Current Affairs
(Consolidation)

drishti

April 2022
(Part – I)

Contents

Polity and Governance

Highlights

- *Modernisation of Prisons Project*
- *Human Rights Report on India 2021: US*
- *Policy for use of Land Acquired under CBA Act, 1957*
- *Midday Meal Scheme*
- *Rashtriya Gram Swaraj Abhiyan*
- *Mediation in Judicial Process*
- *SC Upheld FCRA Amendments*
- *Electoral Bonds*
- *Manual Scavenging*
- *Dispute over Sutlej Yamuna Link (SYL) Canal*
- *Supreme Court Strikes Down Vanniyar quota*
- *Adoption of Modern Technology in Agriculture*
- *Resolution on Chandigarh*
- *Digital Platform FASTER*
- *Merger of Film Bodies under National Film Development Corporation*
- *Initiatives Launched under InTranSE -II*
- *SVANidhi se Samriddhi*
- *Protests Against Hindi in Northeastern States*
- *Draft Guidelines For Medical Registration*
- *Audit Report of CAG on the Functioning of the UIDAI*
- *Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Amendment Bill, 2022*
- *Reforming Death Penalty*
- *Demand for Restoring the Old Pension Scheme*
- *Indian Presidential Election*
- *Third Positive Indigenisation List*
- *Tour of Duty Scheme*
- *One Health*
- *Mission Integrated Bio-refineries*
- *Broadcast Seva Portal*

Modernisation of Prisons Project

Why in News?

Recently, the Ministry of Home Affairs (MHA) has issued guidelines to states and Union Territories asking them to Modernize Prisons under the **Modernisation of Prisons Project.**

What is the Need of Modernisation of Prisons Project?

➢ **They are Important Part of Justice System:**
   ○ Prisons are an **important and integral part of the Criminal Justice System of the country.**
   ○ They not only play the **critical role in keeping the offenders in custodial** segregation but also help in the process of their **reformation and reintegration** with the society through various correctional programmes in the Jails.
➢ **Indian Prisons Face three Long-Standing Structural Constraints:**

   ○ **Overcrowding**,
   ○ Understaffing and underfunding and
   ○ Violent clashes.

What is the Modernisation of Prisons Project?

➢ **About**: The Government of India has decided to provide financial assistance to States and UTs, through the Project for using **modern-day security equipment in Prisons for:**
   ○ **Enhancing the security of jails**.
   ○ To facilitate the task of **reformation and rehabilitation** of prisoners through correctional administration programmes.
➢ **Duration**: The duration of the project is for five years - **2021-26.**
➢ **Grant**: The Central Government will provide **Grant in aid to States** and UTs for implementation of the project.
   ○ **Grants-in-aid** are payments in the nature of assistance, donations or contributions made by one government to another government, body, institution or individual.

Note:

- **Implementation Strategy:** MHA shall provide funds to States/UTs depending upon the number of prisons in a State/UT, number of prison inmates, jail staff, etc.
  - The proposal of **funding will be decided by the Steering Committee** constituted for implementation of the modernization of prisons project.
- **Coverage**: The project will cover all States and Union Territories and shall broadly **cover the following prison types-** Central Jails, District Jails, Sub-Jails, Women Jails, Open Jails, Special Jails etc.

What are the Objectives of the Scheme?

- Filling the existing gaps in security **infrastructure of jails.**
- Providing **new security equipment to jails** in line with modern day technologies.
- Strengthening the **jail security system through security equipment** like Door Frame/ Metal Detectors/ Security Poles, Baggage Scanners/ Frisking/ Search/ Jamming Solutions etc.
- Focus on **correctional administration**, which includes bringing attitudinal change in the mindset of prison officials handling inmates through extensive training and by introducing appropriate programs for inmates for their skill development and rehabilitation, including engagement of trained correctional experts, behavioural experts, psychologists, etc.

What are other Related Initiatives of the Government?

- **Modernization of Prisons scheme:** The scheme for modernisation of prisons was **launched in 2002-03** with the objective of improving the condition of prisons, prisoners and prison personnel.
- **E-Prisons Project:** The **E-Prisons project** aims to introduce efficiency in prison management through digitization.
- **Model Prison Manual 2016:** The **manual** provides detailed information about the legal services (including free services) available to prison inmates.
- **National Legal Services Authority(NALSA)**: It was constituted under the **Legal Services Authorities Act, 1987** which came into force on 9th November, 1995 to **establish a nationwide uniform network** for providing free and competent legal services to the weaker sections of the society.

Human Rights Report on India 2021: US

Why in News?

Recently, the US State Department released a strong and critical report on **human rights** in India in 2021.

- The report is **submitted each year to the US Congress** which is **retrospective and contains a country-wise discussion** of the state of internationally recognised individual, civil, political and worker rights, as set forth in the **Universal Declaration of Human Rights** and other international agreements.
- In December 2021, data related to human rights violations in states was provided by the Ministry of Home Affairs in **Rajya sabha.**

What are the Key Highlights of the Report?

- **Arbitrary Arrest and Detention:**
  - Indian law **"prohibits arbitrary arrest and detention** but both occurred during the year", with police using "special security laws to postpone **judicial reviews** of arrests".
  - Pretrial detention was **arbitrary and lengthy,** sometimes exceeding the duration of the sentence given to those convicted.
- **Violations of Privacy:**
  - Citing media reports on journalists being targeted for surveillance through the **Pegasus malware,** the report **flagged violations of privacy by government authorities**, "including the use of technology to arbitrarily or unlawfully surveil or interfere with the privacy of individuals".
- **Curbs on Free Expression and Media:**
  - The report **highlighted instances in which the government or actors** considered close to the government **allegedly pressured or harassed media outlets** critical of the government, including through online trolling.
  - It detailed the government's order of February, 2021 directing Twitter to block accounts of journalists covering protests against the three (later repealed) **farm laws.**

Note:

➢ **On Freedom of Association:**

  ○ The report **highlighted the cases of Amnesty International India**, whose assets were frozen by the **Enforcement Directorate**, and the suspension of the **Foreign Contribution (Regulation) Act (FCRA)** license of **Commonwealth Human Rights Initiative (CHRI)** for alleged violations.

What are Human Rights?

➢ **About:**

  ○ These are **rights inherent to all human beings**, regardless of race, sex, nationality, ethnicity, language, religion, or any other status.

  ○ These include the **right to life and liberty, freedom from slavery and torture**, freedom of opinion and expression, the right to work and education, and many more.

  ○ **Nelson Mandela had stated '**To deny people their human rights is to challenge their very humanity'.

➢ **Human Rights Related Provisions in India:**

  ○ **Enunciated in the Constitution:**

    ● **Fundamental Rights: Articles 12 to 35** of the Constitution. These include the Right to Equality, Right to Freedom, Right Against Exploitation, Right to Freedom of Religion, Cultural & Educational Rights, Saving of Certain Laws and Right to Constitutional Remedies.

    ● **Directive Principles of State Policy:** Article 36 to 51 of the Constitution. These include 'right to social security, right to work, to free choice of employment, and protection against unemployment, right to equal pay for equal work, right to existence worthy of human dignity, right to free & compulsory education, equal justice & free legal aid and the principles of policy to be followed by the State.'

  ○ **Statutory Provisions:**

    ● **Protection of Human Rights Act (PHRA),** 1993 (as amended in 2019) provided for the constitution of a **National Human Rights Commission** at the Union level, which steers State Human Rights Commission in States and Human Rights Courts for better protection of Human Rights and for matters connected therewith or incidental thereto.

      ■ **Section 2(1)(d) of the PHRA defines Human Rights** as the rights relating to life, liberty, equality and dignity of the individual guaranteed by the Constitution or embodied in the International Covenants and enforceable by courts in India.

  ○ India took an active part in drafting of the **Universal Declaration of Human Rights (UDHR).**

    ● These **30 rights and freedoms include civil and political rights**, like the right to life, liberty, free speech and privacy and economic, social and cultural rights, like the right to social security, health and education, etc.

Policy for use of Land Acquired under CBA Act, 1957

Why in News?

Recently, the Union Cabinet has **approved the policy for use of land acquired** under the **Coal Bearing Areas (Acquisition & Development) Act, 1957 [CBA Act].**

➢ The policy **provides for utilisation of such land for the purpose of development** and setting up of infrastructure relating to coal and energy.

What is the CBA Act, 1957?

➢ The **Coal Bearing Areas (Acquisition and Development) Act, 1957** provides for the acquisition of land containing or likely to contain coal deposits and for matters connected therewith.

➢ Under the provisions of this Act, the **land is acquired for Government Companies only for coal mining** and activities strictly incidental to mining purposes.

➢ For other requirements, like permanent infrastructure, offices, residence etc. the land is acquired under **Land Acquisition Act, 1894.**

➢ **Mining rights and surface rights of a single patch of land** may not be acquired under different Acts.

What are the Provisions of the Proposed Policy?

➢ **Provides Framework for Utilisation of Land:**

  ○ The policy **provides clear policy framework for utilisation** of following types of lands acquired under the CBA Act:

- **Lands no longer suitable or economically viable** for coal mining activities; or
- Lands from which coal has been mined out/ de-coaled and such land has been reclaimed.

➢ **Coal India Ltd. (CIL) will Remain Owner of the Land:**
  ○ The Government coal companies, such as **Coal India Ltd. (CIL)** and its subsidiaries shall remain owners of these lands acquired under the CBA Act.

➢ **Leasing of Land for Specified Period:**
  ○ The Government company which owns the land **would lease such land for a specific period** given under the policy.
  ○ The **entities for leasing shall be selected through a transparent, fair and competitive bid process** and mechanism in order to achieve optimal value.
  ○ The lands will be considered for activities such as **setting up washeries, coal gasification and coal-to-chemical plants** and to set up or provide for energy-related infrastructure.

What is the Significance of Such Policy?

➢ **Generate Employment:**
  ○ **Establishment of various coal and energy related infrastructure**, without transfer of ownership from Government companies, would lead to generation of a large number of direct and indirect employment.
    - The lands which are **mined out or are practically unsuitable for coal mining are prone to unauthorised encroachment** and entail avoidable expenditure on security and maintenance.

➢ **Reduce Cost of Operators:**
  ○ The unlocking of non-minable land for other purposes will **also help CIL in reducing its cost of operations** as it will be able to set up coal related infrastructure and other projects such as solar plants on its own land by adopting different business models in partnership with the private sector.
  ○ It will **make coal gasification projects viable** as coal need not be transported to distant places.

➢ **Ensure Proper Utilization of Land:**
  ○ The proposal to **utilise land for rehabilitation purposes would ensure proper utilization of land**

and would **eliminate wastage of all-important land resources,** avoid acquisition of fresh chunks of land for rehabilitation of Project Affected Families, eliminate loading of additional financial burden on the projects and increase profit.

➢ **Address the Demand of the Displaced Families:**
  ○ It will **also address the demand of the displaced families** as they always prefer to stay as close as possible to their original residential places.
  ○ It will **help in obtaining local support for coal projects** and also providing land to the State Government for afforestation in lieu of forest land diverted to coal mining.

➢ **Help in Realizing the Goal of Atmanirbhar Bharat:**
  ○ The Policy will **help in realizing the goal of Atmanirbhar Bharat** by encouraging domestic manufacturing, reducing import dependence, job creation, etc.
    - The policy will **unlock land for various coal and energy infrastructure development activities** that would encourage investment in backward areas of the country.
    - Utilisation of already acquired land would also **prevent fresh acquisition of land** and related displacement and would promote local manufacturing and industries.

What are Key Highlights about Coal?

➢ It is one of the most abundantly found fossil fuels. It is **used as a domestic fuel,** in industries such as iron and steel, steam engines and to generate electricity. Electricity from coal is called thermal power.

➢ The coal which we are using today was **formed millions of years ago** when giant ferns and swamps got buried under the layers of earth. Coal is therefore referred to as Buried Sunshine.

➢ The **leading coal producers of the world** include China, US, Australia, Indonesia, India.

➢ The **coal producing areas of India** include Raniganj, Jharia, Dhanbad and Bokaro in Jharkhand.

➢ **Coal is also classified into four ranks:** anthracite, bituminous, subbituminous, and lignite. The ranking depends on the types and amounts of carbon the coal contains and on the amount of heat energy the coal can produce.

Note:

Midday Meal Scheme

Why in News

Karnataka is set to provide eggs under the **Midday Meal Scheme (MDMS)** for school children. MDMS is amongst the largest initiatives in the world to enhance nutrition levels of school-going children through hot cooked meals.

➤ However, the **inclusion of eggs has often been controversial.**

What is the Mid Day Meal scheme ?

➤ **About:** It is the **largest school feeding programm**e of its kind in the world, covering students enrolled in government schools from **Classes 1 to 8.**
   ❍ The basic objective of this **scheme is to enhance enrolment in schools.**

➤ **Nodal Ministry:** Ministry of Education.

➤ **Background:** The programme was **first introduced in 1925 for disadvantaged children** in **Madras Municipal Corporation**.
   ❍ The union government launched as a **centrally sponsored scheme** on a pilot basis in **1995 for children in Classes 1 to 5.**
   ❍ By October 2007, **MDMS had been scaled up to Class 8.**

➤ **Current Status:** The current version of the programme, renamed **PM Poshan Shakti Nirman or PM Poshan in 2021.**

➤ **Scale of Coverage:** The scheme covers 11.80 crore children across Classes 1 to 8 (age group 6 to 14).

➤ **Legal Entitlement:** It is not just a scheme, but a legal entitlement of all school-going children in primary and upper primary classes, through the **National Food Security Act (NFSA), 2013.**
   ❍ This was also reaffirmed by the **Supreme Court**'s ruling in *People's Union of Civil Liberties vs Union of India and Others (2001).*

➤ **Federal Setup:** Under the rules, the allocation of **Rs 4.97 per child per day (primary classes) and Rs 7.45 (upper primary)** are shared in **60:40 ratio** with states and UTs with a legislature, and **90:10 with the Northeastern states, Jammu and Kashmir, Himachal Pradesh and Uttarakhand,** while the Centre bears 1**00% of the costs in UTs without legislature.**

FOOD NORMS UNDER MID-DAY MEAL
(PER CHILD PER DAY IN GRAMS)

	For Primary Classes	For Upper Primary Classes
Foodgrains	100gms	150gms
Pulses	20gms	30gms
Vegetables	50gms	75gms
Oil and fats	5gms	7.5gms

What is the Issue Regarding Egg?

➤ In India, dietary choices are an intensely contested area in India **due to caste rigidities, religious conservatism and regional differences.**

➤ As a result, despite successive scientific studies, including those commissioned by state governments, showing the **benefits of giving children eggs, many states have been reluctant about adding eggs to the school lunch menu.**

What are Associated Issues and Challenges?

➤ **Corrupt Practices:** There have been instances of plain chapatis being served with salt, mixing of water in milk, food poisoning etc.

➤ **Caste Bias and Discrimination:** Food is central to the caste system, so in many schools, children are made to sit separately according to their caste status.

➤ **Menace of Malnutrition:** According to the **National Family Health Survey-5,** several states across the country have reversed course and recorded worsening levels of child malnutrition.
   ❍ India is home to about 30% of the world's stunted children and nearly 50% of severely wasted children under the age of five.

➤ **Global Nutrition Report-2021:** According to the recently released **Global Nutrition Report** (GNR, 2021), India has made no progress on anaemia and childhood wasting.

Note:

○ Over half of Indian women in the age group 15-49 years are anaemic.

➢ **Global Hunger Index (GHI) 2021:** India has slipped to 101st position in the **Global Hunger Index (GHI) 2021** of 116 countries, from its 2020 position of 94th.

Rashtriya Gram Swaraj Abhiyan

Why in News?

The **Cabinet Committee on Economic Affairs** has approved continuation of the revamped **Centrally Sponsored Scheme** of **Rashtriya Gram Swaraj Abhiyan (RGSA)** for implementation during the period from **1st April 2022 to 31st March 2026 .**

➢ The scheme is now co-terminus with the **15th Finance Commission period.**

➢ The scheme is aimed **to develop governance capabilities of** Panchayati Raj Institutions (PRIs).

What is Rashtriya Gram Swaraj Abhiyan (RGSA)?

➢ **Background:** The scheme was first approved by the **Cabinet in 2018** for implementation from 2018-19 to 2021-22.

➢ **Implementing Agency:** Ministry of Panchayati Raj.

➢ **Components:** The main Central Components were **Incentivisation of Panchayats** and **Mission Mode Project on e-Panchayat** including other activities at Central level.

○ The State component primarily includes **Capacity Building & Training (CB&T)** activities, institutional mechanisms for CB&T along with other activities at a limited scale.

➢ **Objectives:** It envisaged developing governance capabilities of Panchayati Raj Institutions (PRIs) **to deliver on the** Sustainable Development Goals (SDGs).

○ The key principles of SDGs, i.e. leaving no one behind, reaching the farthest first and universal coverage, along with gender equality will be embedded in the design of all capacity building interventions including training, training modules and materials.

○ Priority will be given to subjects of national importance principally under themes, namely:

● Poverty free and enhanced livelihood in villages

● Healthy Village

● Child Friendly Village

● Water Sufficient Village

● Clean and Green Village

● Self-Sufficient Infrastructure in Village

● Socially Secured Village

● Village with Good Governance

● Engendered Development in Village.

➢ **Funding Pattern:** The revamped **RGSA will comprise Central and State components.** The Central Components of the scheme will be fully funded by the Government of India.

○ The funding pattern for State Components will be in the ratio of 60:40 among Centre and States respectively, except NE, **Hilly States and Union Territory (UT) of J&K where Central and State share will be 90:10.**

○ However, for other UTs, **Central share will be 100%**.

➢ **Vision:** It is an effort in the direction of achieving **"Sabka Sath, Sabka Gaon, Sabka Vikas".**

➢ **Significance:**

○ **Socio-Economic Justice:** As panchayats have representation of **Schedule Castes, Schedule Tribes** and women, and are institutions closest to the grassroots, strengthening panchayats will promote equity and inclusiveness, along with social justice and economic development of the community.

○ **Improved Public Service Delivery:** Increased use of e-governance by PRIs will help achieve improved service delivery and transparency.

○ **Developing PRI:** It will establish the institutional structure for capacity building of PRIs at the national, state and district level with adequate human resources and infrastructure.

➢ **Beneficiaries:** The approved scheme of RGSA will help more than **2.78 lakh Rural Local Bodies.**

○ Around 60 lakh elected representatives, functionaries and other stakeholders of rural local bodies, including traditional bodies, across the country will be direct beneficiaries of the scheme.

➢ **Scale:** This scheme extends to all States and UTs of the country and will also include institutions of rural local government in **non-Part IX areas,** where Panchayats do not exist.

Note:

Mediation in Judicial Process

Why in News?

While addressing the **National Judicial Conference on Mediation and Information Technology,** the President advocated the concept of **Mediation in the Judicial Process.**

What is Mediation?

➢ Mediation is a **voluntary, binding process in which an impartial and neutral mediator facilitates disputing parties in reaching a settlement**.

➢ A mediator **does not impose a solution but creates a conducive environment** in which disputing parties can resolve all their disputes.

➢ Mediation is a **tried and tested alternative method of dispute resolution.** It has **proved to be a great success** in the cities of Delhi, Ranchi, Jamshedpur, Nagpur, Chandigarh and Aurangabad.

➢ Mediation is a **structured process where a neutral person uses specialised communication and negotiation** techniques. Litigants participating in the mediation process have unequivocally endorsed it.

➢ It is a settlement process whereby disputing parties arrive at **mutually acceptable agreements.**

➢ Other than mediation there are some other dispute resolution methods such as **Arbitration, Negotiation and Conciliation.**

Who can be a Mediator?

➢ Any person who **undergoes the required 40 hours training stipulated by the Mediation and Conciliation Project Committee** of the **Supreme Court (SC)** can be a mediator.

➢ He also needs to have at least **ten mediations resulting in a settlement and at least 20 mediations in all** to be eligible to be accredited as a qualified mediator.

What is the Role of a Mediator?

➢ To be **Impartial And Neutral.**

➢ **Manage interaction** between the parties

➢ **Facilitate communication** between the parties.

➢ **Identify barriers** to an agreement.

➢ **Identify interests** of the parties.

➢ **Develop** terms of **agreement**.

What is the Significance of Mediation?

➢ Quick And Responsive.

➢ Economical.

➢ There is no extra cost.

➢ Harmonious settlement.

➢ Creating solutions and remedies.

➢ Confidential and informal.

➢ Parties controlling the proceedings.

What are some Challenges to the Process of Mediation?

➢ **Lack of Codification**: In January 2020, the SC in *MR Krishna Murthi v. New India Assurance Co. Ltd* pointed out the **urgent need for enacting a uniform legislation for mediation in India.**

➢ **Apprehension towards mediation & Lack of Awareness** – Mediation has never garnered sufficient reception among the legal fraternity.

○ In order to popularise mediation as **a dispute resolution mechanism, training sessions and seminars should be conducted** to familiarise judges with the benefits of mediation.

➢ **Infrastructural Concerns and Quality Control** – Improved emphasis on mediation will directly increase the workload on mediation centres which lack administrative strength.

○ This can lead to the languishing of cases that go against the basic tenet of mediation i.e. fast resolution of disputes.

○ To tackle this, **the practice of mediation should be professionalised in India.**

➢ **Inconsistency between existing laws on Mediation** – The Supreme Court in a case stated that the **terms 'mediation' and 'conciliation' are synonymous with each other.**

○ Contrastingly, the language of Section 89 of **Code of Civil Procedure (CPC)**, **1908** shows that the legislative intent behind the section was to differentiate between mediation and conciliation.

○ Thus, **the existing ambiguity has created a lot of vagueness in the process of mediation.**

Note:

drishti

What are the Legal Provisions Related to Mediation?

➢ Mediation in India is primarily governed by two legislative acts viz. the **CPC 1908** and the **Arbitration and Conciliation Act, 1996 (ACA).**

➢ There are many other statutory provisions that make mediation a compulsory prerequisite to filing a suit in court. Some of these statutes are:

  ○ **Industrial Disputes Act, 1947**

  ○ **Companies Act, 2013**

  ○ **Micro, Small and Medium Enterprises Development Act, 2006**

  ○ **Hindu Marriage Act, 1955**

  ○ **Special Marriage Act, 1954**

  ○ **Real Estate (Regulation and Development) Act, 2016**

  ○ **Commercial Courts Act, 2015**

  ○ **Consumer Protection Act, 2019**

SC Upheld FCRA Amendments

Why in News?

Recently, the **Supreme Court** (SC) upheld the constitutional validity of the **Foreign Contribution (Regulation) Amendment Act (FCRA), 2020.**

➢ It held that receiving foreign donations **cannot be an absolute right** and can be **regulated by the Parliament.**

➢ In 2020, the Indian government had proposed amendments to the FCRA, which **imposed new restrictions on how Non-Governmental Organisations (NGOs),** individuals, and other organisations could receive or use funds contributed from abroad.

What are the Highlights of the Judgements?

➢ **Medicine vs Intoxicant Metaphor:** Foreign Contributions **serves as a medicine** so long as it is consumed (utilised) moderately and discreetly.

  ○ However, **free and uncontrolled flow of foreign contribution can act as an intoxicant that** has the potential o**f impacting the sovereignty and integrity of the nation.**

➢ **Imposing Political Ideology:** The SC underlined that foreign contributions **may tend to influence or impose political ideology.**

○ Thus, FCRA amendments are **essentially conceived in the interest of public order** as the intent is to prevent misuse of donations coming from foreign sources.

➢ **Global Precedents:** Receiving foreign donations **cannot be an absolute or even a vested right.**

  ○ This is because the theory of **possibility of national polity being influenced by foreign contribution** is globally recognised.

➢ **Upholding Legislation:** In this scenario, it had become necessary for Parliament to step in and provide a **stringent regime for effectively regulating the inflow and utilisation of foreign contribution.**

What is Foreign Contribution (Regulation) Act (FCRA), 2010?

➢ Foreign funding of persons in India is regulated under FCRA act and is implemented by the **Ministry of Home Affairs.**

  ○ Individuals are permitted to accept foreign contributions without permission of MHA.

  ○ However, the **monetary limit** for acceptance of such foreign contributions shall be less than **Rs. 25,000.**

➢ The Act ensures that the **recipients of foreign contributions adhere to the stated purpose** for which such contribution has been obtained.

