2019.

Hailing from Doru Shahabad, Anantnag, Jammu & Kashmir, he completed his schooling in Anantnag and holds a degree in Civil Engineering from NIT Srinagar.

Waseem opted for **Anthropology** as his optional subject. His topper's talk covers vital topics such as preparing for the **changing pattern of Prelims**, essay writing and strategy, writing **quote-based essays,** utilizing topper's answer scripts for preparation, and **effective revision strategies.**

TOPPERS' TALK

TOPPER'S COPIES

Aniruddh Yadav — RANK 8 2022

Aniruddh Yadav, a remarkable achiever who secured an All India Rank 8 in his fourth attempt in the UPSC Civil Services Examination of 2022.

Aniruddh opted for **Anthropology** as his optional subject. He completed his dual degree course in Biochemical Engineering & Biotechnology from IIT Delhi.

His topper's talk covers crucial aspects such as **creating a schedule** and **subject-wise timetable,** honing answer writing skills through topic-based **practice, mastering the structure** and format of answers (Introduction, Body, Conclusion), **managing time effectively** during answer writing practice, and preparing **topic-wise notes** with the help of syllabus analysis and previous year questions.

TOPPERS' TALK

TOPPER'S COPIES

Siddharth Shukla — RANK 18 2022

Siddharth Shukla, belongs to Uttar Pradesh. He completed his BA in History (H) from Delhi University, which was also his optional subject.

He displayed exemplary resilience by appearing in the exam for the fourth attempt and secured AIR 18 in 2022.

The preparation strategy reflected in his talk and answer scripts include the strategy for Essay, **efficient use of PYQs, notes making,** among others.

Additionally, he has also focused upon **non-academic aspects** such as **stress management, habit formation, and role of meditation** which are critical for this examination.

TOPPERS' TALK

TOPPER'S COPIES

Anoushka Sharma — RANK 20 2022

Anouska Sharma hailing from Madhya Pradesh completed her graduation from City University, New York with a bachelor's degree in Economics. She gained job experience through a three-month internship with the United Nations prior to taking the civil service examination.

She passed her CSE with AIR 20 in 2022 on her third attempt. **Economics** is her optional subject.

She has a very good command over ethics paper and she has shared her **insights on time management and strategy for attempting questions** in CSE Mains.

TOPPERS' TALK

TOPPER'S COPIES

UPSC CSE TOPPERS 2021

Gamini Singla
RANK 3 2021

Gamini Singla, hailing from Punjab, completed her graduation in Computer Science Engineering from Punjab Engineering College Chandigarh. Thereafter, she honed her skills through a five-month internship as a finance analyst at JP Morgan.

She secured a remarkable All India Rank of 3 in the UPSC CSE 2021 in her second attempt with **Sociology** as her optional subject.

With her strategic **approach to GS Paper IV (Ethics) and Essay,** Gamini demonstrated her ability to **critically analyze ethical issues** and effectively express her thoughts in a coherent manner.

Her expertise in answer writing provided her with a competitive edge, allowing her to convey her knowledge and insights concisely.

TOPPERS' TALK

TOPPER'S COPIES

Aishwarya Verma
RANK 4 2021

Aishwarya Verma hails from Madhya Pradesh. After graduating in Electrical Engineering, he opted for Civil Services as a career of choice.

He chose **Geography** as his optional subject and achieved an All-India Rank 4 in UPSC CSE 2021 in his fourth attempt.

Apart from the hard work, determination and resilience shown by Aishwarya, his success can also be attributed to his **short and enriched self-made notes, advanced answer writing skills**, and smart preparation strategy, including S&T.

TOPPERS' TALK

TOPPER'S COPIES

Utkarsh Dwivedi
RANK 5 2021

Utkarsh Dwivedi, hailing from historic town of Ayodhya, Uttar Pradesh, a graduate in Mechanical Engineering from VIT Vellore, displayed resilience by attempting the exam for the third time and succeeding with remarkable achievement with the optional subject, **Political Science and International Relations.**

He displayed **exemplary command over Ethics Paper**, specially Case Studies and **quotation-based questions.** With his deep understanding of the demand of the UPSC Examination and excellent time management skills, he not only optimized his efforts, but also maximized his performance at all stages of the UPSC CSE.