➢ Under the Act, organisations are **required to register themselves every five years.**

What were the Amendments done in the Act?

➢ **Prohibition to accept foreign contribution:** It bars public servants from receiving foreign contributions.

➢ **Transfer of foreign contribution:** It prohibits the transfer of foreign contribution to any other person.

➢ **Aadhaar for registration:** Aadhaar number is mandatory for all office bearers, directors or key functionaries of a person receiving foreign contribution, as an identification document.

➢ **FCRA account:** The foreign contribution must be received **only in an account designated by the bank as FCRA account in** such branches of the State Bank of India, New Delhi.

  ○ No funds other than the foreign contribution should be received or deposited in this account.

Note:

drishti

➢ **Restriction in utilisation of foreign contribution:** It allowed the government to restrict usage of unutilised foreign contribution.

  ○ This may be done if, based on an inquiry the **government believes that such person has contravened provisions of the FCRA.**

➢ **Administrative Capping:** While NGOs earlier could use up to 50% funds for administrative use, the new amendment restricted this use to **20%.**

What are the Objectives and Issues Related to the Amendments?

➢ **Objectives:** Many recipients of foreign contribution have **not utilised the same for the purpose** for which they were registered or granted prior permission under the FCRA 2010.

  ○ Recently, the Union Home Ministry has **suspended licences of the six (NGOs)** who were alleged to have used foreign contributions for religious conversion.

  ○ Such a situation could have adversely affected the **internal security of the country.**

  ○ It also aims to **enhance transparency and accountability in the receipt and utilisation of foreign contributions** and facilitate the genuine NGOs who are working for the welfare of society.

➢ **Issues:** The Amendments led to criticism from some quarters that it could have a **deleterious effect on civil society organisations.**

  ○ The government aims to control the NGOs which engage in **dubious activities.**

  ○ However, by failing to recognise the diversity of NGOs, **which include world-class organisations that are recognised globally**, will **crush their competitiveness and creativity.**

Electoral Bonds

Why in News?

The **Supreme Court** will take up for hearing a pending plea challenging the Electoral Bond Scheme, 2018.

➢ Two NGOs — Common Cause and Association for Democratic Reforms (ADR) — have challenged the scheme, **alleging that it is "distorting democracy".**

What are Electoral Bonds?

➢ These bonds are **issued in multiples of Rs. 1,000, Rs. 10,000, Rs. 1 lakh, Rs. 10 lakh and Rs. 1 crore without any maximum limit.**

➢ **State Bank of India is authorised** to issue and encash these bonds, which are valid for fifteen days from the date of issuance.

➢ These bonds are **only redeemable in the designated account of a registered political party.**

➢ The bonds are **available for purchase by any citizen of India** for a period of ten days each in the months of January, April, July and October as may be specified by the Central Government.

➢ A person being an individual **can buy bonds, either singly or jointly** with other individuals.

➢ The **donor's name is not mentioned** on the bond.

  ○ Donors who contribute less than Rs. 20,000 to political parties through purchase of electoral bonds need not provide their identity details such as PAN, etc.

➢ The central idea behind the electoral bonds scheme was t**o bring about transparency in electoral funding in India.**

  ○ The government had described the scheme as an "electoral reform" in a country **moving towards a "cashless-digital economy".**

Why have electoral bonds attracted criticism?

➢ **Contradicting its Basic Idea:**

  ○ The central criticism of the electoral bonds scheme is that **it does the exact opposite of what it was meant to do**: bring transparency to election funding.

  ○ For example, **critics argue that the anonymity of electoral bonds is only for the broader public and opposition parties.**

➢ **Possibility of Extortion:**

  ○ The fact that such bonds are sold via a government-owned bank (SBI) leaves the door open for the government to know exactly who is funding its opponents.

  ○ This, in turn, allows the possibility for the government of the day to either extort money, especially from the big companies, or victimise them for not funding the ruling party — either way providing an unfair advantage to the party in power.

Note:

- ➤ **A Blow to Democracy:** Through an amendment to the Finance Act 2017, the Union government has exempted political parties from disclosing donations received through electoral bonds.
  - ○ This means the voters will not know which individual, company, or organization has funded which party, and to what extent.
  - ○ However, in a representative democracy, citizens cast their votes for the people who will represent them in Parliament.
- ➤ **Compromising Right To Know:** The Indian Supreme Court has long held that the "right to know", especially in the context of elections, is an integral part of the right to freedom of expression (Article 19) under the Indian Constitution.
- ➤ **Against Free & Fair Elections:** While electoral bonds provide no details to the citizens.
  - ○ The said anonymity does not apply to the government of the day, which can always access the donor details by demanding the data from the State Bank of India (SBI).
  - ○ This implies that the government in power can leverage this information and disrupt free and fair elections.
- ➤ **Crony Capitalism:** The electoral bonds scheme removes all pre-existing limits on political donations and effectively allows well-resourced corporations to fund elections subsequently paving the way for crony capitalism.
  - ○ Crony Capitalism: An economic system characterized by close, mutually advantageous relationships between business leaders and government officials.

Manual Scavenging

Why in News?

Recently, the Ministry of Social Justice and Empowerment informed that **a total of 971 people lost their lives** while cleaning sewers or septic tanks since 1993.

- ➤ Earlier, the Union Cabinet **approved the extension of the tenure of the National Commission for Safai Karamcharis (NCSK)** for three years beyond 31st March, 2022. The major beneficiaries would be the Safai Karamcharis and identified manual scavengers in the country.

What is Manual Scavenging?

- ➤ Manual scavenging is defined as **"the removal of human excrement from public streets** and dry latrines, cleaning septic tanks, gutters and sewers".

What are the Reasons for the Prevalence of Manual Scavenging?

- ➤ **Indifferent Attitude:** A number of independent surveys have talked about the **continued reluctance on the part of state governments** to admit that the practice prevails under their watch.
- ➤ **Issues due to Outsourcing:** Many times local bodies outsource sewer cleaning tasks to private contractors. However, many of them fly-by-night operators, do not maintain proper rolls of sanitation workers.
  - ○ In case after case of workers being asphyxiated to death, these contractors have denied any association with the deceased.
- ➤ **Social Issue:** The practice is driven by **caste, class and income divides.**
  - ○ It is linked to **India's caste system** where so-called lower castes are expected to perform this job.
  - ○ In 1993, India banned the employment of people as manual scavengers **(The Employment of Manual Scavengers and Construction of Dry Latrines (Prohibition) Act, 1993),** however, the stigma and discrimination associated with it still linger on.
    - ● This **makes it difficult for liberated manual scavengers** to secure alternative livelihoods.

What are the Steps taken to tackle the Menace of Manual Scavenging?

- ➤ **The Prohibition of Employment as Manual Scavengers and their Rehabilitation (Amendment) Bill, 2020**:
  - ○ It **proposes to completely mechanise sewer cleaning**, introduce ways for 'on-site' protection and provide compensation to manual scavengers in case of sewer deaths.
  - ○ It will be an amendment to **The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013.**
  - ○ It is still awaiting cabinet approval.

Note:

➢ **The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013:**
   ○ Superseding the 1993 Act, the 2013 Act **goes beyond prohibitions on dry latrines,** and outlaws all manual excrement cleaning of insanitary latrines, open drains, or pits.

➢ **The Building and Maintenance of Insanitary Latrines Act of 2013:**
   ○ It outlaws construction or maintenance of unsanitary toilets, and the hiring of anybody for their manual scavenging, as well as of hazardous cleaning of sewers and septic tanks.
   ○ It also provides a constitutional responsibility to provide alternative jobs and other assistance to manual scavenging communities, as reparation for historical injustice and indignity.

➢ **Prevention of Atrocities Act:**
   ○ In 1989, the **Prevention of Atrocities Act** became an integrated guard for sanitation workers; more than 90% people employed as manual scavengers belonged to the Scheduled Caste. This became an important landmark to free manual scavengers from designated traditional occupations.

➢ **Safaimitra Suraksha Challenge:**
   ○ It was launched by the Ministry of Housing and Urban Affairs on **World Toilet Day** (19th November) in 2020.
   ○ The Government launched this **"challenge" for all states to make sewer-cleaning mechanised** by April 2021 — if any human needs to enter a sewer line in case of unavoidable emergency, proper gear and oxygen tanks, etc., are to be provided.

➢ **'Swachhta Abhiyan App':**
   ○ It has been **developed to identify and geotag the data of insanitary latrines and manual scavengers** so that the insanitary latrines can be replaced with sanitary latrines and rehabilitate all the manual scavengers to provide dignity of life to them.

➢ **SC Judgment:** In 2014, a **Supreme Court** order made it mandatory for the government to identify all those who died in sewage work since 1993 and provide Rs. 10 lakh each as compensation to their families.

Dispute over Sutlej Yamuna Link (SYL) Canal

Why in News?

Recently, the Haryana Vidhan Sabha has passed a resolution seeking completion of the **Sutlej Yamuna Link (SYL) Canal .**

➢ The canal, once completed, will **enable sharing of the waters of the rivers Ravi and Beas** between Haryana and Punjab.

➢ The **Satluj Yamuna Link Canal is a proposed 214-kilometre-long canal** connecting Sutlej and Yamuna rivers.

➢ **Water resources are under the State List**, while the **Parliament has the power to make laws regarding inter-state rivers under the Union List.**
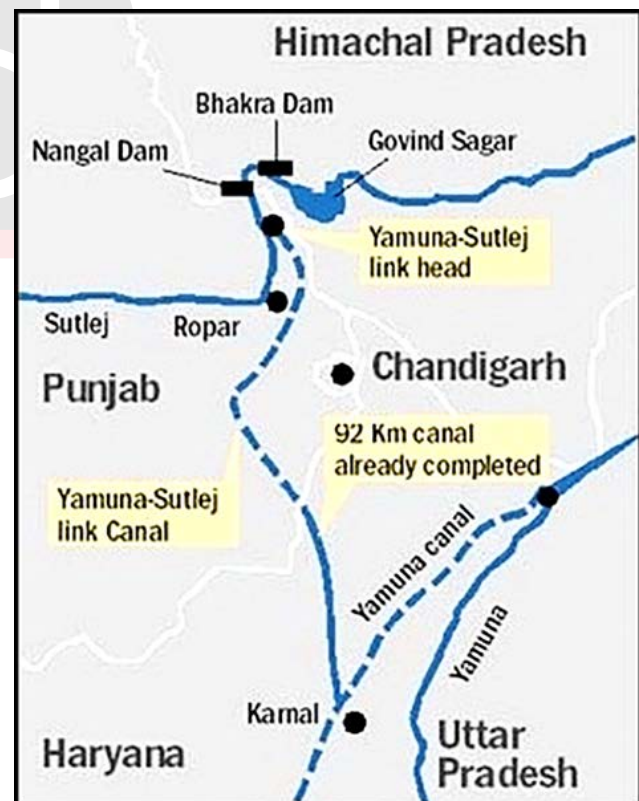
What is the Background?

➢ **1960:** The dispute can be traced back to the **Indus Water Treaty** between India and Pakistan, allowing the former 'free and unrestricted use' of Ravi, Beas and Sutlej.

Note:

- ➢ **1966:** Creation of Haryana from the old (undivided) Punjab presented the problem of giving Haryana its share of river waters.
  - ○ **For Haryana to get its share of the waters of the Sutlej and its tributary Beas**, a canal linking the Sutlej with the Yamuna was planned (SYL Canal).
  - ○ **Punjab refused to share waters with Haryana stating it was against the riparian principle** which dictates that the water of a river belongs only to the State and country or States and countries through which the river in question flows.
- ➢ **1981:** Both states mutually **agreed for the re-allocation of water.**
- ➢ **1982:** Construction of **214-km SYL was launched in Kapoori village, Punjab.**
  - ○ Agitations, protests and assassinations were carried out in protest creating the environment of terrorism in the state and making the issue of national security.
- ➢ **1985:**
  - ○ Prime Minister Rajiv Gandhi and then Akali Dal chief Sant signed an accord agreeing for a new tribunal to assess the water.
  - ○ The **Eradi Tribunal** headed by Supreme Court Judge V Balakrishna Eradi was set up to reassess availability and sharing of water.
  - ○ In 1987, the tribunal recommended an increase in the shares of Punjab and Haryana to 5 MAF and 3.83 MAF, respectively.
- ➢ **1996:** Haryana moved the **Supreme Court (SC)** seeking directions to Punjab to complete the work on the SYL.
- ➢ **2002 and 2004:** SC directed Punjab to complete the work in its territory.
- ➢ **2004:** Punjab Assembly passed the **Punjab Termination of Agreements Act**, terminating its water-sharing agreements and thus jeopardising the construction of SYL in Punjab.
- ➢ **2016:** SC started hearings into a presidential reference (**Article 143**) to decide on the legality of the 2004 Act and **declared that Punjab backed out of its promise to share the waters of rivers.** Thus, the act was **termed constitutionally invalid.**
- ➢ **2020:**
  - ○ **SC directed the Chief Ministers of both states to negotiate and settle the SYL canal issue** at the highest political level to be mediated by the Centre.

- ○ Punjab has asked for a tribunal for fresh time-bound assessment of the water availability.
  - ● Punjab holds that there has been no adjudication or scientific assessment of river waters in the state till date.
  - ● The **availability of Ravi-Beas water has also come down** from the estimated 17.17 MAF in 1981 to 13.38 MAF in 2013. A fresh tribunal would ascertain all this.

What is the Argument of Punjab and Haryana?

- ➢ **Punjab:**
  - ○ Many areas in **Punjab may go dry after 2029** and the state has **already over-exploited its groundwater for irrigation purposes** as it fills granaries of the Centre by growing wheat and paddy worth Rs 70,000 crore every year.
    - ● **Water in about 79% of the state's area is over-exploited** and in such a situation, the government says **sharing water with any other state is impossible.**
- ➢ **Haryana:**
  - ○ It says that providing irrigation is tough for the state and there was a **problem of drinking water in southern parts of Haryana,** where groundwater has depleted up to 1,700 feet.
  - ○ Haryana has been **citing its contribution to the central food pool** and arguing that **it is being denied its rightful share in the water** as assessed by a tribunal.

What are the Key Highlights about Sutlej and Yamuna River?

- ➢ **Sutlej:**
  - ○ The ancient name of **Sutlej River is Zaradros (Ancient Greek) Shutudri or Shatadru (Sanskrit).**
  - ○ It is the **longest of the five tributaries of the Indus River** that give the Punjab (meaning "Five Rivers") its name.
    - ● Jhelum, Chenab, Ravi, Beas and Satluj are main tributaries of Indus.
  - ○ It rises on the **north slope of the Himalayas** in Lake La'nga in southwestern Tibet.

Note:

- Flowing northwestward and then west-southwestward through Himalayan gorges, it enters and crosses Himachal Pradesh before beginning its flow through the Punjab plain near Nangal.
- Continuing southwestward in a broad channel, it receives the Beas River (and forms 65 miles of the India-Pakistan border before entering Pakistan and flowing another 220 miles to join the Chenab River west of Bahawalpur.

➢ Sutlej River meets the Beas River in Harike in the Ferozpur district before entering Pakistan.
- The combined rivers then form the Panjnad, the link between the Five Rivers and the Indus.

○ **Luhri Stage-I Hydro Electric Project** is located on River Satluj in Shimla and Kullu districts of Himachal Pradesh.

➢ **Yamuna:**
○ **Source:**The river Yamuna, a **major tributary of river Ganges,** originates from the Yamunotri glacier near Bandarpoonch peaks in the Mussoorie range of the lower Himalayas at an elevation of about 6387 meters above mean sea level in Uttarkashi district of Uttarakhand.
○ **Basin:** It meets the Ganges at the Sangam (where **Kumbh** mela is held) in **Prayagraj, Uttar Pradesh** after flowing through **Uttarakhand**, Himachal Pradesh, Haryana and Delhi.

○ **Length:** 1376 km
○ **Important Dam:** Lakhwar-Vyasi Dam (Uttarakhand), Tajewala Barrage Dam (Haryana) etc.
○ **Important Tributaries:** **Chambal**, Sindh, **Betwa and Ken**.
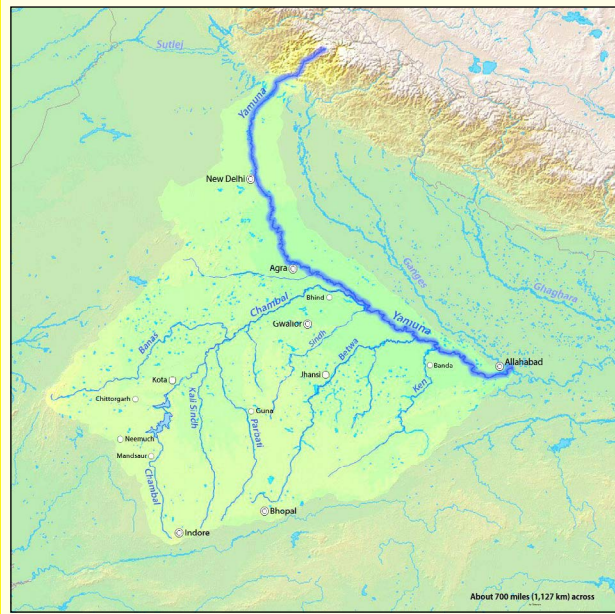
Supreme Court Strikes Down Vanniyar quota

Why in News?

Recently, the **Supreme Court struck down the 10.5% internal reservation to Vanniyakula Kshatriya community in Tamil Nadu.**

What did the Supreme Court Held?

➢ The Supreme Court held that 10.5% internal reservation to Vanniyakula Kshatriya community **violates the fundamental rights of equality, non-discrimination and equal opportunity** of 115 other **Most Backward Communities (MBCs) and De-Notified Communities (DNCs) in Tamil Nadu**.

➢ The allotment of 10.5% reservation to a single community from within the **total Most Backward Classes (MBC) quota of 20% in the State**, leaving only 9.5% to 115 other communities in the MBC category, was **without "substantial basis"**.

Note:

➤ Further, the court said there was **no assessment or analysis done prior to the 2021 Act** to back the claim that the Vanniyakula Kshatriyas were relatively more backward than the other MBCs and DNCs.

➤ The court underscored that while **caste can be the starting point for internal reservation, it is incumbent on the State government to justify the reasonableness of the decision.**

➤ Though the court held the 2021 Act and its **percentages of reservation unconstitutional**, it upheld the **legislative competence of the State** to enact a law sub-classifying and apportioning percentages within identified backward classes.

What is Vanniyakula Kshatriya Reservation?

➤ Reservation in Tamil Nadu **comprises 69% under a 1994 Act** protected under the **Ninth Schedule of the Constitution.**
  ○ Out off the 69%, backward classes, including Christians and Muslims, get 30%; MBCs get 20%; Scheduled Castes 18%; and Scheduled Tribes 1%

➤ The Vanniyakula Kshatriya reservation was provided under the State within the reservation for the **Most Backward Classes and Denotified Communities Act, 2021.**

➤ Vanniyakula Kshatriya (including **Vanniar, Vanniya, Vannia Gounder, Gounder or Kander, Padayachi, Palli and Agnikula Kshatriya)** community.

➤ The **second Tamil Nadu Backward Commission in 1983**, held that the population of Vanniyakula Kshatriyas was found to be 13.01% of the State's total population.

➤ Therefore, provision of **10.5% reservation to a community with a population of 13.01% could not be called disproportionate.**

What is the Ninth Schedule of the Indian Constitution?
➤ The Ninth Schedule was added by the **first amendment to the Indian Constitution.**
➤ It was introduced on **10th May 1951 by the Jawaharlal Nehru Government** to protect land reform laws from being challenged in the courts on the grounds of violation of fundamental rights.
➤ It was created by the **new Article 31B.**
  ○ Article 31B also has a retrospective operation which means that if laws are inserted in the **Ninth Schedule** after they are **declared unconstitutional**, they are considered to have been in the Schedule since their commencement, and thus valid.

➤ While most of the laws protected under the **Schedule concern agriculture/land issues, the list includes other subjects.**
➤ Although **Article 31B excludes judicial review,** the apex court has said in the past that even laws under the Ninth Schedule would be open to scrutiny if they violated Fundamental Rights or the basic structure of the Constitution.

Adoption of Modern Technology in Agriculture

Why in News?

Recently, the Union Minister of Agriculture and Farmers Welfare in a written reply in **Rajya Sabha** informed about the **various initiatives taken by the government for adopting technology in Agriculture.**

➤ In 2021, **a consultation paper on the India Digital Ecosystem of Agriculture (IDEA)** from the **Ministry of Agriculture and Farmers' Welfare (MoA&FW)** was released, which talks about a digital revolution in the agriculture sector.

➤ The adoption of modern technology **depends on various factors** such as socioeconomic conditions, geographical conditions, crop grown, irrigation facilities etc.

What is the importance of Technology in Agriculture?

➤ **Technology in agriculture can be used in different aspects of agriculture** such as the application of herbicide, pesticide, fertilizer, and improved seed.

➤ Over the years, **technology has proved to be extremely useful in the agricultural sector.**
  ○ Presently, **farmers are able to grow crops in areas** where they were thought could not grow, but this is only possible through agricultural biotechnology.

➤ For example, **genetic engineering has made it possible to introduce certain strains** into other genes of crops or animals.
  ○ **Such engineering boosts the resistance of the crops to pests (e.g. Bt Cotton) and droughts.** Through technology, farmers are in a position to electrify every process for efficiency and improved production.

Note:

FUTURE FARMS
small and smart

SURVEY DRONES
Aerial drones survey the fields, mapping weeds, yield and soil variation. This enables precise application of inputs, mapping spread of pernicious weed blackgrass could increasing Wheat yields by 2-5%.

FLEET OF AGRIBOTS
A herd of specialised agribots tend to crops, weeding, fertilising and harvesting. Robots capable of microdot application of fertiliser reduce fertiliser cost by 99.9%.

FARMING DATA
The farm generates vast quantities of rich and varied data. This is stored in the cloud. Data can be used as digital evidence reducing time spent completing grant applications or carrying out farm inspections saving on average £5,500 per farm per year.

TEXTING COWS
Sensors attached to livestock allowing monitoring of animal health and wellbeing. They can send texts to alert farmers when a cow goes into labour or develops infection increasing herd survival and increasing milk yields by 10%.

SMART TRACTORS
GPS controlled steering and optimised route planning reduces soil erosion, saving fuel costs by 10%.

How using Technology can be Beneficial in Agriculture?

➢ Increases agriculture productivity.

➢ Prevents **soil degradation.**

➢ Reduces chemical application in crop production.

➢ Efficient use of water resources.

➢ Disseminates modern farm practices to improve the quality, quantity and reduced cost of production.

➢ Changes the socio-economic status of farmers.

What are the Related Challenges?

➢ **Education and Training Related:**
  ○ Lack of knowledge
  ○ Inadequate skills
  ○ Lack of improved skills

➢ **Technology and Infrastructure:**
  ○ Poor infrastructure
  ○ Lack of storage
  ○ Lack of transport

➢ **Economic and Policy issues:**
  ○ Lack of Money
  ○ Access to credit
  ○ Lack of access to Bank Loans

➢ **Climate and Environmental Issues:**
  ○ Poor soils,
  ○ Soil fertility
  ○ Unreliable rainfall
  ○ Natural disasters such as floods, frost, hail storm

➢ **Psycho-Social Issues:**
  ○ Workers have no interest in agriculture, Farm works are not preferred over ipelegeng projects (self-reliance works), Farm jobs are time consuming.

What are the Steps taken by the Government in the Direction?

➢ **AgriStack:** The Ministry of Agriculture and Farmers Welfare has planned creating 'AgriStack' - a collection of technology-based interventions in agriculture.

Note:

- ➢ **Digital Agriculture Mission:** This has been initiated for 2021-2025 by the government for projects based on new technologies like **artificial intelligence, block chain, remote sensing and GIS technology,** use of **drones** and robots etc.
- ➢ **Unified Farmer Service Platform (UFSP):** UFSP is a combination of Core Infrastructure, Data, Applications and Tools that enable seamless interoperability of various public and private IT systems in the agriculture ecosystem across the country.
- ➢ **National e-Governance Plan in Agriculture (NeGP-A):** A **Centrally Sponsored Scheme,** it was initially launched in 2010-11 in 7 pilot States, which aims to achieve rapid development in India through use of ICT for timely access to agriculture related information to the farmers.
  - ❍ In 2014-15, the scheme was further extended for all the remaining States and 2 UTs.
- ➢ **Sub-Mission on Agricultural Mechanization (SMAM):**
  - ❍ Under this Scheme, **subsidies are provided for purchase of various types of agricultural equipment and machinery.**
- ➢ **Other Digital Initiatives: Kisan Call Centres, Kisan Suvidha App, Agri Market App, Soil Health Card (SHC)** Portal, etc.