TOPPERS' TALK

TOPPER'S COPIES

Yaksh Chaudhary
RANK 6 2021

Yaksh Chaudhary, a resident of Amroha, Uttar Pradesh, through unwavering determination secured an All India Rank 6 in the prestigious exam on his third attempt in 2021. With his passion for Sociology, Yaksh opted for it as his optional subject and devised a winning strategy for his preparation.

Yaksh's **exceptional expertise in answer writing** and adeptness in attempting question papers during the mains exam provided him an edge. Moreover, his skill in crafting **well-structured diagrams** for General Studies, Ethics, and Sociology further enriched the quality and visual appeal of his responses. Yaksh's achievements serve as an inspiration to aspiring candidates nationwide, exemplifying the significance of perseverance, dedication, and strategic planning.

TOPPERS' TALK

TOPPER'S COPIES

UPSC CSE TOPPERS 2020

Shubham Kumar — RANK 1 2020

Shubham Kumar, hailing from Katihar District in Bihar, completed his graduation in Civil Engineering from IIT Bombay. He achieved the remarkable feat of securing All India Rank 1 in the UPSC examination of 2020 in his third attempt.

His success can be attributed to his **unique approach and meticulous preparation.** Shubham emphasized the importance of **regular mock tests** for prelims and carefully analyzing previous years' UPSC prelims questions.

Shubham was a student of the **VisionIAS Foundation Course.**

He also **utilized topper's copies to enhance his skills in ethics answer writing** and emphasized the **use of diagrams and graphs** in GS papers.

TOPPERS' TALK

TOPPER'S COPIES

Jagrati Awasthi — RANK 2 2020

Jagrati Awasthi, from Bhopal, Madhya Pradesh, completed her graduation in Electrical Engineering from NIT Bhopal. She gained two years of valuable work experience at BHEL.

With **Sociology** as her optional subject, she achieved an outstanding All India Rank of 2 in the UPSC examination of 2020.

She has emphasized the **importance of a well-structured daily routine** and shared a **detailed booklist** and recommended sources. Jagrati stressed the significance of thorough reading and utilizing previous years' questions to grasp the exam's demands.

Along with refined **note-making techniques,** she has provided insights on determining the optimal number of questions to attempt in the prelims and leveraging previous year's question papers for **Ethics case studies'** preparation.

TOPPERS' TALK

TOPPER'S COPIES

Praveen Kumar — RANK 7 2020

Praveen Kumar, achieved an impressive All India Rank 07 in the UPSC Civil Services Examination 2020. Hailing from Jammui, Bihar, Praveen holds a degree in Civil Engineering from IIT Kanpur.

His remarkable journey includes clearing the GATE examination with an AIR 5 and securing AIR 3 in the Indian Engineering Services (IES) exam, all while working for the Indian Railway Service.

Praveen's toppers talk provides invaluable insights, covering motivations for pursuing the IAS, **effective booklists and sources for exam preparation, strategies for newspaper reading and content extraction, note-making techniques** for mains, and **utilizing flow charts and diagrams** in answers.

TOPPERS' TALK

TOPPER'S COPIES

Satyam Gandhi — RANK 10 2020

Satyam Gandhi, an exceptional achiever, secured an All India Rank 10 in the UPSC Civil Services Examination 2020. Hailing from Bihar, Satyam graduated in Political Sciences (H) from Dayal Singh College, University of Delhi.

With **Political Science and International** Relations as his optional subject, he cleared the exam on his first attempt, displaying remarkable determination.