Resolution on Chandigarh

Why in News?

Recently, the Punjab chief minister moved a **resolution in the Assembly, seeking the immediate transfer of Chandigarh to Punjab.**

- ➢ The longstanding **dispute between Punjab and Haryana over Chandigarh** flared up after the Centre notified **Central Service Rules for employees** in the Union Territory instead of the **Punjab Service Rules.**
- ➢ Punjab was reorganised through the **Punjab Reorganisation Act, 1966**, wherein, the state of Punjab was reorganised into the **state of Haryana, Union Territory of Chandigarh (also joint capital of Punjab & Haryana),** and some parts of **Punjab were given to the then Union Territory of Himachal Pradesh.**

When and how did Chandigarh become the capital of Punjab?

- ➢ **After the Partition of India**, the Indian Government wanted a **modern city to replace Lahore as Punjab's capital**, and the **idea of Chandigarh was conceived.**
- ➢ In 1966, the state was **divided into Punjab and Haryana** with some parts coming under **Himachal Pradesh.**
  - ❍ Until Haryana was born, **Chandigarh remained the capital of Punjab.**
- ➢ During the reorganisation of Punjab, the Centre Government announced that **Haryana would get its own capital.**
  - ❍ In 1970, the Centre announced that "**the capital project area of Chandigarh should, as a whole, go to Punjab".**
  - ❍ Haryana was told to use the office and residential accommodation in Chandigarh **for five years** until it built its own capital.
  - ❍ However, Chandigarh remained a Union Territory, as **Haryana didn't build a capital of its own.**
- ➢ According to the **Capital of Punjab (Development and Regulation) Act, 1952,** the properties in Chandigarh were to be **divided in a 60:40 ratio in favour of Punjab.**

What claims on Chandigarh were made subsequently?

- ➢ **In August 1982,** the Akali Dal (political party), having expressed dissatisfaction over the Punjab Reorganisation Act, **launched the protests** with the object of **realising the goals of the Anandpur Sahib Resolution of 1973.**
  - ❍ Anandpur Sahib Resolution adopted in 1973 by Akali Dal demanded that the Centre's jurisdiction should be restricted **only to defence, foreign affairs, communications, and currency** and the entire residuary powers should be vested in the states.
  - ❍ Amongst other demands, **it asked for Chandigarh to be given to Punjab.**
- ➢ In 1985, the **Rajiv-Longowal Accord** was signed between then Prime Minister Rajiv Gandhi and Akali leader Harchand Singh Longowal.
  - ❍ Among other things, the Centre agreed to give Chandigarh to Punjab, and **26th January 1986 was fixed as the date for the actual transfer.**

Note:

○ However, less than a month after the signing of the accord, **Longowal was assassinated by militants.**

What are Union Territories and How are they Carved out of states?

➢ Union Territories (UT) are **governed directly by the Union.**

➢ **Part VIII of the Constitution** is concerned with the administration of the Union Territories.

➢ The President of India appoints an **administrator or Lieutenant Governor for each UT.** In practice, this means that the **Union Territories follow the central government's will.**

➢ The concept of Union Territories was not in the **original version of the Constitution but was added by the Constitution (Seventh Amendment) Act, 1956.**

➢ There are differences in the governing of UTs depending upon **whether they have a legislative assembly or not.**

○ The smaller ones are governed directly by the center, for example, **Chandigarh, Daman and Diu, and Dadar and Nagar Haveli** are UTs with no elected assemblies.

○ On the other hand, **Puducherry and J&K** are UTs with a legislative assembly and government, along with an LG. New Delhi is altogether different and its status lies between a UT and a state.

➢ According to **Article 3 of the Indian Constitution,** the constitutional power to create new states and union territories in India is solely reserved to the Parliament of India.

➢ Parliament can do so by announcing new states/union territories, separating territory from an existing state or **merging two or more states/union territories or parts of them.**

Digital Platform FASTER

Why in News?

Recently, **Chief Justice of India (CJI)** launched the digital platform **FASTER (Fast and Secured Transmission of Electronic Records).**

➢ The Supreme Court has also launched other programmes **involving technology** like **Artificial Intelligence (AI) based portal 'SUPACE'** in the judicial system aimed at assisting judges with legal research.

➢ **eCourts Mission Mode Project** is a pan-India Project, monitored and funded by the Department of Justice, Ministry of Law and Justice, for the District Courts across the country.

○ The objective of the project is to provide designated services to litigants, lawyers and the judiciary through ICT enablement of courts.

What is a FASTER Digital Platform?

➢ **About:**

○ It is a **digital platform to communicate interim orders, stay orders, bail orders etc.,** of the **Supreme Court** to authorities concerned through a secured electronic communication channel.

➢ **Need:**

○ There have been **cases where jail inmates are not released despite bail orders** passed by the Supreme Court due to delay in communication of such orders.

○ So, **it was needed to utilise information and communication technology tools** for efficient transmission of court's orders.

➢ **Significance:**

○ **Ensure timely Release of Undertrials:**

● **Ensure that undertrials are not made to wait for days** on end behind bars to be released because the certified hard copies of their bail orders took time to reach the prison.

■ **Undertrials are the people who are yet to be found guilty** of the crimes they have been accused of.

○ **Prevent Unnecessary Arrests:**

● It will help in **preventing unnecessary arrests and custody of people** even after the court had already granted them its protection.

○ **Ensure Fundamental Rights of Prisoners:**

● Ensure **fundamental rights** of personal liberty, life and dignity of the prisoners which is given under **Article 21 of Constitution of India.**

➢ **Challenges:**

○ The **availability of internet connection in jails** across the nation as without this facility transmission of such orders to prisons will not be possible.

Note:

Merger of Film Bodies under National Film Development Corporation

Why in News?

Recently, the **Ministry of Information and Broadcasting** announced the **merger of four film media units,** including the Films Division, Directorate of Film Festivals, National Film Archive of India, and Children's Film Society of India **with the National Film Development Corporation.**

➢ The decision is in line with **Bimal Julka-led expert committee's (2020) report** on rationalisation, closure and merger of film media units.

What are the Key Points?

➢ **About the Four Film Media Units:**
  ○ **Films Division:**
    ● It was **established in 1948** and is the **oldest of the four units**.
    ● It was **created primarily to produce documentaries and news magazines** as publicity for government programmes and to keep a cinematic record of Indian history.
  ○ **Directorate of Film Festivals:**
    ● Set up under the Ministry of Information & Broadcasting in 1973 by the Government of India, it is entrusted with the **objective of promoting Indian films.**
    ● DFF also strives to promote inter-cultural understanding through film-based cultural exchanges.
  ○ **National Film Archives of India:**
    ● The National Film Archives of India was established in 1964 with the primary objective of acquiring and preserving Indian cinematic heritage.
  ○ **Children's Film Society of India:**
    ● CFSI started functioning in 1955 as an **autonomous body under the Ministry of Information and Broadcasting.**
    ● CFSI **promotes films that provide healthy and wholesome entertainment** for children to broaden their perspective and encourage them to reflect on the world around.

➢ **About NFDC:**
  ○ **National Film Development Corporation (NFDC) is** a **Public Sector Undertaking (PSU)** working under the **Ministry of Information and Broadcasting** which was **established in 1975 with a view to promote and organize an integrated development** of the Indian Film Industry and to foster excellence in cinema.
  ○ It is currently headed by **Ravinder Bhakar,** who is also the chief executive officer of the **Central Board of Film Certification.**

What will be the Significance of the Merger?

➢ **Better Coordination:**
  ○ Bringing all these activities under a single management will **reduce the overlap of various activities and ensure better utilisation of public resources**.

➢ **Give Strong Impetus to the Production of Films:**
  ○ It will give a s**trong impetus to the production of films** of all genres including feature films, documentaries, children films and animation films; promotion of films through participation in different international festivals and organizing various domestic festivals; preservation of filmic content, digitization and restoration of films; and distribution and outreach activities.
    ● The **ownership of the assets available** with these units will, however, remain with the Government of India.

What are the issues with the Merger?

➢ **National Film Development Corporation is a loss Making Corporation:**
  ○ The four public-funded bodies are being merged with a loss-making corporation.

➢ **No Concrete Plan on Merging:**
  ○ There is **no concrete plan on how the transfer of archives will be carried out** as celluloid ('used for cinematographic film) is fragile and inflammable material.
  ○ There may be a case of **disinvestment** if NFDC will not generate profit. In that case if our archives do not remain autonomous public institutions, they will undoubtedly be tampered with, damaged, or destroyed forever.

Note:

What is the State of India's Film Industry?

➢ India is the **largest producer of movies** globally with an industry that is led by the private sector and produces more than 3000 films in a year.

➢ The **value of the film industry in India in the financial year 2020** was about 183 billion Indian rupees.

Initiatives Launched under InTranSE -II

Why in News?

Recently, the Ministry of Electronics and Information Technology (MeitY) has launched an indigenous **Onboard Driver Assistance and Warning System (ODAWS), Bus Signal Priority System and Common SMart IoT (Internet of Things) Connectivity (CoSMiC) software.**

➢ It has been launched under **Intelligent Transportation System Endeavor Phase-II (InTranSE -II).**

What is Intelligent Transportation Systems Endeavor for Indian Cities?

➢ Intelligent Transportation System(ITS) is a revolutionary **state-of-the-art technology.**

➢ It will **achieve traffic efficiency** by prompting efficient infrastructure usage, minimising traffic problems, enriching users with prior information on traffic, reducing travel time and enhancing safety & comfort of commuters.

➢ This system **can detect any accident and receive alerts** for ensuring that an ambulance reaches the accident spot within 10-15 minutes.

➢ To **synergize the transformation in ITS with more energy and pace** MeitY took early steps by bringing together premier academic institutes like Indian Institute of Technology (IIT), Indian Institute of Science (IISc), Indian Institute of Management (IIM) etc. and Premier R&D **Centre like Centre for Development of Advanced Computing (C-DAC)** under one umbrella.

➢ Such an initiative formulated the Collaborative **Intelligent Transportation Systems Endeavor for Indian Cities (InTranSE)** during the year **2009-2012 (Phase-I).**

➢ The **InTranSE Phase-II program (2019-2021)** is an extension of the **InTranSE Phase-I program which** is aiming at undertaking R&D projects collaboratively with IIT Bombay, IIT Madras, IISc Bangalore and C-DAC Thiruvananthapuram.

What is ODAWS?

➢ ODAWS incorporates **vehicle-borne sensors for monitoring driver propensity and vehicle surroundings to deliver acoustic and visual alerts for driver assistance.**

➢ The project involves the development of sub-modules such as the navigational unit, driver assistance console, and **Millimetre Wave RADAR** (mmWave radar) sensor.

○ The mmWave RADAR is **an extremely valuable sensing technology ideal for detection of objects and providing information on range**, velocity and angle of these objects.

➢ The navigational sensor provides a precise **geo-spatial orientation of the vehicle as well as trends in driving behaviour.**

➢ The ODAWS algorithm is used to interpret sensor data and offer **real-time notifications to the driver, boosting road safety.**

What is a Bus Signal Priority System?

➢ Bus signal priority System is an **operational strategy that modifies normal traffic signal operations to better accommodate in-service public buses** at signal-controlled intersections.

➢ Unlike a blind priority that is given for emergency vehicles, here **it is a conditional priority, which is given only when there is an overall reduction in delay** for all vehicles.

➢ The developed system will **enable to minimise person delay by providing priority to public transport buses**, either through Green extension or Red truncation, considering all vehicles approaching a signalised intersection.

○ **Green Extension** provides **extra time for a detected transit vehicle to clear an intersection.** Green extension is most applicable when transit runs at the back of the vehicle queue, as is common at the first signal after a far-side stop.

Note:

drishti

○ **Red Truncation** provides a green phase earlier than otherwise programmed, clearing an intersection approach with a waiting transit vehicle sooner than otherwise.

What is CoSMiC?

➤ It is a **middleware software providing standard based deployment of IoT** adhering to oneM2M (Machine -To Machine) based global standard.

➤ ○ **oneM2M** is the global standards initiative that covers requirements, architecture, **API (Application Programming Interface)** specifications, security solutions and interoperability for Machine-to-Machine and IoT technologies.

➤ It facilitates **users and application service providers in various vertical domains to use application agnostic open standards and open interfaces for end to end communication** with well-defined common service functionalities complying with oneM2M standard.

➤ With this in view, **CoSMiC common service layer is used to interface any vendor specific standards and for increasing interoperability** with smart city dashboard.

What are the other Government Initiatives to Control Road Accidents?

➤ **Identification and Rectification of Black Spots:**

○ **High priority has been accorded to identification and rectification of black spots** (accident prone spots) on national highways.

○ Regional Officers were delegated powers for technical approval to the detailed estimates for rectification of identified Road Accident black spots.

➤ **Road Safety Audit:**

○ Road safety has been made an integral part of road design at the planning stage. **Road Safety Audit of all highway projects** has been made **mandatory at all stages i.e. design, construction, operation and maintenance.**

➤ **Facilities for the Persons with Disability:**

○ Centre also issued **guidelines to all states for pedestrian facilities on National Highways for persons with disabilities.**

○ Government made **provisions for ambulances with paramedical staff, Emergency Medical Technician or Nurse at toll plazas** on the completed corridor of National Highways.

➤ **Rewarding the Savers of Accident Victims:**

○ A scheme was announced for **grant of award to those who save lives of accident victims by administering immediate assistance** and rushing them to hospital or Trauma Care Centre.

SVANidhi se Samriddhi

Why in News?

The **Ministry of Housing and Urban Affairs (MoHUA)** has launched **'SVANidhi se Samriddhi'** program in additional 126 cities across 14 States/ UTs.

➤ **Quality Council of India (QCI)** is the implementing partner for the programme.

What is SVANidhi se Samriddhi?

➤ **About:**

○ It is **an additional program of PMSVANidh**i, launched on 4th January 2021 in 125 cities **to map the socio economic profile of the PM SVANidhi beneficiaries and their families.**

○ It assesses beneficiaries' potential eligibility for various Central welfare schemes (8) and facilitates the linkages to these schemes.

● These schemes include **Pradhan Mantri Jeevan Jyoti Bima Yojana**, PM Suraksha Bima Yojana, **Pradhan Mantri Jan Dhan Yojana, Pradhan Mantri Shram Yogi Maandhan Yojana**, Registration under B**uilding and other Constructions Workers** (Regulation of Employment and Conditions of Service) Act (BOCW), **National Food Security Act (NFSA)** portability benefit – **One Nation One Ration Card (ONORC**), **Janani Suraksha Yojana**, and **Pradhan Mantri Matru Vandana Yojana (PMMVY)**.

➤ **Coverage:**

○ In Phase 1, it covered approximately 35 Lakh Street vendors and their families.

○ Phase 2 aims to cover 28 Lakh Street vendors and their families, with a total target of 20 Lakh scheme sanctions for FY 2022-23. The remaining cities would be gradually added to the program.

Note:

➢ **Achievements:**
  ○ In the year 2020-21 (despite challenges posed due to Covid-19 pandemic), the program was successful in providing social security benefits to the street vendor families and thereby protecting them from any risks and vulnerabilities of life and livelihoods.
  ○ The program has **two-fold achievements:**
    ● One, **a central database of Street vendors and their families is created** on various socio-economic indicators.
    ● Second, **a first of its kind inter-ministerial convergence platform is established between various Central Ministries** to extend the safety net of welfare schemes to street vendor households.

What is PM SVANidhi Scheme?

➢ **About:**
  ○ Prime Minister Street Vendors AtmaNirbhar Nidhi (PM SVANidhi) was announced as a part of the **Economic Stimulus-II** under the **Atmanirbhar Bharat Abhiyan.**
  ○ It has been implemented since 1st June 2020, for providing affordable working capital loans to street vendors to resume their livelihoods that have been adversely affected due to **Covid-19 lockdowns**, with a sanctioned budget of Rs. 700 crore.

➢ **Aims:**
  ○ To benefit over 50 lakh street vendors who had been vending on or before 24th March 2020, in urban areas including those from surrounding peri-urban/rural areas.
  ○ To promote digital transactions through cash-back incentives up to an amount of Rs. 1,200 per annum.

➢ **Features:**
  ○ The vendors can avail a working capital loan of up to Rs. 10,000, which is repayable in monthly installments in the tenure of one year.
  ○ On timely/early repayment of the loan, an interest subsidy of 7% per annum will be credited to the bank accounts of beneficiaries through Direct Benefit Transfer on a quarterly basis.
  ○ There will be no penalty on early repayment of the loan. The vendors can avail the facility of the enhanced credit limit on timely/early repayment of the loan.

➢ **Challenges:**
  ○ Several banks are **seeking applications on stamp papers worth between Rs. 100 and Rs. 500.**
  ○ There have also been instances of **banks seeking PAN cards and even checking the CIBIL or Credit score of applicants** or state authorities asking for voter ID cards, which many migrant vendors do not carry with them.
    ● CIBIL score is an evaluation of one's credit history and determines their eligibility for a loan.
  ○ There have also been **complaints of harassment by police** and municipal officials.

➢ **Solutions:**
  ○ States should be asked to ensure that street vendors are not harassed by the authorities as all they are asking is a right to livelihood.
  ○ The Centre has also decided to send the applications directly to bank branches listed by the applicant as a "preferred lender" or where the vendor holds a savings bank account.
  ○ A software has also been developed that can "push" around 3 lakh applications to the banks.

Protests Against Hindi in Northeastern States

Why in the News?

Recently, the Government of India provided that **Hindi would be made compulsory up to Class 10 in the eight northeastern states.**

➢ Hindi is described as "**the language of India".**

➢ However, the move has been met with **protests from various organisations in the Northeast.** Also, several south Indian states have criticised the central government decision.

➢ Instead, these groups are supportive of **three-language policy – English, Hindi and the local language.**

What are the Arguments Presented by Northeastern Organization?

➢ **Sixth Schedule:** The state is protected by the **Sixth Schedule of the Constitution** and the Centre would not be able to impose Hindi on the students.

Note:

- ➢ **Discrimination:** Centre's move will provide **Hindi-speakers the economic, academic and administrative edge** and let them control non-Hindi speaking regions of the country in the long run.

What is the Issue with Hindi Language and Identity?

- ➢ **Linguistic Organization of States:** In India most of the states have been formed on linguistic basis.
  - ○ **Conflicts over identity,** especially over languages tend to be escalated due to limited resources in India.
- ➢ **Examples of Linguistic Division:** The status of language has been a critical issue that has caused division of states in the past.
  - ○ Such states as **Andhra Pradesh (1st state formed on linguistic basis), Punjab and Gujarat** were created due to statehood demand on linguistic basis.
- ➢ **Instrument of Managing Conflict:** Language policy is one method by which **governments attempt to manage ethnic conflict.**
  - ○ Thus, to develop federal cooperation, autonomy of the states over language policy can be a more viable option than the imposition of a three language formula.

What is the Three-Language Formula & Its Need?

- ➢ **About:** Three-Language Formula was first proposed by **Kothari Commision 1968**. Under this scheme:
  - ○ **First language:** It will be the mother tongue or **regional language.**
  - ○ **Second language:** In Hindi speaking states, it will be other modern Indian languages or English. In non-Hindi speaking states, it will be **Hindi or English.**
  - ○ **Third Language:** In Hindi speaking states, it will be **English or a modern Indian language**. In the non-Hindi speaking state, it will be English or a modern Indian language.
- ➢ **Need:** The primary aim is to promote multilingualism and national harmony.
  - ○ The Kothari Committee's report observes that learning **languages is an important part of a child's cognitive development.**
- ➢ **Modus Operandi:** At the secondary stage, State governments were to adopt the three-language formula.

- ○ It included the study of a **modern Indian language,** preferably one of the southern languages, apart from Hindi and English in the Hindi-speaking States.
- ○ In the **'non-Hindi speaking States'**, Hindi should be studied along with the regional language and English.
- ➢ **Issue in Implementation:** The states in the **hindi belt (such as Uttar Pradesh and Bihar)** could not promote learning of south Indian languages under a three language formula.
  - ○ The states like **Tamil Nadu, Puducherry and Tripura were not ready to teach Hindi** in their school curriculum.
  - ○ Instead they demanded autonomy of this issue.

What are Constitutional Provisions Related to Languages?

- ➢ **Article 29** of the Constitution of India **protects the interests of minorities.** The Article states that any section of the **citizens who have a distinct language, script or culture of its own shall have the right to conserve the same.**
- ➢ **Article 343** is about the official language of the Union of India. According to this Article, it is to be **Hindi in Devnagri script, and numerals should follow the international form of Indian numerals**.
  - ○ This Article also states that **English will continue to be used as an official language for 15 years from the commencement of the Constitution.**
- ➢ **Article 346** is about the **official language for communication between the states and between a state and the Union**.
  - ○ The Article states that the "authorised" language will be used. However, **if two or more states agree that their communications shall be in Hindi, then Hindi may be used.**
- ➢ **Article 347** gives the **President** the **power to recognise a language as an official language of a given state**, provided that the President is satisfied that a substantial proportion of that state desires that the language be recognised.
  - ○ Such recognition can be for a part of the state or the whole state.
- ➢ **Article 350A** facilities for instruction in **mother-tongue at the primary stage.**

➢ **Article 350B** provides for the establishment of a **Special Officer for linguistic minorities.**
  ❍ The Officer shall be **appointed by the President** and shall investigate all matters relating to the safeguards for linguistic minorities, reporting directly to the President.
  ❍ The President may then place the reports before each house of the Parliament or send them to the governments of the states concerned.
➢ **Article 351** gives power to the union government to issue a directive for development of the Hindi language.
➢ **The Eighth Schedule** of the Constitution of India contains a list of **22 recognised schedule languages.**

Draft Guidelines For Medical Registration

Why in News?

Recently, the **National Medical Commission (NMC)** has released draft guidelines on how the doctors will be registered in order to practise medicine.

➢ It aims to bring **uniformity in the registration process** of medical practitioners in India.
➢ Earlier, the **Department of Pharmaceuticals (DoP),** Ministry of Chemicals and Fertilisers has released an Approach Paper for the **Draft National Policy for the Medical Devices, 2022.**

What are the draft guidelines for medical registration proposed by the NMC?

➢ **Unique ID:** The guidelines provide a framework for creating a dynamic national medical register, with a unique ID assigned to each student who **qualifies NEET and other professional qualifications.**
➢ **Allowing Foreign Doctors:** It also throws open the registration to foreign doctors who want to come to India to study in **post-graduation courses, fellowships, clinical research, or voluntary clinical services.**
➢ **National Exit Test (NExT):** The draft states that Indian medical graduates would be eligible for registration in the **National Medical Register** after they complete their MBBS degree from a recognised college, complete their year-long mandatory internship, and pass the **National Exit Test (NExT).**

  ❍ NExT will not **only level the playing field for both,** it will also act as the qualifying test for post-graduate programmes instead of the NEET-PG the aspirants have to appear for currently.
  ❍ Till the NExt is introduced, the current processes will continue, the draft guidelines state.
  ❍ The government expects to conduct the **NExT from 2024.**
  ❍ **National Medical Register contains the list of** Registered Doctors with the various State Medical Councils across India.

What is the National Medical Commission?

➢ **Medical Council of India (MCI)** was established in 1934 under the **Indian Medical Council (IMC) Act, 1933** with the main function of establishing uniform standards of higher qualifications in medicine and recognition of medical qualifications in India and abroad.
➢ The government dissolved the MCI in 2018 and replaced it with a **Board of Governors (BoG),** which was chaired by a member of **NITI Aayog.**
➢ Now, the IMC Act, 1956 stands repealed after the gazette notification, and has been replaced by the **National Medical Commission Act** that came into existence on 8th August 2019.
➢ The change is aimed at bringing in reforms in the medical education sector and especially aimed at replacing the MCI, which was tainted by corruption and **other problems.**
➢ The NMC will function as the country's top regulator of medical education.
➢ **It will have four separate autonomous boards for:**
  ❍ Undergraduate medical education.
  ❍ Postgraduate medical education.
  ❍ Medical assessment and rating.
  ❍ Ethics and medical registration.

Audit Report of CAG on the Functioning of the UIDAI

Why in News?

Recently, the **Comptroller and Auditor General (CAG)** of India, has pulled up the **Unique Identification Authority of India (UIDAI)** over a range of issues related to the issuance of Aadhaar cards.

Note:

➢ The findings are **part of the first performance review** by the country's independent auditor of UIDAI, which was carried out over a **four-year period between FY2015 and FY2019.**

Unique Identification Authority of India

➢ **Statutory Authority:** The UIDAI is a **statutory authority established on 12th July 2016** by the Government of India under the jurisdiction of the Ministry of Electronics and Information Technology, following the provisions of the **Aadhaar Act 2016.**

○ The UIDAI was initially set up by the Government of India in January 2009, as an attached office under the aegis of the **Planning Commission.**

➢ **Mandate:** The UIDAI is **mandated to assign a 12-digit unique identification (UID) number (Aadhaar)** to all the residents of India.

○ As of 31st October 2021, UIDAI had **issued 131.68 crore Aadhaar numbers.**

What are the Issues Highlighted by CAG?

➢ **No Documents for Proof of Residency:**

○ UIDAI has **not prescribed any specific proof/ document or process for confirming whether an applicant has resided in India** for the specified period, and takes confirmation of the residential status through a casual self-declaration from the applicant.

○ Also, **there was no system in place to check the affirmations of the applicant.**

● In India, **Aadhaar numbers are only issued to individuals** who have resided for a **period of 182 days or more in the 12 months** before the date of application.

➢ **De-duplication Problem:**

○ According to the CAG report, the **UIDAI had to cancel more than 4,75,000 Aadhaars** (as of November 2019) for "being duplicate".

○ This data indicates that on **average no less than 145 Aadhaars generated in a day** during the period of nine years since 2010 were duplicate numbers requiring cancellation.

● The purpose of the Aadhaar system is that **it is unique – that is, no individual can obtain two**

Aadhaar numbers, and that a specific person's biometrics cannot be used to obtain Aadhaar numbers for different people.

➢ **Faulty Enrolment Process:**

○ UIDAI appeared to have **charged people for biometric updates** when poor quality data was fed in during enrolment.

○ **UIDAI did not take responsibility for poor quality biometrics** and put the onus on the resident and charged fees for it.

➢ **Matching Aadhaar Numbers to their Actual Documents:**

○ All the **Aadhaar numbers stored in the UIDAI database were not supported with documents** on the demographic information of the resident.

○ It "**caused doubts about the correctness and completeness of resident's data** collected and stored by UIDAI prior to 2016".

➢ **Children Below the Age of Five:**

○ The audit was **also critical of UIDAI's move to issue Aadhaar cards to children and newborns** without biometrics under an initiative known as **Bal Aadhaar.**

○ This needs to be reviewed **because anyway after 5 years, a child has to apply for new regular Aadhar.** The unique identity is not matched anyway because it is issued on the basis of documents of parents.

○ Apart from being violative of the statutory provisions, the **UIDAI has also incurred avoidable expenditure of Rs 310 crore on the issue of Bal Aadhaars** till 31st March 2019.

● In Phase- II of ICT assistance a further sum of Rs 288.11 crore was released up to the year 2020-21 to states/schools primarily for the issuance of Aadhaars to minor children.

What are the Recommendations?

➢ **Prescribe a Procedure for Self Declaration:**

○ UIDAI may **prescribe a procedure and required documentation** other than self-declaration, in order to confirm and authenticate the residence status of applicants, in line with the provisions of the Aadhaar Act.

Note:

➢ **Tighten the SLA parameters of Biometric Service Providers (BSPs):**

○ UIDAI may **tighten the Service Level Agreement (SLA) parameters of Biometric Service Providers (BSPs),** devise foolproof mechanisms for capturing unique biometric data and improve upon their monitoring systems to proactively identify and take action to minimize, multiple/ duplicate Aadhaar numbers generated.

➢ **Explore Alternate Ways to Capture Uniqueness of Biometric Identity for Minor:**

○ UIDAI may **explore alternate ways to capture uniqueness of biometric identity** for minor children below five years since uniqueness of identity is the most distinctive feature of Aadhaar established through biometrics of the individual.

➢ **Proactive Steps to Identify and Fill the Missing Documents:**

○ UIDAI may **take proactive steps to identify and fill the missing documents** in their database at the earliest, in order to **avoid any legal complications or inconvenience to holders** of Aadhaar issued prior to 2016.

➢ **Review Charging of Fees for Voluntary Update:**

○ UIDAI may **review charging of fees for voluntary update of residents' biometrics,** since they (UIDAI) were not in a position to identify reasons for biometric failures and residents were not at fault for capture of poor quality of biometrics.

➢ **Conduct thorough Verification of the Documents:**

○ UIDAI may **conduct thorough verification of the documents, infrastructure, and technological support** claimed to be available, before on-boarding the entities (Requesting Entities and Authentication Service Agencies) in the Aadhaar ecosystem.

➢ **Frame a Suitable Data Archival Policy:**

○ UIDAI **may frame a suitable data archival policy to mitigate the risk of vulnerability to data protection** and reduce saturation of valuable data space due to redundant and unwanted data, by continuous weeding out of unwanted data.

Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Amendment Bill, 2022

Why in News?

Recently, the Government of India introduced in the Lok Sabha the **Weapons of Mass Destruction (WMD) and their Delivery Systems (Prohibition of Unlawful Activities) Amendment Bill, 2022.**

➢ The bill envisages to **prohibit financing of any activity in relation to WMD** and to **empower to act against financiers of such activities.**

What are the highlights of the Bill?

➢ **Background:** The bill **seeks to modify the Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Act, 2005.**

➢ **Original Legislation:** The 2005 Act was enacted to prohibit unlawful activities in relation to weapons of mass destruction and their delivery systems.

○ This Act **covers unlawful activities relating to biological, chemical and nuclear weapons and their delivery systems.**

○ It also provides for **integrated legal measures** to exercise controls over the export of materials, equipment and technologies in relation to weapons of mass destruction and their delivery systems and for prevention of their transfers to non-State actors or terrorists.

➢ **Need of Amendment:** The **existing Act** pertaining to weapons of mass destruction **does not cover the financial aspect of such delivery systems** and the **new provisions are essential to meet international obligations.**

○ The **United Nations Security Council'**s targeted financial sanctions and the recommendations of the **Financial Action Task Force** have mandated against financing of proliferation of weapons of mass destruction and their delivery systems.

Note:

➢ **Objectives of the Bill:** The Bill aims to achieve three objectives:

   ○ **Prohibit financing** of activities linked to WMD.

   ○ Empower the **Centre to freeze, seize or attach funds,** financial assets or economic resources for preventing such financing.

   ○ **Prohibit making available funds,** financial assets or economic resources for any prohibited activity in relation to weapons of mass destruction and their delivery systems.

What are Weapons of Mass Destruction (WMD)?

➢ These are weapons with the **capacity to inflict death and destruction** on such a massive scale and so indiscriminately that its very presence in the hands of a hostile power can be considered a grievous threat.

➢ Modern weapons of mass destruction are either **nuclear, biological, or chemical weapons**—frequently referred to collectively as **NBC weapons.**

➢ The term weapons of mass destruction has been in currency **since at least 1937**, when it was used to describe **massed formations of bomber aircraft.**

   ○ For example, **Nuclear bombs used in Hiroshima and Nagasaki attack in Japan.**

➢ **Efforts to control the spread of WMD are enshrined in international agreements such as:**

   ○ **Nuclear Non-proliferation Treaty of 1968**

   ○ **Biological Weapons Convention of 1972**

   ○ **Chemical Weapons Convention of 1993**

➢ India has not signed the Nuclear Non-proliferation Treaty, but is signatory to both Biological Weapons Convention and Chemical Weapons Convention.

Reforming Death Penalty

Why in News?

Recently, a Bench of **Supreme Court (SC)** has agreed to **comprehensively examine procedures in death penalty cases** to ensure that judges who have to choose between life imprisonment and the death sentence have comprehensive sentencing information.

➢ Earlier, the SC had **raised concerns in the process of assessments of mitigating information** in death penalty cases.

➢ The court is undertaking an exercise to reform the procedures by which information necessary in a death penalty case is brought before courts. In doing so, the **Supreme Court is acknowledging concerns with the manner in which death penalty sentencing is being carried out.**

   ○ While the death penalty has been held to be constitutional, **the manner in which it has been administered has triggered accusations of unfairness and arbitrariness.**

What is a Death Penalty?

➢ **Capital punishment,** also called the death penalty, is **the execution of an offender sentenced to death after conviction by a court of law of a criminal offence.**

➢ It is the highest penalty awardable to an accused. Generally, it is awarded in extremely severe cases of murder, rapes, treason etc.

➢ The death penalty is seen as the most suitable punishment and effective deterrent for the worst crimes.

➢ Those who oppose it, however, see it as inhumane. Thus, the morality of the death penalty is debatable and many criminologists and socialists all across the globe, have been long demanding abolition of the death penalty.

How are judges supposed to choose between life and death sentences?

➢ In **May 1980, w**hen the Supreme Court upheld the constitutional validity of the death penalty in *Bachan Singh's case*, **a framework was developed for future judges to follow when they had to choose** between life imprisonment and the death penalty.

➢ At the heart of that framework was the recognition that the legislature in the Criminal Procedure Code had made it clear that **life imprisonment would be the default punishment and judges would need to give "special reasons" if they wanted to impose the death sentence.**

➢ Through the 1980 framework — popularly but inaccurately known as the **"rarest of rare" framework** — the Supreme Court said that judges must consider both aggravating and mitigating factors concerning the crime and the accused when deciding if the death penalty is to be imposed.

Note:

drishti

➢ The judgment also made it clear that **life imprisonment as a sentence would have to be "unquestionably foreclosed" before judges imposed the death sentence.**

    ○ There was an indicative list of factors that the judgment identified as being relevant, but it was clear that it was not meant to be an exhaustive list.

➢ The Supreme Court has **repeatedly lamented the inconsistency in application of the Bachan Singh framework.** Similar concerns have been **expressed by the Law Commission of India (262ⁿᵈ Report).**

What is Mitigation in Capital Cases?

➢ A criminal trial has two stages — **the guilt stage and the sentencing stage.**

    ○ Sentencing happens after the accused has been found guilty of the crime; this is the stage where punishment is determined. Therefore, anything presented or said during sentencing cannot be used to reverse or change the finding of guilt.

➢ It is a **fundamental tenet of criminal law that sentencing must be individualized,** i.e, in the process of determining punishment, the **judge must take into account individual circumstances of the accused.**

➢ Mitigation, also referred to as "mitigating factors" or "mitigating evidence," is evidence (information) the defense can present in the sentencing phase of a capital trial to provide reasons why the defendant should not receive a death sentence.

➢ The task of collecting such is not something lawyers are trained to do — that is the reason the American Bar Association's 2003 Guidelines for the Appointment and Performance of Defence Counsel in Death Penalty recognises the role of a mitigation specialist with a clearly defined role that goes beyond what lawyers can do.

➢ The SC judgments in *Santa Singh* (1976) and *Mohd Mannan (*2019) have recognised the interdisciplinary nature of such an exercise, and that **it requires professionals other than lawyers to collect such information.**

What is the Status of Death Penalty in the Indian Context?

➢ Prior to the **Criminal Procedure (Amendment) Act (Cr PC) of 1955**, the death penalty was the rule and life imprisonment an exception in India.

    ○ Further, the courts were bound to give an explanation for awarding a lighter penalty than death for capital offences.

➢ After the **amendment of 1955 courts were at liberty to grant either death or life imprisonment.**

    ○ As per Section 354 (3) of the Cr PC, 1973 the courts are required to state reasons in writing for awarding the maximum penalty.

    ○ The situation has been reversed and a life sentence is the rule and death penalty an exception in capital offences.

    ○ Moreover, despite a global moratorium against the death penalty by the United Nation, India retains the death penalty.

    ○ India is of view that allowing criminals guilty of having committed intentional, cold-blooded, deliberate and brutal murders to escape with a lesser punishment will deprive the law of its effectiveness and result in travesty of justice.

➢ In concurrence of this, a **proposal for the scrapping of the death penalty was rejected by the Law Commission in its 35ᵗʰ** report 1967.

➢ In India as per official statistics, 720 executions have taken place in India after it became independent in the year 1947, which is a minuscule fraction of the people who were awarded death penalty by the trial courts.

    ○ In the majority of the cases, death was commuted to life imprisonment and some were acquitted by the higher courts.

Demand for Restoring the Old Pension Scheme

Why in News?

Many **states are demanding to restore the Old Pension Scheme and roll back the National Pension System (NPS).**

➢ Rajasthan has said it will bring back the old pension scheme in the state from the next financial year, and Chhattisgarh is expected to follow suit.

➢ Governments of Kerala, Andhra Pradesh, and Assam have also formed committees regarding the old pension scheme.

Note:

What is the National Pension System?

➢ **About:**
  ○ The Central Government i**ntroduced the National Pension System (NPS) with effect from January 2004** (except for armed forces).
    ● In 2018-19, to streamline the NPS and make it more attractive, the Union Cabinet approved **changes in the scheme** to benefit central government employees covered under NPS.
  ○ The NPS was launched as **a way for the government to get rid of pension liabilities.**
    ● According to a news report that cited research from the early 2000s, India's pension debt was reaching uncontrollable levels.
  ○ On introduction of NPS, the **Central Civil Services (Pension) Rules, 1972 was amended.**
  ○ The NPS **allows subscribers (government employees) to decide where they want to invest their money by contributing regularly in a pension account** throughout their career.
  ○ After retirement they can withdraw a part of the pension amount in a lump sum and use the rest to buy an annuity for a regular income.

➢ **Implementation:**
  ○ NPS is **being implemented and regulated by PFRDA (Pension Fund Regulatory and Development Authority) in the country.**
  ○ **National Pension System Trust (NPST)** established by PFRDA is the registered owner of all assets under NPS.

➢ **Features:**
  ○ The All Citizens Model of the NPS **allows all citizens of India (including NRIs) aged between 18 - 70 years to join NPS.**
  ○ It is **a participatory scheme,** where employees contribute to their pension corpus from their salaries, with matching contributions from the government. The **funds are then invested in earmarked investment schemes** through Pension Fund Managers.
    ● In 2019, the Finance Ministry said that Central government employees have the option of selecting the Pension Funds (PFs) and Investment Pattern.
  ○ At retirement, they **can withdraw 60% of the corpus, which is tax-free** and the **remaining 40% is invested in annuities, which is taxed.**

  ○ Even **private individuals can opt for the scheme.**

What is the Old Pension Scheme or the Defined Pension Benefit Schemes?

➢ **About:**
  ○ The scheme **assures life-long income, post-retirement.**
  ○ Usually the assured amount is e**quivalent to 50% of the last drawn salary.**
  ○ The **Government bears the expenditure** incurred on the pension. The scheme was **discontinued in 2004.**

➢ **Issues:**
  ○ Economists say the issue is simple -- **longer lifespans meaning more pension payout.**
    ● For instance, employees retiring at 60 and having an average lifespan of nearly 80 years or more have to be paid for over two decades after superannuation.
  ○ Moreover, in the event of the death of the pensioner, **their spouses are entitled for a portion of the pension under the OPS**. This led to a massive pension burden on the Union and state governments.

What are the Issues with the National Pension System?

➢ **Under the old scheme, employees get a pension under a pre-determined formula** which is half of the last drawn salary. They also **get the benefit of the revision of Dearness Relief (DR), twice a year.** The **payout is fixed and there was no deduction from the salary.** Moreover, under the OPS, there was the **provision of the General Provident Fund (GPF).**

➢ The NPS however, **requires employees to deposit 10% of the basic pay, along with the dearness allowance.** There is **no GPF advantage and the amount of pension is not fixed**. The **major issue with the scheme is that it is market-linked** and return-based. In simple terms, the payout is uncertain.

What is the Pension Fund Regulatory and Development Authority?

➢ **About:**
  ○ It is the **statutory Authority e**stablished by an enactment of the Parliament, to regulate, promote and ensure orderly growth of the National Pension System (NPS).

Note:

○ It works under the Department of Financial Services **under the Ministry of Finance.**

➤ **Functions:**

○ It performs the function of appointing various intermediate agencies like Pension Fund Managers, Central Record Keeping Agency (CRA) etc.

○ It develops, promotes and regulates the pension industry under the NPS and also administers the **APY (Atal Pension Yojana).**

Indian Presidential Election

Why in News?

The tenure of the current President of India is set to end in July 2022, which is also when the 16th Indian Presidential election will be held to elect his successor.

How is the President elected?

➤ **About:**

○ The Indian President is elected through **an electoral college system**, wherein the votes are cast by **national and State-level lawmakers.**

○ The elections are conducted and overseen by the **Election Commission (EC) of India**.

● The electoral college is made up of all the **elected members of the Upper and Lower Houses of Parliament** (Rajya Sabha and Lok Sabha MPs), and the **elected Members of the Legislative Assemblies** of States and Union Territories (MLAs).

○ **Related Constitutional Provisions:**.

● **Article 54:** Election of President

● **Article 55:** Manner of election of President.

● **Article 56 :** Term of office of President

● **Article 57:** Eligibility for re-election.

● **Article 58:** Qualifications for election as President

➤ **Procedure:**

○ Before the voting, c**omes the nomination stage,** where the candidate intending to stand in the election, files the nomination along with a signed list of 50 proposers and 50 seconders.

○ These proposers and seconders can be anyone from the total members of the electoral college from the State and national level.

● The r**ule for securing 50 proposers and seconders was implemented when the EC noticed, in 1974,** that several candidates, many without even a bleak chance of winning, would file their nominations to contest the polls.

○ An elector **cannot propose or second the nomination of more than one candidate.**

What is the value of each vote and how is it calculated?

➤ A vote cast by each MP or MLA is not calculated as one vote.

➤ The **fixed value of each vote by an MP of the Rajya Sabha and the Lok Sabha is 708.**

➤ Meanwhile, the **vote value of each MLA differs from State to State based on a calculation that factors in its population vis-a-vis the number of members** in its legislative Assembly.

○ As per the Constitution (Eighty-fourth Amendment) Act 2001, currently, the population of States is taken from the figures of the 1971 Census. This will change when the figures of the Census taken after the year 2026 are published.

VOTE VALUE OF EACH MLA | Each MP carries a vote value of 708. However, the number of votes each MLA carries differs based on the State's population. The map shows the number of votes one MLA carries in a State

7   50   100   150   208   NO MLA VOTES

PUNJAB | 116
UTTARAKHAND | 64
RAJASTHAN 129
UTTAR PRADESH | 208
WEST BENGAL | 151
ODISHA | 149
MAHARASHTRA 175
ANDHRA PRADESH | 159
KARNATAKA 131
TAMIL NADU | 176
KERALA | 152
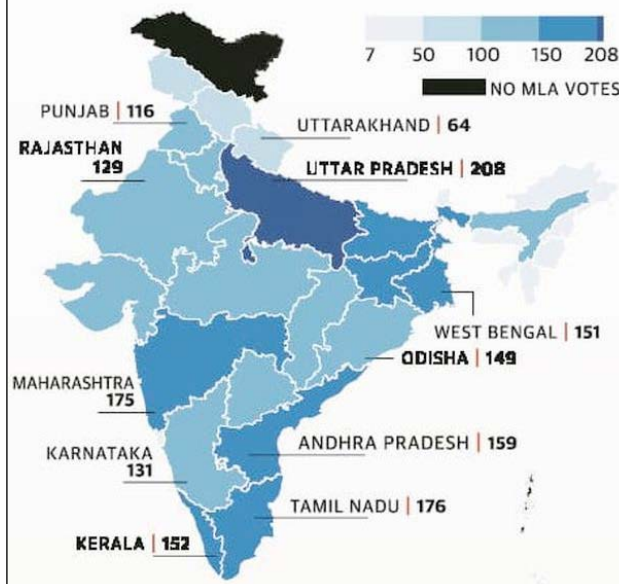
➤ The **value of each MLA's vote is determined by dividing the population of the State by the number of MLAs** in its legislative Assembly, and the **quotient achieved is further divided by 1000.**

Note:

○ Uttar Pradesh for instance, **has the highest vote value for each of its MLAs, at 208. The value of one MLA's vote in Maharashtra is 175**, while that in Arunachal Pradesh is just 8.

What is required to secure a victory?

➤ A nominated candidate **does not secure victory based on a simple majority** but through a system of bagging a specific quota of votes. While counting, the EC totals up all the valid votes cast by the electoral college through paper ballots **and to win, the candidate must secure 50% of the total votes cast + 1.**

➤ Unlike general elections, where electors vote for a single party's candidate, **the voters of the electoral college write the names of candidates on the ballot paper in the order of preference.**

➤ The President's election **is held in accordance with the system of proportional representation by means of the single transferable vote** and the voting is **by secret ballot.**

Can the President be Impeached?

➤ According to **Article 61,** the President can be removed from his office before the expiry of his term only **on the grounds of violation of the constitution**.

➤ However, the C**onstitution does not define the meaning of the phrase 'violation of the constitution'.**

➤ The impeachment process **can be started from any house of the parliament by levelling charges against him.**

➤ The notice bearing the charges against the president must be signed by at least a quarter of the members of the house.

➤ The resolution to impeach the president **must be passed by a special majority (two-thirds) in the originating house.**

➤ Next, it is sent to the other house for consideration. The other house acts as the investigating horse. **A select committee is formed** to investigate the charges labelled against the president.

➤ During the process, the **President of India has the right to defend himself through authorised counsel**. He can choose to defend himself or appoint any person/lawyer or **attorney general of India** to do so.

Third Positive Indigenisation List

Why in News?

Recently, the Ministry of Defence has released the **third positive indigenisation list of 101 items**, comprising major equipment/platforms.

➤ The **'First Negative Indigenisation'** List comprising 101 items was notified in **August 2020.**

➤ The **Second Indigenisation list** was notified in **June 2021** import list for 108 items.

What is the Third List and its Significance?

➤ It comprises **highly complex Systems, Sensors, Weapons and Ammunitions like Light Weight Tanks, Mounted Arty Gun Systems** , Next Generation **Offshore Patrol Vessels** (NGOPV) etc.

➤ These weapons and platforms are planned to be **indigenised progressively with effect from December 2022 to December 2027.**

➤ These 101 items will, henceforth, **be procured from local sources as per provisions of Defense Acquisition Procedure (DAP) 2020.**

○ The DAP 2020 includes the following procurement categories: Buy (Indian – Indigenously Designed Developed and Manufactured), Buy (Indian), Buy and Make (Indian), Buy (Global - Manufacture in India) and Buy (Global).

What is the Significance?

➤ **Promote Domestic Industry:**

○ These weapons & platforms **will promote domestic industry and transform R&D and manufacturing in the country.**

➤ **Reducing Fiscal Deficit and Instills Nationalism:**

○ The other benefits of indigenisation will be **reduction in the fiscal deficit,** security against its porous borders and hostile neighbours, generation of employment and ignition of the fire of nationalism and patriotism** with the strong sense of integrity and sovereignty amongst the Indian Forces.

Note:

What is the Indigenisation of Defence?

➢ **About:**

- ○ Indigenisation is **the capability of developing and producing any defence equipment within the country for the dual purpose** of achieving self reliance and reducing the burden of imports.

- ○ Self-reliance in defence manufacturing is one of the key objectives of Department of Defence Production.

  - ● **Defence Research Development Organisation (DRDO), Defence Public Sector Undertakings (DPSUs)** and private organisations are playing a critical role in indigenisation of defence industries.

- ○ India is **among the world's largest arms importers**, and the armed forces are expected to spend about USD 130 billion on defence purchases over the next five years.

➢ **Background:**

- ○ Overdependence on the **Soviet Union brought about a change** in India's approach to defence industrialisation.

- ○ From the mid-1980s, the government pumped resources into R&D (Research and Development) to enable the DRDO to undertake high profile projects.

- ○ A significant beginning in defence indigenisation was made in 1983, when the government sanctioned the **Integrated Guided Missile Development Programme (IGMDP)** to develop 5 missile systems (**Prithvi, Agni, Trishul, Akash, Nag**).

- ○ The indigenous efforts were **not adequate to meet the requirements of the armed forces**, this resulted in the shift of focus towards co-development and co-production in partnership with foreign companies.