In addition, Satyam achieved an impressive AIR 242 in the NDA Exam. His toppers talk offers invaluable insights into **time management strategies** for a first attempt success, the **significance of flowcharts and diagrams** in mains answers, **effective essay structuring**, and his experience in obtaining a remarkable 201 marks in the interview.
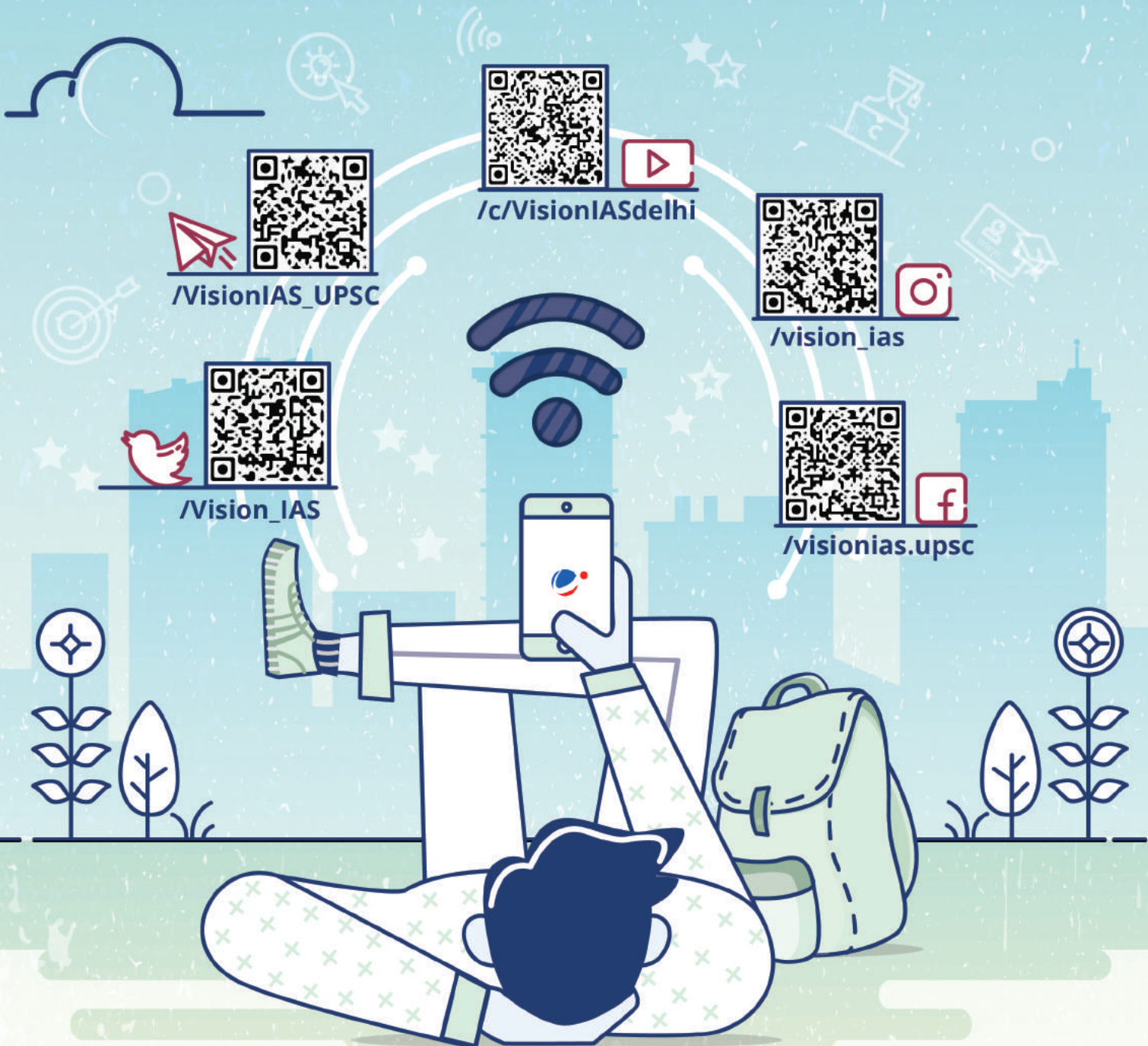
TOPPERS' TALK

TOPPER'S COPIES

Heartiest Congratulations
to all Successful Candidates

39 in Top 50 Selections in CSE 2022

1 AIR Ishita Kishore

2 AIR Garima Lohia

3 AIR Uma Harathi N

8 in Top 10 Selections in CSE 2021

2 AIR ANKITA AGARWAL

3 AIR GAMINI SINGLA

4 AIR AISHWARYA VERMA

5 AIR UTKARSH DWIVEDI

6 AIR YAKSH CHAUDHARY

7 AIR SAMYAK S JAIN

8 AIR ISHITA RATHI

9 AIR PREETAM KUMAR

1 AIR SHUBHAM KUMAR

CIVIL SERVICES EXAMINATION 2020

AHMEDABAD   BENGALURU   BHOPAL   CHANDIGARH   DELHI   GUWAHATI   HYDERABAD   JAIPUR   JODHPUR   LUCKNOW   PRAYAGRAJ   PUNE   RANCHI