- ○ A beginning was made in 1998, when India and Russia signed an inter-governmental agreement to jointly produce **Brahmos supersonic cruise missile.**

➢ **Challenges:**

- ○ **Lacking of institutional capacity:**

  - ● **Lack of an institutional capacity** and capability to take different policies aimed at indigenisation of defence to its logical conclusion.

- ○ **Infrastructural deficit:**

  - ● It **increases India's logistics costs** thus reducing the country's cost competitiveness and efficiency.

- ○ **Land acquisition issues:**

  - ● it **restricts entry of new players** in the defence manufacturing and production.

- ○ **Policy dilemma:**

  - ● **Policy dilemma offset requirements under the DPP** (Defence Procurement Policy, now replaced with DAP 2020) didn't help achieve its goal. (Offsets are a portion of a contracted price with a foreign supplier that must be re-invested in the Indian defence sector, or against which the government can purchase technology).

  - ● Only **government-to-government agreements (G2G), single vendor contracts** or Intergovernmental Agreements (IGA) will not have offset clauses anymore.

  - ● According to DAP 2020, all other international deals that are competitive, and have multiple vendors vying for it, will continue to have a 30% offset clause.

What are the Related Initiatives?

➢ **Increased the FDI limit:**

- ○ In May 2020, the **Foreign Direct Investment (FDI)** limit under the automatic route in the defence sector was hiked from 49% to 74%.

➢ **Corporatization of the Ordnance Factory Boards:**

- ○ In October 2021, the government dissolved the four-decade-old **Ordnance Factory Board (OFB)** and amalgamated 41 factories under seven new state-owned companies to manufacture defence hardware ranging from munitions to heavy weapons and vehicles.

➢ **Defence India Startup Challenge:**

- ○ DISC aims at supporting Startups/**Micro, Small and Medium Enterprises (MSMEs)**/Innovators to create prototypes and/or commercialise products/solutions in the area of National Defence and Security.

- ○ It has been launched by the Ministry of Defence in partnership with **Atal Innovation Mission.**

➢ **SRIJAN Portal:**

- ○ It is a one stop shop **online portal that provides access to the vendors** to take up items for indigenization.

Note:

➢ **E-Biz Portal:**
  ○ Process of applying for Industrial License (IL) and Industrial Entrepreneur Memorandum (IEM) has been made completely online on ebiz portal.

Tour of Duty Scheme

Why in News?

The **Department of Military Affairs** is moving towards finalising the **"Tour of Duty (ToD)" scheme.**

➢ Under this scheme, **youngsters will be recruited as soldiers only for three years.**

➢ This is being done in the backdrop of the urgent need **to curb the ballooning salary and pension bills** that are adversely impacting military modernization.

What is the "Tour of Duty (ToD)" scheme?

➢ **Background:** The scheme was being **pushed by the late Chief Of Defence Staff** General Bipin Rawat.

➢ **About:** It involves recruiting soldiers, which will be called **Agniveers,** for a fixed period of **three years.**
  ○ It will be a **voluntary engagement.**
  ○ It is also known as the **Agnipath entry scheme.**
  ○ It is for youths who **"do not want to make defence services their permanent vocation**, but **still want to experience the thrill and adventure of military professionalism".**

➢ **Benefits to Soldiers:** The soldiers would be given a **payout** along with **priority in recruitment to certain government jobs**, including the **central armed police forces.**
  ○ An effort is also on to **nudge corporate India** into hiring such **ex-ToD recruits for specific lines of work** in the private sector on a priority basis.

➢ **Benefits to Government:** Tour of Duty', will help not only resolve the **issue of shortages of personnel but also reduce the burden of pay rises and pensions.**
  ○ As per the original ToD proposal, the "prospective life-term saving" in the cost of engagement of a single jawan who leaves after **17 years of service with pension and other benefits,** as compared to a **ToD jawan will be Rs 11.5 crore.**
  ○ The cumulative money saved in **pay and gratuity payouts can consequently be used for the much-needed military modernization.**

One Health

Why in News?

The Ministry of Fisheries, Animal Husbandry and Dairying has launched **a pilot project in the state of Uttarakhand to implement the One Health Framework by One Health Support Unit.**

➢ The key objective of the Unit is t**o develop a national One Health roadmap based on the learnings of the pilot project implementation**.

➢ Some of the key activities to be undertaken as part of the pilot project include institutionalizing the mechanism for data collection on disease outbreaks, prevalence, management, and development of targeted surveillance plan, integrating network of laboratories, developing and implementing communication strategy across sectors and integration of the data with the digital architecture of the **National Digital Livestock Mission.**

What is the One Health Concept?

➢ **About:**
  ○ One Health is an approach that recognizes that the health of people is closely connected to the health of animals and our shared environment.
  ○ One Health' vision derives its blueprint from the agreement between the tripartite-plus alliance comprising the **Food and Agriculture Organization of the United Nations (FAO),** the **World Organisation for Animal Health (OIE).**
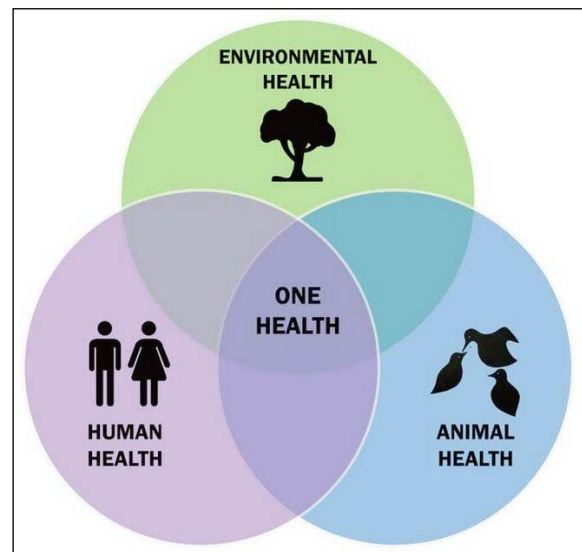
Note:

○ It's purpose is to encourage collaborations in research and sharing of knowledge at multiple levels across various disciplines like human health, animal health, plants, soil, environmental and ecosystem health in ways that improve, protect and defend the health of all species.

➤ **Increasing Significance:** It has become more important in recent years because many factors have changed interactions between people, animals, plants, and our environment.

○ **Human Expansion:** Human populations are growing and expanding into new geographic areas due to which close contact with animals and their environments provides more opportunities for diseases to pass between animals and people.

● Of the contagious diseases affecting humans, more than 65% are of zoonotic or animal to man origin.

○ **Environmental Disruptions:** Disruptions in environmental conditions and habitats can provide new opportunities for diseases to pass to animals.

○ **International Travel & Trade:** The movement of people, animals, and animal products has increased from international travel and trade due to which diseases can spread quickly across borders and around the globe.

○ **Viruses in Wildlife:** Scientists have observed that there are more than 1.7 million viruses circulating in wildlife, and many of them are likely to be zoonotic.

● This implies that unless there is timely detection, India risks facing many more pandemics in times to come.

What is India's One Health Framework?

➤ In keeping with the long-term objectives, India established a National Standing Committee on Zoonoses as far back as the 1980s.

➤ Further, the Department of Animal Husbandry and Dairying (DAHD) has launched several schemes to mitigate the prevalence of animal diseases.

○ In addition, DAHD will soon establish a 'One Health' unit within the Ministry.

➤ Additionally, the government is working to revamp programmes that focus on capacity building for veterinarians and upgrading the animal health diagnostic system such as Assistance to States for Control of Animal Diseases (ASCAD).

➤ Recently, funds were sanctioned for setting up a 'Centre for One Health' at Nagpur.

➤ Also, the Department of Biotechnology has launched the country's first **One Health consortium.**

Mission Integrated Bio-refineries

Why in News?

Recently, the Union Minister of State Science & Technology launched a major futuristic **PPP (Public Private Participation)** mode initiative for **'Clean Energy'** with the full launch of "**Mission Integrated Bio-refineries**".

➤ **Material Acceleration Platforms (MAP)** set up by the **Department of Science and Technology (DST)** were also launched which will leverage emerging capabilities in next-generation computing, **Artificial Intelligence (AI)** and machine learning, and **robotics** to accelerate the pace of materials discovery up to 10 times faster.

What is the Need of Mission Integrated Bio-refineries?

➤ **Greenhouse gas** emissions from the transport and chemicals sectors already account for nearly one-third of global emissions with transport responsible for already **one-fourth of them, and are projected to increase by 2050,** in particular from transport.

➤ Therefore, there is a **need for low-carbon and renewable alternatives** to fossil-based fuels, chemicals, and materials, particularly in hard-to-abate sectors such as, long-haul transportation, and industry.

What is the Goal of Mission Integrated Bio-refineries?

➤ Develop and demonstrate innovative solutions to accelerate the commercialization of integrated biorefineries, with a target of replacing 10% of fossil-based fuels, chemicals and materials with bio-based alternatives **by 2030.**

What is the Mission Integrated Bio-refineries?

➤ The Mission is **Co-led by India and the Netherlands.** Also involved are Brazil and Canada as core members, and the **European Commission** and the United Kingdom as supporting members.

Note:

- ➢ This is the sixth Mission launched by **Mission Innovation**, and joins initiatives focused on clean hydrogen, green power systems, net zero shipping, carbon dioxide removal and urban transitions.
- ➢ It **will advance sustainable biorefining pathways and technologies** to support the development and commercialization of bio-based fuels, chemicals and materials, by also considering process energy demands.
- ➢ This will support **de-risking new and emerging technology**, while improving the cost-competitiveness of bio-based alternatives, notably **biofuels.**
- ➢ The Mission **unites a dynamic and results-oriented partnership** of countries, international organisations, the corporate sector, academic institutions and civil society to accelerate innovation for renewable fuels, chemicals, and materials for a low- carbon future.
  - ○ It will **accelerate Clean Energy solutions through Public -Private Alliances.**
- ➢ **Its Members will:**
  - ○ Promote research, development, and innovation across the biorefining supply and value chain.
  - ○ Advance pilot-scale demonstration projects for sustainable biorefining technologies.
  - ○ Collaborate with industry and standards-setting organisations to support regulatory development for these new products.

What is Mission Innovation?

- ➢ Mission Innovation is a **global initiative to catalyse action and investment in research, development and demonstration to make clean energy affordable,** attractive and accessible to all this decade.
  - ○ **Launched alongside the Paris Agreement in 2015.**
- ➢ It is the main **intergovernmental platform addressing clean energy innovation** through action-oriented cooperation.
- ➢ Its **members represent over 90% of global public investments i**n clean energy innovation and have increased their annual investments by USD 5.8 billion since 2015.
- ➢ The **23 members of Mission Innovation are:** Austria, Australia, Brazil, Canada, Chile, China, Denmark, Finland, France, Germany, **India**, Italy, Japan, the Republic of Korea, Morocco, the Netherlands, Norway, Saudi Arabia, Sweden, the United Arab Emirates, the UK, the USA, and the European Commission (on behalf of the European Union).

Broadcast Seva Portal

Why in News?

The **Ministry of Information and Broadcasting** has launched the **Broadcast Seva (BS) Portal.**

- ➢ The portal is likely to help 900 satellite TV channels, 70 teleport operators, 1,700 MSOs, 350 Community Radio Stations (CRS) and 380 private FM channels, among others.

What is the BS Portal?

- ➢ **About:**
  - ○ It is **a 360 degree digital solution that will** facilitate stakeholders in seeking permissions, applying for registration, tracking applications, calculating fees and executing payments.
  - ○ This **portal will provide its services under the wider umbrella efforts of Digital India to all stakeholders** to private satellite TV channels, teleport operators, Multi-Service Operators (MSOs), community and private radio channels, etc.
- ➢ **Objective:**
  - ○ To provide a single point facility to the stakeholders and applicants to apply for various registrations, permissions and licences issued by I&B Ministry for broadcast related activities.
- ➢ **Significance:**
  - ○ It will **reduce the turnaround time of applications** and, at the same time, will help applicants track the progress.
  - ○ **Improving India's business climate is one of the key focus areas of the Government of India** and the Broadcast Seva Portal exemplifies the government's commitment to ease of doing business and empowering the broadcasting sector.
  - ○ The portal will enable **establishment of an efficient and transparent system for the growth and management of the Broadcast sector.**
  - ○ It is in line with the vision of promoting **Make in India** and **Digital India** initiatives.

■■■

Note:

drishti

Economic Scenario

Highlights

- *National Conference on Cooperation Policy*
- *Concessional Tax Rate Regime*
- *Cardless Cash Withdrawals at ATMs*
- *PLI Schemes*
- *Monetary Policy Review: RBI*
- *World Food Price Index: FAO*
- *Natural Farming*
- *RAMP Scheme for MSMEs*
- *GST Collections*

National Conference on Cooperation Policy

Why in News?

Recently the **National Conference on Cooperation Policy** concluded in New Delhi.

What are the Highlights of the Conference?

➤ The conference was **structured into six important themes** covering not only the whole life cycle of cooperatives but also touching upon all the facets of their business and governance.

➤ The panel discussions have been held on **following themes:**

  ○ **Present legal framework, identification of Regulatory policy, Operational barriers and measures** required for their removal leading to Ease of Doing Business and providing a **level playing field to cooperatives** and other economic entities.

  ○ **Reforms for strengthening governance** including cooperative principles, democratic member control, increasing member participation, transparency, regular elections, Human Resource Policy, leveraging International & National best practices, account keeping & auditing.

  ○ **Multi Cooperative Vibrant economic entities** by strengthening infrastructure, strengthening equity base, access to capital, diversification of activities, promoting entrepreneurship, promoting branding, marketing, business plan development, innovation, technology adoption and exports

  ○ **Training, Education, knowledge sharing and Awareness Building** including mainstreaming cooperatives, linking training with entrepreneurship, inclusion of Women, Youth & Weaker Sections.

  ○ **Promoting new cooperatives**, revitalising defunct ones, promoting cooperation among cooperatives, increasing membership, formalising collectives, developing cooperatives for sustainable growth, mitigating regional imbalances & exploring new sectors.

  ○ **Promoting social cooperative** and role of cooperatives in social security.

➤ The ministry is **planning a series of such conferences with different stakeholders**, besides, shortly, another workshop with all cooperative federations to invite their views.

➤ These efforts will culminate in the formulation of a new robust **National Cooperation Policy,** giving impetus to strengthen the cooperative based economic model in the country to realise the vision and mantra of **Sahkar Se Samaridhi.**

What is the Ministry of Cooperation?

➤ **About**:

  ○ The Government of India, under the guidance of the Prime Minister had carved out a new **Ministry of Cooperation on 06th July 2021** with the objective to provide renewed impetus to the growth of the Cooperative Sector and realisation of vision from Cooperation to Prosperity.

  ○ The ministry is working incessantly for development of the cooperative sector for **formulation of new Schemes and the new Cooperation Policy.**

Note:

- ➤ **Significance**:
  - ○ It will provide a **separate administrative, legal and policy framework** for strengthening the cooperative movement in the country.
  - ○ It will help **deepen Co-operatives as a true people based movement** reaching upto the grassroots.
  - ○ It will work to **streamline processes for** '**Ease of doing business**' for co-operatives and enable development of Multi-State Co-operatives (MSCS).

What are Cooperatives in India?

- ➤ **Definition**:
  - ○ The **International Cooperative Alliance (ICA)** defines a **Cooperative** as "an autonomous association of persons united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly-owned and democratically-controlled enterprise.

Types of Cooperative Society

  - ○ **Examples of Successful Cooperatives in India:**
    - **National Agricultural Cooperative Marketing Federation of India** (NAFED),
    - **Indian Farmers Fertilisers Cooperative Limited** (IFFCO)
    - **AMUL**
- ➤ **Constitutional Provisions:**
  - ○ The **Constitution (97th Amendment) Act, 2011** added a new Part IXB regarding the cooperatives working in India.
    - The word "cooperatives" was added after "unions and associations" in Article 19(1)(c) under Part III of the Constitution.

- ➤ This enables all the citizens to form cooperatives by giving it the status of **fundamental right** of citizens.
  - A new Article 43B was added in the **Directive Principles of State Policy** (Part IV) regarding the "promotion of cooperative societies".
  - ○ The subject **'Cooperative Societies' is a State subject** included in Item 32 of List-II (State List) in the **Seventh Schedule of the Constitution.**

Concessional Tax Rate Regime

Why in News?

Recent Government data has shown that the **concessional corporate tax rate** announced by the **Union government in September 2019** saw two out of every five new domestic manufacturing companies incorporated in **2019-20 (April-March) opting for the reduced 15% tax rate.**

What is Corporation tax?

- ➤ **Corporation tax** is a direct tax placed on a company's net income or profit from its operations.
- ➤ Corporation tax is payable by both public and private companies registered in India under the **Companies Act 1956.**
- ➤ Corporate tax is a tax imposed on the **net income of the company, whereas income tax** is a type of tax imposed on an **individual's income, such as wages and salaries.**

What is the Concessional Tax Rate Regime?

- ➤ **Tax Concession:** A reduction made by the government in the amount of tax that a particular group of people or type of organization has to pay or a change in the tax system that benefits those people.
- ➤ Before, this scheme, Corporate tax rate, **was 22% without exemptions.**
- ➤ Under the new regime introduced in September 2019, **a tax rate of 15% was announced under Section 115BAB** for **newly incorporated domestic companies**, which make fresh investments by **31st March, 2023,** for manufacturing, production, research or distribution of such articles or things manufactured.
- ➤ This was extended by one year in this year's **Budget (2022-23)** to **31st March, 2024.**

Note:

- ➤ A similar concessional rate regime was **also introduced by the Centre for personal income taxpayers effective 2020-21 (Income Tax Act)**, under which assessees willing to forgo deductions and exemptions such as those under sections 80C, 80D, house rental allowance and leave travel allowance could choose to pay tax on their income at a reduced rate.
  - ○ Even though the government has not yet published data on taxpayers opting for the new personal income tax regime, it is indicated that the new regime has not drawn taxpayers in large numbers prompting the government to take a relook.

What is the Impact of the Concessional Tax Rate Regime?

- ➤ The tax cut resulted in an economically meaningful **7% additional investments by beneficiary firms.**
- ➤ The Reserve Bank of India had earlier noted that the new tax regime did not help **kick-start the intended investment cycle.**
  - ○ The tax rate cut may have been **"utilised in debt servicing, build-up of cash balances and other current assets** rather than restarting the Business cycle".

Cardless Cash Withdrawals at ATMs

Why in News?

Recently, the Reserve Bank of India (RBI) announced cardless cash withdrawals at ATMs across the country which will enable consumers to use **Unified Payment Interface (UPI)** on their smartphones to withdraw cash from **Automatic Teller Machine (ATMs).**

How is this Step Significant?

- ➤ **Enhance Security of Cash Withdrawal:**
  - ○ It would help **prevent frauds like card skimming and card cloning.**
- ➤ **Enable users to Take Cash from Any ATM:**
  - ○ Currently, **only existing customers of a few banks are allowed to withdraw cash** without cards, and from specific bank's ATM networks.
    - However, the RBI's move to allow interoperability in cardless withdrawals will enable users to take cash from any and all ATMs.

- ➤ **Invite More Players into the Payment Ecosystem:**
  - ○ The move **will invite more players into the payment ecosystem** in India to innovate and solve further problems of customers.

What is Card Skimming or Card Cloning?
- ➤ Credit card cloning or skimming is the **illegal act of making unauthorized copies** of credit or debit cards.
- ➤ This enables criminals to use them for payments, effectively stealing the cardholder's money and/or putting the cardholder in debt.
- ➤ Once the device picks up the data, **it can be used to gain unauthorised access** to the user's banking records.
- ➤ The stolen information can be **coded onto a new card, a process called cloning**, and be used to make payments and transact with other bank accounts.

What are the Challenges in Cardless Cash Withdrawal Feature?

- ➤ **Limitation on Cash Withdrawal:**
  - ○ Currently, ICICI Bank, Kotak Mahindra Bank, HDFC Bank and SBI allow cardless cash withdrawals for their users. But, **accessing the feature is cumbersome as it has certain withdrawal limits**, and the transaction is charged.
- ➤ **Scalability of this Feature:**
  - ○ Scalability of this feature might be a challenge as it has to be seen how many banks quickly roll it out to their customers.
- ➤ **Security Related Issue:**
  - ○ In cardless withdrawal, the **security vulnerability of a card is minimised,** but the risk will soon transfer to a mobile-enabled feature.
    - The **mobile can now become the epicentre of transactions**, making it the next target for fraudsters.

What is the Future of Debit Cards?

- ➤ Issuing cards **will not be stopped** as they have several other utilities beyond cash withdrawals. They can be used at a restaurant, shop, or for payments in a foreign country.

Note:

drishti

➢ A debit card is a **very evolved financial product and has already gone through a lot of iterations** to reach its current perfection.

➢ Thus, the debit card will **continue to serve some segments of the economy**.

What is Unified Payment Interface (UPI)?

➢ It is an **advanced version of Immediate Payment Service (IMPS)-** round–the-clock funds transfer service to make cashless payments faster, easier and smoother.

➢ UPI is a **system that powers multiple bank accounts into a single mobile application** (of any participating bank), merging several banking features, seamless fund routing & merchant payments into one hood.

➢ UPI is **currently the biggest among the National Payments Corporation of India (NPCI) operated systems** including National Automated Clearing House (NACH), Immediate Payment Service (IMPS), Aadhaar enabled Payment System (AePS), Bharat Bill Payment System (BBPS), RuPay etc.

➢ **The top UPI apps today include PhonePe, Paytm, Google Pay, Amazon Pay and BHIM,** the latter being the Government offering.

PLI Schemes

Why in News?

Recently, the **NITI Aayog** has commenced work on evolving a set of objective criteria to track value addition by companies which avail financial rewards under **Production-Linked Incentive (PLI) schemes.**

➢ The empowered group of secretaries which was instituted in June 2020 was **tasked with identifying the bottlenecks in PLI schemes, coordinating between states and companies for faster approvals**, evaluating and ensuring quick investments in PLI schemes, and ensuring overall turnaround of projects.

➢ The group is chaired by the Cabinet Secretary, and has the Chief Executive Officer of NITI Aayog, the secretaries of **Department for Promotion of Industry and Internal Trade**, Department of Commerce, Department of Revenue, Department of Economic Affairs, and the Secretary of the concerned ministry as its members.

What is the Plan?

➢ Taking the lead in **creating a centralised database to monitor progress in the PLI schemes across sectors,** the NITI Aayog plans to rope in an external agency – state-owned IFCI Ltd or **SIDBI** – to design and prepare the database.

○ This **database will capture value addition, actual exports** against commitments made, and job creation.

➢ A **dashboard to flag hurdles** at the state level will also be created.

What are the Challenges Facing the PLI Scheme?

➢ **No Common Set of Parameters:**

○ There **were no common set of parameters to understand the value addition by companies** that have received or are likely to receive incentives under the PLI scheme.

○ At present, **different ministries monitor the value addition** of their respective PLI schemes and **there is no way to compare two different schemes.**

○ Also, there are various deliverables such as the number of jobs created, the rise in exports and quality improvement and **there is no centralised database to gauge all these.**

➢ **Target for Companies for Incentives too Steep:**

○ Departments and ministries which **interact with companies operating in their sector also face certain specific issues.**

● For instance, at times, the target for companies to qualify for incentives are too steep.

➢ **Domestic Companies Relied on One or Two Supply Chains:**

○ Until last fiscal, **only 3-4 companies managed to achieve the incremental sales** targets to qualify for the PLI scheme from the fourteen companies that had been approved.

○ Unlike global companies, **most domestic companies relied on one or two supply chains** which have been severely disrupted and due to no fault of their own, these companies won't qualify for the incentive.

Note:

What is the PLI Scheme?

➢ **About:**
   ○ The PLI scheme was **conceived to scale up domestic manufacturing capability,** accompanied by **higher import substitution and employment generation.**
   ○ The government has set aside **Rs 1.97 lakh crore under the PLI schemes** for various sectors and an additional allocation of Rs 19,500 crore was made towards PLI for solar PV modules in **Budget 2022-23.**
   ○ Launched in **March 2020**, the scheme initially **targeted three industries**:
      ● Mobile and allied Component Manufacturing
      ● Electrical Component Manufacturing and
      ● Medical Devices

➢ **Incentives Under the Scheme:**
   ○ The incentives, calculated on the **basis of incremental sales**, range from **as low as 1% for the electronics and technology products to as high as 20%** for the manufacturing of critical key starting drugs and certain drug intermediaries.
   ○ In some sectors such as **advanced chemistry cell batteries, textile products and the drone industry,** the incentive to be given will be **calculated on the basis of sales, performance and local value addition done** over the period of five years.

➢ **Sectors for the which PLI Scheme has been Announced:**
   ○ So far, the **government has announced PLI schemes for 14 sectors** including **automobile and auto components**, **electronics and IT hardware**, **telecom**, **pharmaceuticals**, **solar modules**, **metals and mining**, **textiles and apparel**, **white goods**, **drones**, and **advanced chemistry cell batteries**.

➢ **Objectives:**
   ○ The Government introduced this scheme to **reduce India's dependence on China and other foreign countries**.
   ○ It supports the **labour-intensive sectors** and aims to increase the employment ratio in India.
   ○ This scheme works to **reduce down the import bills and boost up domestic production.**
      ● However, PLI Yojana invites foreign companies to set up their units in India and encourages domestic enterprises to expand their production units.

Monetary Policy Review: RBI

Why in News

Recently, for the eleventh time in a row, the **Reserve Bank of India (RBI)** in its latest **Monetary Policy** review has decided to keep the main policy rate – **Repo rate** – **unchanged at 4%.**

➢ It has also retained its **accommodative stance**, but indicated it will engage in a gradual and calibrated withdrawal of surplus liquidity to rein in inflation.

What is the Significance of this Monetary Policy Review?

➢ **Acknowledging the Impact of Russia-Ukraine War:** In the wake of the r**ise in crude oil and commodity prices** and the impact of the **Russian invasion of Ukraine**, RBI has **slashed the growth forecast to 7.2%** for fiscal 2022-23 from 7.8% projected earlier.
   ○ The Russia-Ukraine war could potentially **impede the economic recovery** through elevated commodity prices and global spill-over channels.

➢ **Standing Deposit Facility:** The RBI also introduced a new measure, the **Standing Deposit Facility** — an additional tool for absorbing liquidity — to suck out surplus liquidity of Rs **8.5 lakh crore from the financial system which is fuelling inflation.**

➢ **Signalling Shift in Policy Stance:** This **Monetary Policy Review** signals that the RBI has finally shifted its priorities to tackle **inflation**
   ○ Thus, there is a possibility of a hike in its key p**olicy rate (Repo Rate)** in the coming months.
   ○ Further, RBI has hiked its inflation forecast from **4.5% projected earlier to 5.7%** still below the **upper band of 6% of the RBI's target** – in 2022-23.

➢ **Resorting to Pre-pandemic Levels:** RBI policy panel took a concrete step by restoring the policy rate corridor under **Liquidity Adjustment Facility** (LAF) to pre-**pandemic** width of 50 basis points.
   ○ This is aimed at bringing down the inflationary pressures.
   ○ **LAF** is a tool used in the monetary policy that allows banks to borrow money from the RBI through repurchase agreements (Repo) or to lend funds to the RBI through reverse repo agreement.

Note:

What is Standing Deposit Facility & Its Role?

➤ **About:** The RBI has introduced the **Standing Deposit Facility (SDF)**, an additional tool for absorbing liquidity, at an interest rate of 3.75%.

  ○ It is an additional tool for **absorbing liquidity without any collateral.**

➤ **Background:** In 2018, the amended **Section 17 of the RBI Act** empowered the RBI to introduce the SDF.

➤ **Modus Operandi:** By removing the **binding collateral constraint on the RBI,** the SDF strengthens the **operating framework of monetary policy.**

  ○ The SDF is also a financial stability tool in addition to its role in liquidity management.

  ○ The SDF rate will be **25 bps below the policy rate (Repo rate),** and it will be applicable to **overnight deposits at this stage.**

  ○ It would, however, retain the flexibility to absorb liquidity of longer tenors as and when the need arises, with appropriate pricing.

➤ **Need:** The **"extraordinary" liquidity measure**s undertaken in the wake of the pandemic, combined with the liquidity injected through various other operations of the RBI, have left a liquidity overhang of the order of **Rs 8.5 lakh crore in the system.**

  ○ The main purpose of SDF is to **reduce the excess liquidity in the system, and control inflation.**

➤ **Implementation:** The RBI will engage in a gradual and calibrated withdrawal of this liquidity over a **multi-year time frame** in a non-disruptive manner beginning this year.

Various Instruments of Monetary Policy	
Repo Rate	➤ The interest rate at which the Reserve Bank **provides overnight liquidity** to banks **against the collateral of government and other approved securities** under the **liquidity adjustment facility (LAF).**
Reverse Repo Rate	➤ The interest rate at which the **Reserve Bank absorbs liquidity,** on an overnight basis, from banks against the **collateral of eligible government securities under the LAF.**
Liquidity Adjustment Facility (LAF)	➤ The LAF **consists of overnight as well as term repo auctions.** ➤ The aim of term repo is to help develop the **interbank term money market,** which in turn can set market based benchmarks for pricing of loans and deposits, and hence improve transmission of monetary policy. ➤ The RBI also conducts variable interest rate reverse repo auctions, as necessitated under the market conditions.
Marginal Standing Facility (MSF)	➤ A facility under which scheduled commercial banks can borrow additional amount of overnight money from the Reserve Bank by dipping into their **Statutory Liquidity Ratio (SLR)** portfolio up to a limit at a penal rate of interest. ➤ This provides a safety valve against unanticipated liquidity shocks to the banking system.
Corridor	➤ The MSF rate and reverse repo rate determine the c**orridor for the daily movement in the weighted average call money rate.**
Bank Rate	➤ It is the rate at which the RBI is ready to buy or rediscount bills of exchange or other commercial papers. The Bank Rate is published under **Section 49 of the RBI Act, 1934.** ➤ This rate has been aligned to the MSF rate and, therefore, changes automatically as and when the MSF rate changes alongside policy repo rate changes.
Cash Reserve Ratio (CRR)	➤ The average daily balance that a bank is required to maintain with the Reserve Bank as a share of such per cent of its N**et demand and time liabilities (NDTL)** that the Reserve Bank may notify from time to time in the **Gazette of India.**

Note:

drishti

Statutory Liquidity Ratio (SLR)	➢ The share of NDTL that a bank is required to maintain in safe and liquid assets, such as, **unencumbered government securities, cash and gold.** ➢ Changes in SLR often influence the availability of resources in the banking system for lending to the private sector.
Open Market Operations (OMOs)	➢ These include both, outright purchase and sale of government securities, for injection and absorption of durable liquidity, respectively.
Market Stabilisation Scheme (MSS):	➢ This instrument for monetary management **was introduced in 2004.** ➢ Surplus liquidity of a more enduring nature arising from large capital inflows is absorbed through sale of short-dated government securities and treasury bills. ➢ The cash so mobilised is **held in a separate government account with the RBI.**

| **Various Policy Stances of RBI**	
Accommodative	➢ An accommodative stance means **the central bank is prepared to expand the money supply to boost economic growth**. ➢ The central bank, during an accommodative policy period, is willing to cut the interest rates. A rate hike is ruled out. ➢ The central bank typically **adopts an accommodative policy when growth needs policy support and inflation is not the immediate concern.**
Neutral	➢ A 'neutral stance' suggests that the central bank can **either cut rate or increase rate.** ➢ This stance is typically **adopted when the policy priority is equal on both inflation and growth.** ➢ The guidance indicates that the market can expect a rate action on either way at any point.

Hawkish Stance	➢ A hawkish stance **indicates that the central bank's top priority is to keep the inflation low.** ➢ During such a phase, the **central bank is willing to hike interest rates to curb money supply and thus reduce the demand.** ➢ A hawkish policy also indicates tight monetary policy. ➢ When the central bank increases rates or 'tightens' the monetary policy, banks too increase their rate of interest on loans to end borrowers which, in turn, curbs demand in the financial system.
Calibrated Tightening	➢ Calibrated tightening means **during the current rate cycle, a cut in the repo rate is off the table.** ➢ However, the **rate hike will happen in a calibrated manner.** ➢ This means the central bank may not go for a rate increase in every policy meeting but the overall policy stance is tilted towards a rate hike. ➢ This can happen outside the policy meetings as well if the situation warrants.

World Food Price Index: FAO

Why in News?

According to the **UN Food and Agriculture Organization's (FAO)**, the **World food price index** averaged 159.3 points in March, breaking an earlier record of 137.6 points scaled **11 years ago in February 2011.**

RECORD LEVEL
FAO Food Price Index is at an all-time high
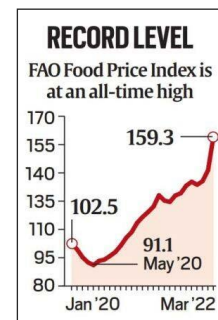
What are the Reasons of Global Food Price Surge?

➢ **Huge Volatility:**
  ○ The FAO index has exhibited huge volatility in the last two years through the **Covid-19 pandemic** and now the **Russia-Ukraine war.**

Note:

drishti

○ The index had crashed to **a four-year low of 91.1 points in May 2020, due to demand destruction triggered by pandemic-induced lockdowns** across countries.

○ But as demand returned with governments lifting economic activity and movement restrictions, **supply chain disruptions** — from shortages of everything, from harvesting labourers to packaging materials and shipping containers — came to the fore.

➢ **Supply Shortages:**

○ The supply shortages have worsened with the **Black Sea region** tensions, leading to the index moving up almost 24 points or 17.5% between January and March 2021.

  ● The FAO's cereal and vegetable oil price indices hit record highs of 170.1 points and 248.6 points, respectively, in March 2021.

➢ **Russian Banks Cutoff from International Payment System:**

○ Port closures in the **Black Sea** and Azov Sea, plus Russian banks being cut off from the international payments system, have resulted in massive shipping disruptions from this key **agri-commodities** supply region.

What is FAOs Food Price Index:

➢ It was **introduced in 1996** as a public good to help in monitoring developments in the global agricultural commodity markets.

➢ The **FAO Food Price Index (FFPI)** is **a measure of the monthly change** in international prices of a basket of food commodities.

➢ It measures changes for a basket of cereals, oilseeds, dairy products, meat and sugar.

➢ **Base Period:** 2014-16.

What is the Food and Agriculture Organization:

➢ **About:**

○ FAO is a specialised agency of the **United Nations** that leads international efforts to defeat hunger.

○ **World Food Day** is celebrated every year around the world on 16th October. The day is celebrated to mark the anniversary of the founding of the FAO in 1945.

○ It is one of the UN food aid organisations based in Rome (Italy). Its sister bodies are the **World Food Programme** and the International Fund for Agricultural Development (IFAD).

➢ **Initiatives Taken:**

○ **Globally Important Agricultural Heritage Systems (GIAHS).**

○ Monitors the **Desert Locust** situation throughout the world.

○ The **Codex Alimentarius Commission or CAC** is the body responsible for all matters regarding the implementation of the Joint FAO/WHO Food Standards Programme.

○ The **International Treaty on Plant Genetic Resources for Food and Agriculture** was adopted by the Thirty-First Session of the Conference of the FAO in 2001.

➢ **Flagship Publications:**

○ The State of World Fisheries and Aquaculture (SOFIA).

○ The State of the World's Forests (SOFO).

○ **The State of Food Security and Nutrition in the World (SOFI)**.

○ The State of Food and Agriculture (SOFA).

○ The State of Agricultural Commodity Markets (SOCO).

Natural Farming

Why in News?

The Ministry for Agriculture and Farmers Welfare has inaugurated the Comprehensive Training Programme on **Natural Farming**, organised by the **National Institute of Agricultural Extension Management (MANAGE).**

➢ MANAGE was established in 1987 as the Indian response to **challenges of agricultural extension in a rapidly growing and diverse agriculture sector.**

➢ In practical terms, **extension means** giving farmers knowledge of agronomic techniques and skills to improve their productivity, food security and livelihoods.

What is Natural Farming?

➢ It can be defined as a **"chemical- free farming and livestock based ".** Soundly grounded in agro-ecology, it is a **diversified farming system that integrates crops, trees and livestock**, allowing the optimum use of functional biodiversity.

Note:

➢ It **holds the promise of enhancing farmers' income while delivering many other benefits**, such as restoration of soil fertility and environmental health, and mitigating and/or reducing greenhouse gas emissions.
   ○ This farming approach was **introduced by Masanobu Fukuoka,** a Japanese farmer and philosopher, in his 1975 book The One-Straw Revolution.

➢ It builds on natural or ecological processes that exist in or around farms. Internationally, Natural Farming is **considered a form of regenerative agriculture**—a prominent strategy to save the planet.

➢ It has the **potential to manage land practices and sequester carbon from the atmosphere** in soils and plants, where it is actually useful instead of being detrimental.

➢ In India, **Natural farming is promoted as Bhartiya Prakritik Krishi Paddhati Programme (BPKP) under Paramparagat Krishi Vikas Yojana (PKVY).**
   ○ BPKP is aimed at promoting traditional indigenous practices which reduce externally purchased inputs.

➢ Natural Farming, as the **name suggests, is the art, practice and, increasingly, the science** of working with nature to achieve much more with less.

COMPONENTS OF NATURAL FARMING

Beejamrit
The process includes treatment of seed using cow dung, urine and lime based formulations.

Whapasa
The process involves activating earthworms in the soil in order to create water vapor condensation.

Jivamrit
The process enhances the fertility of soil using cow urine, dung, flour of pulses and jaggery concotion.

Mulching
The process involves creating micro climate using different mulches with trees, crop biomass to conserve soil moisture.

Plant Protection
The process involves spraying of biological concoctions which prevents pest, disease and weed problems and protects the plant and improves their soil fertility.

What is the Significance of Natural Farming?

➢ **Minimised Cost Of Production:**
   ○ It is considered as a cost- effective farming practice with scope for raising employment and rural development.

➢ **Ensures Better Health:**
   ○ As Natural Farming does not use any synthetic chemicals, health risks and hazards are eliminated. The food has higher nutrition density and therefore offers better health benefits.

Note:

drishti

➢ **Reduced Water Consumption:**

  ❍ By working with diverse crops that help each other and cover the soil to prevent unnecessary water loss through evaporation, Natural Farming optimises the amount of 'crop per drop'.

➢ **Rejuvenates Soil Health:**

  ❍ The most immediate impact of Natural Farming is on the biology of soil—on microbes and other living organisms such as earthworms. Soil health depends entirely on the living organisms in it.

➢ **Environment Conservation:**

  ❍ It ensures better soil biology, improved agrobiodiversity and a more judicious usage of water with much smaller carbon and nitrogen footprints.

➢ **Livestock Sustainability:**

  ❍ The integration of livestock in the farming system plays an important role in Natural farming and helps in restoring the ecosystem. Eco Friendly bio-inputs, such as Jivamrit and Beejamrit, are prepared from cow dung and urine, and other natural products.

➢ **Resilience:**

  ❍ The changes in soil structure with the help of organic carbon, no/low tillage and plant diversity are supporting plant growth even under extreme situations like **severe droughts** and **withstanding severe flood and wind damage during cyclones.**

  ❍ NF impacts many farmers positively by imparting resilience to the crops against weather extremities.

What are the Differences between Natural Farming and Organic Farming?	
Organic Farming	**Natural Farming**
In organic farming, organic fertilizers and manures like compost, vermicompost, cow dung manure, etc. are used and added to farmlands from external sources.	In natural farming, neither chemical nor organic fertilizers are added to the soil. In fact, no external fertilizers are added to soil or given to plants whatsoever.
Organic farming still requires basic agro practices like plowing, tilting, mixing of manures, weeding, etc. to be performed.	In natural farming, decomposition of organic matter by microbes and earthworms is encouraged right on the soil surface itself, which gradually adds nutrition in the soil, over the period.
Organic farming is still expensive due to the requirement of bulk manures, and it has an ecological impact on surrounding environments; whereas, natural agriculture is an extremely low-cost farming method, completely molding with local biodiversity.	In natural farming there is no plowing, no tilting of soil and no fertilizers, and no wedding is done just the way it would be in natural ecosystems.

What are the Other Initiatives related to Agriculture?

➢ **Rainfed Area Development (RAD):** It focuses on Integrated Farming System (IFS) for enhancing productivity and minimizing risks associated with climatic variabilities.

➢ **Sub-mission on Agro Forestry (SMAF):** It aims to encourage farmers to plant multi-purpose trees together with the agriculture crops for climate resilience and an additional source of income to the farmers, as well as enhanced feedstock to inter alia wood-based and herbal industry.

➢ **National Mission on Sustainable Agriculture (NMSA),** to develop, demonstrate and disseminate the techniques to make agriculture resilient to adverse impacts of climate change.

➢ **Mission Organic Value Chain Development for North Eastern Region (MOVCDNER):** It is a **Central Sector Scheme**, a sub-mission under NMSA, aims to develop certified organic production in a value chain mode.

➢ **Pradhan Mantri Krishi Sinchayee Yojana (PMKSY):** It was launched in 2015 to address the issues of water resources and provide a permanent solution that envisages Per Drop More Crop.

RAMP Scheme for MSMEs

Why in News?

Recently, the Union Cabinet approved the **"Raising and Accelerating MSME Performance" (RAMP) scheme** which would commence in FY 2022-23.

➢ It is in line with the **recommendations made by U K Sinha Committee, KV Kamath Committee** and **Economic Advisory Council to the Prime Minister (PMEAC).**

Note:

drishti

- The **Reserve Bank of India** had constituted an **'Expert Committee on Micro, Small and Medium Enterprises'** under the Chairmanship of Shri U K Sinha in 2019 to **suggest long-term measures for the economic and financial sustainability** of the MSME sector.

➤ The scheme was announced by the finance minister in the **Union Budget 2022-23**.

What is the RAMP Scheme?

➤ **About:**
- It is a **World Bank** assisted Central Sector Scheme, supporting various **CoronaVirus Disease** 2019 (Covid) Resilience and Recovery Interventions of the **Ministry of Micro, Small and Medium Enterprises (MoMSME).**

➤ **Aimed at:**
- **Improving access to market and credit**
- Strengthening institutions and governance at the Centre and State
- Improving Centre-State linkages and partnerships
- Addressing issues of **delayed payments and greening of MSMEs**

➤ **Components:**
- Important component of RAMP is **preparation of Strategic Investment Plans (SIPs),** in which all states/UTs will be invited.
  - The SIPs would **include an outreach plan for identification and mobilisation of MSMEs under RAMP,** identify key constraints and gaps, set milestones and project the required budgets for interventions in priority sectors including **renewable energy**, rural & non-farm business, wholesale and retail trade, village and cottage industries, women enterprises etc.
- The overall monitoring and policy overview of RAMP would be done by an **apex National MSME Council.**
  - The council will be **headed by the Minister for MSME**, including representation from various Ministries and supported by a secretariat.

➤ **Funding:**
- The total outlay for the scheme is **Rs. 6,062.45 crore** out of which **Rs. 3750 crore would be a loan from the World Bank** and the remaining Rs. 2312.45 crore would be funded by India.

➤ **Implementation Strategy:**
- **Funds would flow through RAMP** into the Ministry's budget against **Disbursement Linked Indicators (DLIs)** to support ongoing MoMSME programmes, focusing on improving market access and competitiveness.
- The disbursement of funds from World Bank towards RAMP would be made on fulfilling the following **Disbursement Linked Indicators:**
  - Implementing the National MSME Reform Agenda
  - Accelerating MSME Sector Centre-State collaboration
  - Enhancing effectiveness of Technology Upgradation Scheme (CLCS-TUS)
  - Strengthening Receivable Financing Market for MSMEs
  - Enhancing Effectiveness of Credit Guarantee Trust for Micro and Small Enterprises (CGTMSE) and "Greening and Gender" delivery
  - Reducing the incidence of delayed payments

How will this Scheme be Beneficial?

➤ **Address Challenges in the MSME Sector:**
- The RAMP programme will **address the generic and Covid related challenges in the MSME sector** by way of impact enhancement of existing MSME schemes, especially, on the competitiveness front.

➤ **Address inadequately Addressed Blocks in MSME:**
- The programme will **bolster the inadequately addressed blocks of capacity building, handholding, skill development,** quality enrichment, technological upgradation, digitization, outreach and marketing promotion, amongst other things.

➤ **Generate Employment:**
- RAMP programme, through enhanced collaboration with States, will be a **job-enabler, market promoter, finance facilitator,** and will support vulnerable sections and greening initiatives.

➤ **Usher in Larger Formalization:**
- In States where the presence of MSMEs is on the lower side, the programme will **usher in larger formalization resulting from the higher impact of the schemes** covered under RAMP.
- The SIPs developed by these States would **act as a roadmap for the development of an improved MSME sector.**

Note:

drishti

➢ **Complement the Atmanirbhar Bharat Mission:**
  ○ RAMP will **complement the AtmanNirbhar Bharat mission** by fostering innovation and enhancement in industry standards, practices and providing the necessary technological inputs to the MSMEs.

> **What is the Significance of MSMEs in the Indian Economy?**
> ➢ **About:**
>   ○ They are the **growth accelerators of the Indian economy**, contributing about 30% of the country's **Gross Domestic Product (GDP).**
>   ○ In terms of exports, they are an integral part of the supply chain and **contribute about 48% of the overall exports.**
>   ○ MSMEs also **play an important role in employment generation,** as they employ about 110 million people across the country.
>   ○ Interestingly, **MSMEs are intertwined with the rural economy as well,** as more than half of the MSMEs operate in rural India.
> ➢ **Related Schemes:**
>   ○ **MSME Innovative Scheme**
>   ○ **Prime Minister's Employment Generation programme (PMEGP)**
>   ○ **Scheme of Fund for Regeneration of Traditional Industries (SFURTI)**
>   ○ **A Scheme for Promoting Innovation, Rural Industry & Entrepreneurship (ASPIRE)**
>   ○ **Interest Subvention Scheme for Incremental Credit to MSMEs**
>   ○ **Credit Guarantee Scheme for Micro and Small Enterprises**
>   ○ **CHAMPIONS portal**

GST Collections

Why in News?

Gross collections of **Goods and Services Tax (GST)** rose to Rs 1.42 lakh crore in March 2022 (for sales in February), which is a **14.7% rise from March 2021** and a 45.6% spike from March 2020.

What are the reasons for the Rise of the GST?

➢ The sharp surge **has come on the back of anti-evasion measures, "especially action against fake billers", and a pick-up in economic activity.**
➢ **Rate rationalization measures** undertaken by the **GST Council** to correct 'inverted duty structure'.
  ○ Inverted Tax Structure refers to a situation where the rate of tax, that is GST, on inputs is higher than the rate of tax on output supplies or finished goods.
➢ Economic recovery and increased domestic consumption.
  ○ The total number of e-way bills generated in February was 6.91 crore, higher than 6.88 crore seen a month ago, despite it being a shorter month, which indicates the "recovery of business activity at faster pace".

What is Goods and Services Tax?

➢ GST was introduced through the **101st Constitution Amendment Act, 2016.**
➢ It is one of the **biggest indirect tax reforms** in the country.
  ○ It was introduced with the slogan of **'One Nation One Tax'**.
➢ The GST has subsumed indirect taxes like excise duty, Value Added Tax (VAT), service tax, luxury tax etc.
➢ It is essentially a **consumption tax** and is levied at the final consumption point.
➢ This has helped **mitigate the double taxation, cascading effect of taxes, multiplicity of taxes, classification issues** etc., and has led to a common national market.
➢ The GST that a merchant pays to procure goods or services (i.e. on inputs) can be set off later against the tax applicable on supply of final goods and services.
  ○ The set off tax is called **input tax credit.**
➢ The GST avoids the cascading effect or tax on tax which increases the tax burden on the end consumer.
➢ **Tax Structure under GST:**
  ○ Central GST to cover Excise duty, Service tax etc,
  ○ State GST to cover VAT, luxury tax etc.
  ○ Integrated GST (IGST) to cover **inter-state trade.**
    • IGST per se is not a tax but a system to coordinate state and union taxes.
  ○ It has a 4-tier tax structure for all goods and services under the slabs- **5%, 12%, 18% and 28%.**

■■■

International Relations

Highlights

- *Security Deal between China and Solomon Island*
- *Meeting of IMCG on Neighbouring Countries*
- *Central Tibetan Relief Committee*
- *India-Australia Economic Cooperation and Trade Agreement*

- *India, Turkmenistan Bilateral Meet*
- *4th India- US '2+2' Dialogue*
- *Nepal PM Visits India*

Security Deal between China and Solomon Island

Why in News?

A recent leaked document has revealed that the **Solomon Islands in the South Pacific has reached a deal with China** which outlines an unprecedented level of security cooperation.

➢ This is the **first deal of its kind for China in the region,** which is not yet signed and it is not fully known whether the provisions mentioned in the leaked document are present in the final draft.

What are the Key Highlights about Solomon Island?

➢ The Solomon Islands is **part of the ethnically Melanesian group of islands** in the Pacific and lies between Papua New Guinea and Vanuatu.

➢ The islands were initially controlled by the **British Empire during the colonial era.**

➢ It went through the **hands of Germany and Japan** and then back to the U.K., after the Americans took over the islands from the Japanese during **World War II.**

➢ The islands became **independent in 1978 to become a constitutional monarchy** under the British Crown, with a parliamentary system of government.

➢ Still, the country, a member of the Commonwealth, is independent, and the governor-general is appointed on the advice of the unicameral National Parliament.

What are the Provisions under the Proposed Deal?

➢ The document **explicitly enables China to send its "police, armed police, military personnel and other law enforcement** and armed forces" to the islands on the latter government's request, or if the former sees that the safety of its projects and personnel in the islands are at risk.

➢ It also provides for China's naval vessels to **utilise the islands for logistics support.**

What are the Reasons for China's Interest in the Solomon Islands?

➢ **Role of Taiwan:**
  ○ The Pacific islands are among the few regions in the world **where China has competition from Taiwan for diplomatic recognition.**
    ● **China considers Taiwan to be a renegade territory** awaiting reunification, and opposes its recognition as an independent state on the international stage.

Note:

drishti

- Hence, any country which has to officially establish relations with China will have to break diplomatic ties with Taiwan.
  - The Solomon Islands **was one among the six Pacific island** states which had official bilateral relations with Taiwan.
  - However, **in 2019, the Solomon Islands, along with Kiribati, switched allegiance to China.** Now, **only four regional countries backing Taiwan**, mostly belonging to the **Micronesian group of islands** which are under the control of the US.

➢ **Potential Vote Banks for Mobilising Support:**
  - The small Pacific island states act as **potential vote banks for mobilising support** for the great powers in international fora like the **United Nations.**

➢ **Presence of Large Maritime Exclusive Economic Zones:**
  - These Pacific island states have **disproportionately large maritime Exclusive Economic Zones** when compared to their small sizes.

➢ **Presence of Reserves of Timber and Mineral Resources:**
  - Solomon Island in particular has **significant reserves of timber and mineral resources,** along with fisheries.

➢ **Strategic Significance:**
  - The islands in the Pacific are **strategically located for China** to insert itself between America's military bases in the Pacific islands and Australia.
    - This is especially significant in the current scenario, given the emergence of the **AUKUS (Australia, the UK and the US)** which seeks to elevate Australia's strategic capabilities vis-à-vis China through Anglo-American cooperation.

What are the Implications for Geopolitical Configuration in the Region?

➢ All Pacific countries have a stake in protecting the stability and security of the region.
  - Pacific Islands Forum members, including Australia, agreed in the 2018 **Boe Declaration** to address **regional security challenges collectively.**

➢ A bilateral agreement such as the one proposed between China and Solomon Islands **undermines that sentiment and shows a limited appreciation for the security of the region** as a whole.

➢ Earlier, the **US announced plans to open an embassy in the Solomon Islands**, laying out in unusually blunt terms a plan to increase its influence in the South Pacific nation before China becomes "strongly embedded".

➢ The smaller island nations of the region are heavily dependent on them, **especially Australia as it is a resident power.**
  - This established power structure in the region is being increasingly challenged by China through the steady displacement of Taiwan and the cultivation of economic and political clout.

➢ The **geopolitics of the region is undergoing an unprecedented flux** in tandem with the larger shifts in the **Indo-Pacific**, suggesting an intensification of regional great power rivalry and domestic volatility for the Pacific island states in the coming years.

Meeting of IMCG on Neighbouring Countries

Why in News?

Recently, the **first meeting o**f the **Inter-Ministerial Coordination Group (IMCG)** at Secretary level was convened by **India's Foreign Secretary.**

➢ The **IMCG has been set up as a high-level mechanism** towards mainstreaming of India's **'Neighbourhood First' policy** vision that **sought to develop better relations with the country's neighbours.**

➢ **IMCG** is supported by inter-ministerial Joint Task Forces (JTFs) convened by joint secretaries in the external affairs ministry.

What are the Key Highlights of the Meeting?

➢ **About:**
  - The **IMCG provided a comprehensive direction** with a whole-of-government approach to promote better connectivity, stronger interlinkages and greater people-to-people connect with the neighbours.
  - The focus of the meeting was **construction of border infrastructure** that would **facilitate greater trade with neighbours** like Nepal; special needs of countries such as Bhutan and Maldives in terms of supply of essential commodities; opening **rail connectivity with Bangladesh**; **Humanitarian assistance to Afghanistan** and Myanmar; and **Fisheries issue with Sri Lanka.**

Note:

➢ **Significance:**
  ○ IMCG will **further improve institutional coordination across government** and provide **comprehensive direction to this whole-of-government approach to India's relations** with its neighbouring countries.

What is the Purpose of 'Neighbourhood First' Policy Vision?

➢ **Connectivity:**
  ○ India has entered into MoU(Memorandum of Understanding) with members of the **South Asian Association for Regional Cooperation (SAARC).** These agreements ensure a free flow of resources, energy, goods, labour, and information across borders.

➢ **Improving Relations with Neighbours::**
  ○ Priority is to improve the relations with immediate neighbours as peace and tranquillity in South Asia is essential for realising development agenda.

➢ **Dialogue:**
  ○ It **focuses on vigorous regional diplomacy by engaging with neighbouring nations** and building political connectivity through dialogue.

➢ **Resolving Bilateral Conflicts:**
  ○ The Policy focuses on **resolving bilateral issues** through mutual agreement.

➢ **Economic Cooperation:**
  ○ It focuses on **enhancing trade ties with neighbours**. India has participated and invested in SAARC as a vehicle for development in the region.
    ● One such example is the **Bangladesh-Bhutan-India-Nepal (BBIN)** grouping for energy development i.e. motor vehicles, waterpower management and inter-grid connectivity.

➢ **Disaster management:**
  ○ The policy also focuses on **cooperating on disaster response, resource management, weather forecasting** and communication and also capabilities and expertise in **disaster management** for all South Asian citizens.

➢ **Military and Defence cooperation:**
  ○ India is also **focusing on deepening security in the region** through military cooperation by conducting as well as participating in various defence exercises.

What are the Issues in India's 'Neighbourhood First Policy'?

➢ **Growing Chinese Pressure:**
  ○ It failed to take a meaningful direction and growing Chinese pressure has prevented the country from winning allies in the region.
    ● On the maritime front, **China is extending its influence** across the **Indo-Pacific region.**
    ● The **Belt and Road Initiative (BRI) also provides China an opportunity to expand** in India's neighbourhood as for instance in the case of the **China-Pakistan Economic Corridor (CPEC),** has brought the Chinese presence close to the Indian border whether in **Pakistan Administered Kashmir** or in the **Sir Creek area.**
      ■ Proposed in 2013, the BRI is an ambitious programme of China.

➢ **Interference in Domestic Affairs:**
  ○ India is **interfering in the domestic affairs of neighbouring countries** especially in Nepal in the violation of their sovereignty.
  ○ India is also **creating hurdles in free transit and free trade** within and beyond Nepal and keeps suppressing its people and government.

➢ **Focus on Military Measures:**
  ○ India is **focusing on Military Measures rather than social elements** has also helped increase tensions across the region, increasing anti-India sentiment.

➢ **Impact of India's Domestic Politics:**
  ○ **India's domestic policies are creating problems in Bangladesh**, a Muslim-majority country, showing India's neighbourhood first policy faces serious challenges even in friendly territories like Bangladesh.
  ○ Many ordinary Bangladeshis find the political leadership of India under current leadership as Islamophobic or anti-Islam.

➢ **Impact of India's Tilt towards West:**
  ○ India **draws closer to the West,** particularly through the **Quad** and other **multilateral and mini-lateral initiatives.**
  ○ But Sri Lanka's connections with the West are not moving in a good direction as the country's current government faces increasing criticism from Western capitals on **human rights** issues and freedoms.

Note:

![drishti logo]

○ As a result, Sri Lanka has begun moving toward China, increasing the possibility that Indo-Sri Lankan ties might deteriorate at some point.

Central Tibetan Relief Committee

Why in News

The Union government has extended the **scheme to provide Rs.40 crore grants-in-aid to the Dalai Lama's Central Tibetan Relief Committee (CTRC)** for another five years, up to fiscal **year 2025-26.**

➤ The scheme provides for an annual grant of Rs.8 crore to CTRC to meet the administrative expenses of **Settlement Offices and social welfare expenses** for Tibetan refugees staying in Tibetan settlements spread across 12 States/UTs in the country.
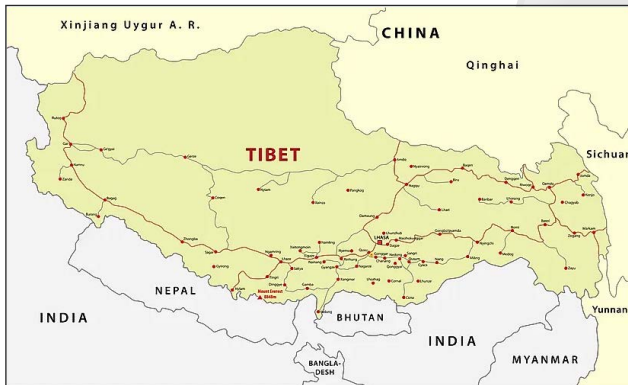
What is the Central Tibetan Relief Committee?

➤ It was launched in 2015. The main objective of the committee is to **coordinate Individual, Voluntary Agencies and Indian Government's efforts** to rehabilitate and **settle Tibetan Refugees.**

➤ **Includes** members from each of the **53 Tibetan settlements in India, Nepal and Bhutan.**

➤ **Is dedicated to** preserving the **cultural and religious heritage of Tibet** and building and maintaining sustainable, democratic communities in exile.

➤ **Is dependent on** generous international assistance from governments, **especially India, Nepal and Bhutan,** philanthropic organisations and individuals.

➤ All the CTRC activities are carried out with consent and support from the Board of Directors and approval from **TPiE (Tibetan Parliament in Exile).**

➤ The **TPiE** has its **headquarters in Dharamsala,** in the Kangra district of Himachal Pradesh according to which over 1 lakh Tibetans are settled across India.

What led to the Exodus of Tibetan Refugees?

➤ **From 1912** until the founding of the **People's Republic of China in 1949,** no Chinese government exercised control over what is today **China's Tibet Autonomous Region (TAR).**

➤ Many Tibetans insist they were **essentially independent** for most of that time and have protested what they regard as China's rule imposed after the **People's Liberation Army occupied TAR in 1950.**

➤ The Dalai Lama's government alone ruled the land until 1951. Tibet was not "Chinese" until **Mao Zedong's People's Liberation Army (PLA)** marched in and made it so.

➤ This has often been described by the Tibetan people and third party commentators as "**a cultural genocide".**

➤ The **unsuccessful Tibetan Uprising of 1959**, in which Tibetans rebelled in an attempt to overthrow the Chinese government, led to the fleeing of the **14th Dalai Lama to India.**

➤ On 29 April 1959, Dalai Lama established the Tibetan exile administration in the north **Indian hill station of Mussoorie.**

➤ It is named the **Central Tibetan Administration (CTA)** of His Holiness the Dalai Lama, this is the continuation of the government of independent Tibet.

➤ In May 1960, the **CTA was moved to Dharamsala.**

What is India's Tibet Policy?

➤ For centuries, **Tibet was India's actual neighbour**, as most of India's boundaries and the **3500km LAC is with the Tibetan Autonomous Region, and not the rest of China.**

➤ **In 1914,** it was Tibetan representatives, along with the Chinese that signed the **Simla convention with British India that delineated boundaries.**

➤ However, after **China's full accession of Tibet in 1950**, that China repudiated the convention and the McMahon line that divided the two countries.

➤ Further, in 1954, India signed an agreement with China, agreeing to recognize Tibet as **"Tibet region of China"**.

Note:

- In 1959, following the **Tibetan uprising**, the **Dalai Lama (spiritual leader of Tibetan people)** and many of his followers fled to India.
- Former Prime Minister **Jawahar Lal Nehru** gave him and Tibetan refugees shelter, and helped in setting up the Tibetan government in exile.
- The official Indian policy is that the **Dalai Lama is a spiritual leader, and the Tibetan community in India**, with more than a lakh exiles, is not allowed to undertake any political activity.
- In the event of **increasing tensions between India and China**, there has been a shift in **India's Tibet Policy.**
  - This shift in the policy, earmarks the Indian government actively managing with the Dalai Lama in public forums.

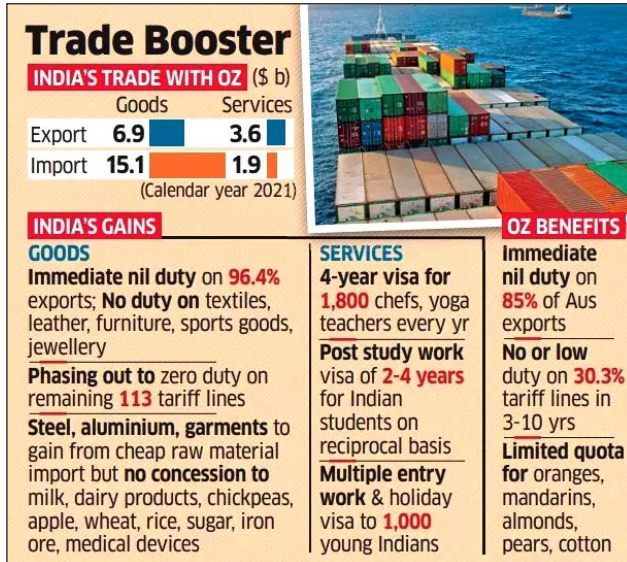# India-Australia Economic Cooperation and Trade Agreement

Why in News?

Recently, India signed a historic trade agreement with Australia, the **India-Australia Economic Cooperation and Trade Agreement** (Ind- Aus ECTA).

- In February 2022, **India and Australia announced** that they were going to sign such an agreement.
- The negotiations for India-Australia ECTA were formally re-launched in September 2021 and concluded on a fast-track basis by the end of March 2022.

What is the Economic Cooperation and Trade Agreement?

- It is the first **Free Trade Agreement (FTA)** that India has signed with a major developed country in over a decade.
  - In February, **India signed an FTA with the UAE** and is currently working on FTAs with **Israel**, Canada, **UK** and the **European Union**.
- The Agreement encompasses cooperation across the entire gamut of **bilateral economic and commercial relations between the two friendly countries**, and covers areas like:
  - Trade in Goods, Rules of Origin.
  - Trade in Services.
  - Technical Barriers to Trade (TBT).
  - **Sanitary and Phytosanitary** (SPS) measures.
  - Dispute Settlement, Movement of Natural Persons.
  - Telecom, Customs Procedures.
  - Pharmaceutical products, and Cooperation in other Areas.
- ECTA **provides for an institutional mechanism to encourage and improve trade** between the two countries.
- The ECTA between India and Australia **covers almost all the tariff lines dealt in by India and Australia respectively**.
  - India will benefit from **preferential market access provided by Australia on 100% of its tariff lines**.
  - This includes all the **labour-intensive sectors of export interest to India** such as Gems and Jewellery, Textiles, leather, footwear, furniture etc.
  - On the other hand, **India will be offering preferential access to Australia on over 70% of its tariff lines,** including lines of export interest to Australia which are primarily raw materials and intermediaries such as coal, mineral ores and wines etc.
- Under the agreement, **Indian graduates from STEM (Science, Technology, Engineering and Mathematics) will be granted extended post-study work visas**.
  - Australia will also set up a programme to grant visas to young Indians looking to pursue working holidays in Australia.

Note:

Trade Booster

INDIA'S TRADE WITH OZ ($ b)

	Goods	Services
Export	6.9	3.6
Import	15.1	1.9

(Calendar year 2021)

INDIA'S GAINS

GOODS

Immediate nil duty on **96.4%** exports; **No duty on** textiles, leather, furniture, sports goods, jewellery

Phasing out to zero duty on remaining **113** tariff lines

Steel, aluminium, garments to gain from cheap raw material import but **no concession to** milk, dairy products, chickpeas, apple, wheat, rice, sugar, iron ore, medical devices

SERVICES

4-year visa for 1,800 chefs, yoga teachers every yr

Post study work visa of **2-4 years** for Indian students on reciprocal basis

Multiple entry work & holiday visa to **1,000** young Indians

OZ BENEFITS

Immediate nil duty on **85%** of Aus exports

No or low duty on **30.3%** tariff lines in 3-10 yrs

Limited quota for oranges, mandarins, almonds, pears, cotton

What is the Significance of the Agreement?

➢ It will provide **zero-duty access to 96% of India's exports** to Australia including shipments from key sectors such as engineering goods, gems and jewellery, textiles, apparel and leather.

➢ It will **boost bilateral trade in goods and services to USD 45-50 billion over five years,** up from around USD 27 billion, and generate over one million jobs in India, according to a government estimate.

➢ It will also **give about 85% of Australia's exports zero-duty access to the Indian market,** including coal, sheep meat and wool, and lower duty access on Australian wines, almonds, lentils, and certain fruits.

What are Free Trade Agreements?

➢ It is a **pact between two or more nations to reduce barriers** to imports and exports among them.

➢ Under a free trade policy, goods and services can be bought and sold across international borders with little or no government tariffs, quotas, subsidies, or prohibitions to inhibit their exchange.

➢ The concept of **free trade is the opposite of trade protectionism or economic isolationism.**

➢ FTAs can be categorised as Preferential Trade Agreement, **Comprehensive Economic Cooperation Agreement (CECA), Comprehensive Economic Partnership Agreement (CEPA).**

How has been the India-Australia Trade Relation so far?

➢ India and Australia **enjoy excellent bilateral relations that have undergone transformational evolution** in recent years, developing along a positive track, into a friendly partnership.

➢ This is a special partnership characterised by shared values of **pluralistic, parliamentary democracies, Commonwealth traditions, expanding economic engagement, long standing people-to-people ties and increasing high level interaction.**

➢ The India-Australia Comprehensive Strategic Partnership initiated during the **India-Australia Leaders' Virtual Summit** held in June 2020 is the cornerstone of India-Australia multi-faceted bilateral relations.

➢ Growing India-Australia economic and commercial relations **contribute to the stability and strength of a rapidly diversifying and deepening bilateral relationship** between the two countries.

➢ India and Australia have been each other's important trading partners.

○ **Australia is the 17th largest trading partner of India** and India is **Australia's 9th largest trading partner.**

○ India-Australia bilateral trade for both merchandise and services is valued at **USD 27.5 billion in 2021.**

○ India's merchandise exports to Australia grew **135% between 2019 and 2021.** India's exports consist primarily of a broad-based basket largely of finished products and were **USD 6.9 billion in 2021.**

○ India's merchandise imports from Australia were **USD 15.1 billion in 2021,** consisting largely of raw materials, minerals and intermediate goods.

➢ India and Australia are partners in the trilateral **Supply Chain Resilience Initiative (SCRI)** arrangement along with Japan which seeks to enhance the resilience of supply chains in the **Indo-Pacific Region.**

➢ Further, India and Australia are also members of the **QUAD grouping (India, the US, Australia and Japan),** also comprising the US, and Japan, to further enhance cooperation and develop partnership across several issues of common concern.

Note:

drishti

India, Turkmenistan Bilateral Meet

Why in News?

Recently, the **Indian President for the first time visited Turkmenistan**, where he signed four agreements, including in financial intelligence and disaster management and agreed to expand bilateral trade and energy cooperation to further strengthen the multifaceted partnership.

➢ Earlier, a Memorandum of Understanding (MoU) was signed between India and Turkmenistan on **Cooperation in the field of Disaster Management.**

What are the Highlights of the Bilateral Meet?

➢ **Highlighted the significance of the International North South Transport Corridor (INSTC)** and the **Ashgabat Agreement** on International Transport and Transit Corridor.

➢ The **Chabahar port** built by India in Iran could be used to improve trade between India and Central Asia.

➢ Discussing the **Turkmenistan-Afghanistan-Pakistan-India (TAPI) pipeline**, India suggested that issues related to the security of the pipeline and key business principles may be addressed in Technical and Expert level meetings.

➢ India expressed its **readiness to partner with Turkmenistan in its drive towards digitalisation** and noted that **Space can be another area of mutually beneficial cooperation.**

➢ Underlined the importance of **holding regular cultural events** in each other's territory since both countries share centuries-old civilisational and cultural linkages.

➢ Emphasised on the **need for both countries to cooperate closely on the effective management of the Covid-19 pandemic** that has affected their population.

➢ Agreed to further enhance cooperation under the framework flowing from the **India-Central Asia Summit**.

➢ India thanked Turkmenistan for **its support to India's permanent membership in a reformed and expanded UN Security Council** as well as for India's initiatives as a non-permanent member of UNSC for the period of 2021-22.

➢ Both **share a broad 'regional consensus' on the issues related to Afghanistan,** which includes formation of a truly representative and inclusive government, combating terrorism and drug trafficking, central role of the UN, providing immediate humanitarian assistance for the people of Afghanistan and preserving the rights of women, children and other national ethnic groups and minorities.

What are the Key Points of India -Turkmenistan Relations?

➢ Turkmenistan shares **borders with Kazakhstan in the north, Uzbekistan in the north and North-east, Iran in the South and Afghanistan** in the Southeast.

➢ India's **'Connect Central Asia' policy 2012 envisages deeper mutual relations** with the region and energy linkage is an important component of the policy.

➢ India has joined the Ashgabat agreement, which envisages setting up of an international transport and transit corridor linking central Asia with the Persian Gulf to significantly ramp up trade and investment.

➢ India considers the **TAPI pipeline (Turkmenistan, Afghanistan, Pakistan and India) a 'key pillar'** in its economic relations with Turkmenistan.

➢ **In 2015, Hindi Chair was established** in Azadi Institute of World languages, Ashgabat where Hindi is being taught to university students.

➢ India provides **training for Turkmen nationals under ITEC (Indian Technical and Economic Cooperation) programme.**

➢ Turkmenistan supports India's permanent position in the **UN Security Council**.

Note:

- Turkmenistan is a USD 40 billion plus economy, but the bilateral trade with India is below its potential. India can increase its economic presence in Turkmenistan, particularly in the **Information and communication technologies (ICT) sector**. This would help maintain the future balance of trade.
- Recently, the 3rd meeting of the **India-Central Asia Dialogue** was held in New Delhi.
  - It is a ministerial-level dialogue between India and the **Central Asian** countries namely **Kazakhstan, Kyrgyzstan,** Tajikistan, Turkmenistan and Uzbekistan.
- Turkmenistan possesses very large reserves of natural gas.
- Turkmenistan is **also strategically placed in Central Asia and connectivity is something on which India feel a partnership with Turkmenistan will pay dividends**.

4th India- US '2+2' Dialogue

Why in News

Recently, the **fourth '2+2' dialogue** between **India and the United States** took place in **Washington DC, US**. **India's External Affairs and Defence Ministers** meet with their American counterparts.

- This meeting was held on the sidelines of a **virtual meeting between the Prime Minister of India and the President** of the US.

What are the Key Points of this Meeting?

- **Space Situational Awareness Arrangement:** India and the US have signed a **bilateral space situational awareness arrangement**.
  - This lays the groundwork for more advanced cooperation in space.
- **Inaugural Defense Artificial Intelligence Dialogue:** They also agreed to launch an **inaugural Defense Artificial Intelligence** Dialogue, while expanding joint cyber training and exercises.
- **Military Supply Chain Cooperation:** The US asserted that it supports India as a defence industry leader in the **Indo-Pacific** **and a net provider of security in the region.**
  - In this context, new supply chain cooperation measures were launched that will let both countries more swiftly support each other's **priority defence requirements.**

- **Observing Crisis in Ukraine:** They agreed to maintain close consultations on the **ongoing crisis in Ukraine**, including on humanitarian assistance efforts, and **echoed support for an independent investigation** into the brutal violence deployed against civilians.

What is the Status of India's 2+2 Dialogue with the US?

- The US is India's oldest and most important 2+2 talks partner.
- The first 2+2 dialogue between the two countries was held during the **Trump Administration in 2018.**
- India and the US have signed a troika of "**foundational pacts**" for deep military cooperation:
  - **Logistics Exchange Memorandum of Agreement (LEMOA)** in 2016,
  - Communications Compatibility and Security Agreement (COMCASA) after the first 2+2 dialogue in 2018,
  - **Basic Exchange and Cooperation Agreement (BECA) in 2020.**
- The strengthening of the mechanisms of cooperation between the two militaries are of significance in the context of an increasingly **aggressive China.**

What is the 2+2 Dialogue?

- 2+2 Ministerial is the **highest-level institutional mechanism** between the two countries.
- It is a format of dialogue where the **defence/foreign ministers or secretaries** meet with their counterparts from another country.
- India has 2+2 dialogues with four key strategic partners: **the US, Australia, Japan, and Russia.**
  - Besides Russia, the other three countries are also India's partners in the **Quad**.

Nepal PM Visits India

Why in News?

The Prime Minister of Nepal visited India and held a summit meeting with the Indian Prime Minister.

- Earlier, the Union Cabinet had cleared a plan to build a **new bridge connecting India and Nepal** over the **Mahakali river** and link Dharchula in Uttarakhand with Nepal's Dharchula.

What are the Highlights of the VIsit?

➤ **Connectivity:**
- ○ Launched the **35-km cross-border railway line linking Jaynagar in Bihar to Kurtha in Nepal**.
  - ● This is the **first broad-gauge passenger rail link between the two sides** and it **will be extended to Bardibas in Nepal** under a project supported by an Indian grant of Rs 548 crore.

➤ **Solu Corridor:**
- ○ The Indian side handed over the Solu Corridor, **a 90-km, 132 kV power transmission line** built for Rs 200 crore under an Indian line of credit.
- ○ The line **will help bring electricity to several remote districts in northeastern Nepal** by connecting them to the country's national grid.

➤ **RuPay card:**
- ○ Launched India's RuPay card in Nepal.
- ○ The domestic variant of the RuPay card will now work at 1,400 point-of-sale machines in Nepal, and the move is expected to facilitate bilateral tourist flows.
- ○ Nepal is the **fourth country, after Bhutan, Singapore and the UAE,** where RuPay is live.

➤ **MoUs:**
- ○ Nepal signed **a framework agreement to join the India-led International Solar Alliance** (becoming the 105th member country).
- ○ Signed three more pacts – a memorandum of understanding (MoU) **on enhancing technical cooperation in the railways sector**, and **two agreements between Indian Oil Corporation and Nepal Oil Corporation for the supply of petroleum products** for five years and for sharing of technical expertise.

➤ **Joint Vision Statement on Power Sector Cooperation:**
- ○ India called for taking **full advantage of opportunities in the power sector, including through joint development of power generation projects in Nepal** and development of cross-border transmission infrastructure.
  - ● India plays an important role in **developing Nepal's power sector, through capacity building and direct support** to infrastructure projects related to generation and transmission.
- ○ Nepal also **appreciated India's recent cross-border electricity trade regulations** that have enabled it to access India's market and trade power with India. Nepal exports its surplus power to India.
- ○ The two sides **agreed to expedite work on the delayed Pancheshwar multipurpose dam project (on Mahakali river) that is considered to be a gamechanger for the development** of the region.

➤ **Border Issue:**
- ○ Nepalese Prime Minister urged his Indian counterpart Narendra Modi to take steps to resolve a boundary dispute.
  - ● The Indian side made it clear **both countries need to address the boundary issue through dialogue and to avoid the politicisation of such issues.**
- ○ India had **earlier rejected Nepal's unilateral move in 2020 to amend its constitution to show the Kalapani region as part of Nepal** for the first time.

What are the Key Points of India-Nepal Relations?

➤ **Historical Ties:**
- ○ Nepal is an important neighbour of India and occupies special significance in its foreign policy because of the geographic, historical, cultural and economic linkages/ties that span centuries.
- ○ India and Nepal share similar ties in terms of **Hinduism and Buddhism** with Buddha's birthplace Lumbini located in present day Nepal.
- ○ The two countries **not only share an open border and unhindered movement of people**, but they also have close bonds through marriages and familial ties, popularly known as **Roti-Beti ka Rishta.**

Note:

○ The India-Nepal **Treaty of Peace and Friendship of 1950** forms the bedrock of the special relations that exist between India and Nepal.

○ Rivers originating in Nepal feed the **perennial river systems** of India in terms of ecology and hydropower potential.

➤ **Trade and Economy:**

○ India is Nepal's largest trade partner and the largest source of foreign investments, besides providing transit for almost the entire third country trade of Nepal.

➤ **Connectivity:**

○ Nepal being a landlocked country, it is surrounded by India from three sides and one side is open towards Tibet which has very limited vehicular access.

○ India-Nepal has undertaken various connectivity programs to enhance people-to-people linkages and promote economic growth and development.

  ● MOUs have been signed between both the governments for laying an electric rail **track linking Kathmandu with Raxaul in India.**

  ● India is looking to develop the inland waterways for the movement of cargo, within the framework of trade and transit arrangements, providing additional access to sea for Nepal calling it linking **Sagarmatha (Mt. Everest) with Sagar (Indian Ocean).**

➤ **Defence Cooperation:**

○ Bilateral defence cooperation includes assistance to Nepalese Army in its modernization through provision of equipment and training.

○ The Gorkha Regiments of the Indian Army are raised partly by recruitment from hill districts of Nepal.

○ India from 2011, every year undertakes joint military exercise with Nepal known as **Surya Kiran.**

➤ **Cultural:**

○ India has signed three **sister-city agreements** for twinning Kathmandu-Varanasi, Lumbini-Bodhgaya and Janakpur-Ayodhya.

● A sister city or twin town relationship is a form of legal or social agreement between two geographically and politically distinct localities.

➤ **Humanitarian Assistance:**

○ Nepal lies in a sensitive ecological fragile zone which is prone to **earthquakes, floods** causing massive damage to both life and money, and it remains the biggest recipient of India's humanitarian assistance.

➤ **Multilateral Partnership:**

○ India and Nepal share multiple multilateral forums such as BBIN (Bangladesh, Bhutan, India, and Nepal), **BIMSTEC (Bay of Bengal Initiative for Multi Sectoral Technical and Economic Cooperation), Non Aligned Movement, and SAARC** (South Asian Association for Regional Cooperation) etc.

➤ **Issues & Challenges:**

○ **China's Intervention:**

  ● As a landlocked nation, Nepal depended for many years on Indian imports, and India played an active role in Nepal's affairs.

  ● However, in recent years, Nepal has drifted away from India's influence, and China has gradually filled the space with investments, aid and loans.

  ● China considers Nepal a key partner in its **Belt and Road Initiative (BRI)**, and wants to invest in Nepal's infrastructure as part of its grand plans to boost global trade.

  ● Rising Nepal and China cooperation can undermine Nepal's distinction of buffer state between India and China.

  ● China on the other hand wants to avoid the formation of any Anti-China stance by the Tibetans living in Nepal.

○ **Border Dispute:**

  ● The **issue erupted in November 2019** when Nepal had released a new political map that claims Kalapani, Limpiyadhura and Lipulekh of Uttarakhand as part of Nepal's territory. The area of Susta (West Champaran district, Bihar) can also be noted in the new map.

◼◼◼

Note:

Social Issues

Highlights

- World Health Day
- Child Adoption in India
- Wage Rate Revised Under MGNREGA
- De-notified, Nomadic and Semi-nomadic Tribes

World Health Day

Why in News?

Every year 7th April marks the celebration of **World Health Day.**

➢ **World Mental Health Day** is observed on **10th October every year.**

What are the Key Highlights about World Health Day?

➢ **About:**
  ○ Its idea was conceived at the **First Health Assembly in 1948** and it came into effect in **1950.**
  ○ It is being celebrated today to mark the foundation of the **World Health Organization (WHO)** on 7th April 1948.
  ○ Over the years, it has **brought to light important health issues** such as **mental health**, maternal and child care and **climate change**.

➢ **Aim:**
  ○ To **create awareness** of a specific health theme to highlight a priority area of concern for the **WHO.**

➢ **Theme for 2022:**
  ○ Our Planet, Our Health

What is the Need to Recognise the Day?

➢ **Rising Deaths due Environmental Causes:**
  ○ Around the world, **13 million deaths are caused due to avoidable environmental causes.**
    ● This includes the climate crisis which is the single biggest health threat facing humanity.

➢ **Rising Air Pollution:**
  ○ Over **90% of people breathe unhealthy air** resulting from burning of **fossil fuels.**

➢ **Impact of Pandemic:**
  ○ The **pandemic has revealed weaknesses in all areas of society** and underlined the urgency of creating sustainable well-being societies committed to achieving equitable health now and for future generations without breaching ecological limits.

➢ **Rising Extreme Weather Events:**
  ○ Extreme weather events, **land degradation** and water scarcity are displacing people and affecting their health.

➢ **Rising Pollution and Plastics:**
  ○ **Pollution and plastics** are also affecting people's lives and have made their way into our food chain.

➢ **Inequitable Distribution of Income:**
  ○ The **present design of the economy leads to inequitable distribution of income, wealth and power**, with too many people still living in poverty and instability.

What is the Current Healthcare Landscape in India?

➢ Although **India's healthcare sector has grown rapidly over the last five years (Compound Annual Growth Rate** of 22%), **Covid-19** has brought to the forefront persistent challenges such as a weak health system, lack of quality infrastructure, and lack of quality service delivery to vulnerable populations.

➢ **India's healthcare spending is 3.6% of Gross Domestic Product (GDP)**, including out-of-pocket and public expenditure.
  ○ The combined total **government expenditure** of both central and state is **1.29% of GDP.**

Note:

- India spends the least among **BRICS** countries: Brazil spends the most (9.2%), followed by South Africa (8.1%), Russia (5.3%), China (5%).
➢ The Government of India has launched the flagship initiative **Ayushman Bharat (AB) Pradhan Mantri Jan Arogya Yojana (PM-JAY)** the **world's largest non-contributory Government-sponsored health insurance scheme** that enables increased access to in-patient healthcare for poor and vulnerable families in secondary and tertiary facilities.

What are Related Initiatives for the Health Sector?
➢ **National Medical Commission (NMC) Act, 2019**
➢ **Pradhan Mantri Bhartiya Janaushadhi Pariyojana**
➢ **Pradhan Mantri - Jan Arogya Yojana.**
➢ **India's Health Index**
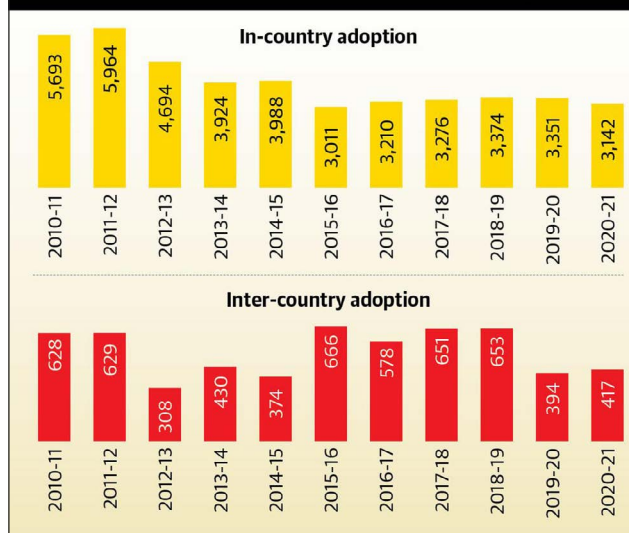➢ **SAMRIDH Initiative**

Child Adoption in India

Why in News?

Recently, the **Supreme Court** agreed to hear a plea seeking to simplify the legal process for child adoption in India.

➢ In 2021, **Adoption (First Amendment) Regulations, 2021** was notified which allowed Indian diplomatic missions abroad to be in charge of safeguarding adopted children whose parents move overseas with the child within two years of adoption.

The number of adoptions in the country has been on the decline for a decade now

In-country adoption

Year	Number
2010-11	5,693
2011-12	5,964
2012-13	4,694
2013-14	3,924
2014-15	3,988
2015-16	3,011
2016-17	3,210
2017-18	3,276
2018-19	3,374
2019-20	3,351
2020-21	3,142

Inter-country adoption

Year	Number
2010-11	628
2011-12	629
2012-13	308
2013-14	430
2014-15	374
2015-16	666
2016-17	578
2017-18	651
2018-19	653
2019-20	394
2020-21	417

What are the Issues Related to Child Adoption in India?

➢ **Declining Statistics and Institutional Apathy:**
  - There is a **wide gap between adoptable children and prospective parents**, which may increase the length of the adoption process.
  - Data shows that while more than **29,000 prospective parents are willing to adopt,** just 2,317 children are available for adoption.
➢ **Returning Children after Adoption:**
  - Between 2017-19, the **Central Adoption Resource Authority (CARA)** faced an unusual upsurge in adoptive parents returning children after adopting.
    - **Central Adoption Resource Authority (CARA)** is a statutory body of the **Ministry of Women & Child Development.** It functions as the nodal body for adoption of Indian children and is mandated to monitor and regulate in-country and inter-country adoptions.
  - According to the data, **60% of all children returned were girls**, 24% were children with special needs, and many were older than six.
    - The primary reason these **'disruptions' occur is that disabled children and older children take much longer to adjust** to their adoptive families.
    - This is **primarily because older children find it challenging to adjust** to a new environment because institutions do not prepare or counsel children about living with a new family.
➢ **Disability and Adoption:**
  - **Only 40 children with disabilities were adopted between 2018 and 2019**, accounting for approximately 1% of the total number of children adopted in the year.
  - Annual trends reveal that **domestic adoptions of children with special needs are dwindling** with each passing year.
➢ **Manufactured Orphans and Child Trafficking:**
  - In 2018, Ranchi's Mother Teresa's Missionaries of Charity came under fire for its "baby-selling racket" after a nun from the shelter confessed to selling four children.
    - Similar instances are becoming increasingly common as the pool of children available for adoption shrinks and waitlisted parents grow restless.

Note:

○ Also, during the **pandemic**, cases of threat of **child trafficking** and illegal adoption rackets came into play.
- These rackets usually source children from poor or marginalised families, and unwed women are coaxed or misled into submitting their children to trafficking organisations.

➢ **LGBTQ+ Parenthood and Reproductive Autonomy:**
○ Despite the constant evolution of the definition of a family, **the 'ideal' Indian family nucleus still constitutes a husband, a wife and daughter(s) and son(s).**
- In February 2021, while addressing petitions seeking the legal recognition of **LGBTQI+** marriages, the government opined that LGBTQI+ relationships **could not be compared to the "Indian family unit concept"** of a husband, wife and children.
○ The **invalidity of LGBTQI+ marriages and relationships in the eyes of the law obstructs LGBTQI+ persons from becoming parents** because the minimum eligibility for a couple to adopt a child is the proof of their marriage.
○ To negotiate these unfavourable legalities, illegal adoptions are becoming increasingly common among queer communities.
- Moreover, provisions under the **Surrogacy (Regulation) Bill, 2020** and **Assisted Reproductive Technology (Regulation) Bill, 2020 completely exclude LGBTQI+ families,** stripping them of their reproductive autonomy.

What are the Laws to Adopt a Child in India?

➢ The adoption in India takes place under **Hindu Adoptions and Maintenance Act, 1956 (HAMA)** and the **Juvenile Justice (Care and Protection of Children) Act, 2015 (JJ Act).**
○ HAMA, 1956 falls in the **domain of Ministry of Law and Justice** and JJ Act, 2015 pertains to the **Ministry of Women and Child Development.**
○ As per the government rules, **Hindus, Buddhists, Jains, and Sikhs** are legalized to adopt kids.
➢ Until the JJ Act, the **Guardians and Ward Act (GWA), 1980** was the only means for non-Hindu individuals to become guardians of children from their community.
○ However, since the GWA appoints individuals as legal guardians and not natural parents, guardianship is terminated once the ward turns 21 and the ward assumes individual identity.

Wage Rate Revised Under MGNREGA

Why in News

Recently, the Ministry of Rural Development has notified fresh wage rates under **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)** for **financial year 2022-23.**

➢ The wage rates are notified under the **Mahatma Gandhi National Rural Employment Guarantee Act, 2005.**
➢ The MGNREGA wage rates are fixed according to changes in the **CPI-AL (Consumer Price Index-Agriculture Labour),** which reflects the increase in the **inflation** in rural areas.

What are the Revised Rates?

➢ 21 out of 34 states and Union Territories getting less than 5 % increase and **10 states getting more than 5 % hike.**
○ Of the 31 states and UTs, which saw a hike in wages, the **maximum 7.14 % has been recorded in Goa.**
○ The **lowest increase of 1.77 % is in Meghalaya.**
➢ There is **no change in the wage rates** of three states – **Manipur, Mizoram and Tripura.**

What is MGNREGA?

➢ **About:** MGNREGA is **one of the largest work guarantee programmes in the world.**
○ The primary objective of the scheme is to **guarantee 100 days of employment** in every financial year to **adult members of any rural household** willing to do public work-related unskilled manual work.
➢ **Legal Right to Work:** Unlike earlier employment guarantee schemes, the act **aims at addressing the causes of chronic poverty** through a rights-based framework.
○ At least **one-third of beneficiaries have to be women.**
○ Wages must be paid according to the statutory minimum wages specified for agricultural labourers in the state under the **Minimum Wages Act, 1948**.
➢ **Demand-Driven Scheme:** The most important part of MGNREGA's design is **its legally-backed guarantee for any rural adult to get work within 15 days of demanding it**, failing which an 'unemployment allowance' must be given.

Note:

○ This demand-driven scheme enables the self-selection of workers.

➢ **Decentralised planning:** There is an emphasis on strengthening the process of decentralisation by giving a significant role in **Panchayati Raj Institutions (PRIs)** in planning and implementing these works.

○ The act **mandates Gram sabhas to recommend the works that are to be undertaken** and at least 50% of the works must be executed by them.

MGNREGs CONTRBUTION TO SUSTAINABLE DEVELOPMENT GOALS (SDGs)

What are the Issues Associated With Implementation of Scheme?

➢ **Delay and Insufficiency in Funds Dispersal:** Most states have failed to disburse wages within 15 days as mandated by MGNREGA. In addition, **workers are not compensated for a delay in payment of wages.**

○ This has turned the scheme into a supply-based programme and subsequently, **workers had begun to lose interest in working under it.**

○ There is ample evidence by now, including an admission by the Ministry of Finance, that **delays in wage payments are a consequence of insufficient funds.**

➢ **Caste Based Segregation:** There were significant variations in delays by caste. While 46% of payments to **SC (Scheduled Caste)** workers and 37% for **ST (Scheduled Tribes)** workers were completed in the mandated seven-day period, it was a dismal 26% for non-SC/ST workers.

○ The **negative impact of caste-based segregation was felt acutely in poorer States** such as Madhya Pradesh, Jharkhand, Odisha and West Bengal.

➢ **Ineffective Role of PRI:** With very little autonomy, gram panchayats are not able to implement this act in an effective and efficient manner.

➢ **Large Number of Incomplete works:** There has been a delay in the completion of works under MGNREGA and **inspection of projects has been irregular.** Also, there is an issue of quality of work and asset creation under MGNREGA.

➢ **Fabrication of Job cards**: There are several issues related to the existence of **fake job cards, the inclusion of fictitious names, missing entries and delays** in making entries in job cards.

De-notified, Nomadic and Semi-nomadic Tribes

Why in News?

Recently, the **standing committee of Parliament** has criticised the functioning of the development programme for **de-notified, nomadic and semi-nomadic tribes.**

➢ The committee noted that the Scheme for **economic empowerment of Denotified Tribes (DNTs) communities** has total outlays of Rs 200 crore for the period of **five years from 2021-22** and the **Department could not spend even a single rupee in 2021-22.**

DENOTIFIED TRIBES - MEANING

- **DE notified Tribes** (DNTs), also known as *Vimukta Jati*, are the tribes that were originally listed as "Criminal Tribes" and "addicted to the systematic commission of non-bailable offences."
- Once a tribe became "notified" as criminal, all its members were required to register with the local magistrate, failing which they would be charged with a "crime" under the Indian Penal Code.

Who are De-Notified, Nomadic and Semi-Nomadic Tribes?

➢ These are communities that are the **most vulnerable and deprived.**

➢ DNTs are communities that were **'notified' as being 'born criminals'** during the British regime under a series of laws starting with the **Criminal Tribes Act of 1871.**

Note:

- ❍ These Acts were repealed by the **Independent Indian Government in l952, and these communities were "De-Notified".**
- ➤ A few of these communities which were listed as **de-notified were also nomadic.**
  - ❍ **Nomadic** and semi-nomadic communities are defined as **those who move from one place to another rather than living in one place all the time.**
- ➤ Historically, **Nomadic Tribes and De-notified Tribes** never had access to private land or home ownership.
- ➤ While most DNTs are spread across the **Scheduled Castes (SC), Scheduled Tribes (ST)** and **Other Backward Classes (OBC) categories,** some DNTs are not covered in any of the SC, ST or OBC categories.
- ➤ Many **commissions and committees** constituted since Independence have referred to the problems of these communities.
  - ❍ These include the **Criminal Tribes Inquiry Committee, 1947** constituted in the United Provinces (now Uttar Pradesh),
  - ❍ **Ananthasayanam Ayyangar Committee in 1949** (it was based on the report of this committee the **Criminal Tribes Act was repealed**),
  - ❍ **Kaka Kalelkar Commission** (also called **first OBC Commission**) constituted in 1953.
  - ❍ The **B P Mandal Commission** constituted in 1980 also made some recommendations on the issue.
  - ❍ The **National Commission to Review the Working of the Constitution (**NCRWC**), 2002** held that DNTs have been **wrongly stigmatised as crime prone and subjected to high handed treatment** as well as exploitation by the representatives of law and order and general society.
    - ● The NCRWC was established under the chairmanship of **Justice M N Venkatachaliah.**
- ➤ It has been estimated that **South Asia has the world's largest nomadic population.**
  - ❍ In India, roughly 10% of the population is Denotified and Nomadic.
  - ❍ While the number of Denotified Tribes is about 150, the population of Nomadic Tribes consists of about 500 different communities.

What are the Developmental Efforts Regarding DNT?

- ➤ **Background:** A **National Commission for De-notified, Nomadic and Semi-Nomadic Tribes (NCDNT)** was constituted in 2006 by the then government.

- ❍ It was headed by **Balkrishna Sidram Renke** and submitted its report in 2008.
- ❍ The commission held that "It is an irony that these tribes s**omehow escaped the attention of our Constitution makers**.
- ❍ They are deprived of Constitutional support **unlike Scheduled Castes and Scheduled Tribes".**
- ❍ The Renke commission estimated their population at **around 10.74 crores based on Census 2001.**
- ➤ **Schemes for DNT:** The Ministry of Social Justice and Empowerment is implementing the f**ollowing schemes for the welfare of the DNTs.**
  - ❍ Dr. Ambedkar Pre-Matric and Post-Matric Scholarship for DNTs.
    - ● This Centrally Sponsored Scheme was launched w.e.f. 2014-15 for the welfare of those DNT students who are not covered under SC, ST or OBC.
  - ❍ Nanaji Deshmukh Scheme of Construction of Hostels for DNT Boys and Girls.
    - ● This Centrally Sponsored Scheme launched w.e.f. 2014-15 is implemented through State Governments/ UT Administrations/ Central Universities.
  - ❍ From the year 2017-18, the scheme **"Assistance to Voluntary Organization working for the Welfare of OBCs "** has been extended for DNTs.

What is the Development and Welfare Board for De-notified, Nomadic and Semi-Nomadic Communities (DWBDNC)?

- ➤ A new Commission was constituted in February 2014 to prepare a **state-wise list,** which submitted its report in 2018, identified 1,262 communities as de-notified, nomadic and semi-nomadic.
  - ❍ The commission recommended the setting up of a permanent commission for these communities.
- ➤ The government set up the **Development and Welfare Board for De-notified, Nomadic and Semi-Nomadic Communities (DWBDNC).**
- ➤ DWBDNC was established under the **Societies Registration Act, 1860** under the aegis of the Ministry of Social Justice and Empowerment for the purpose of implementing welfare programmes.
  - ❍ The DWBDNC was constituted on **21st February 2019, under the chairmanship of Bhiku Ramji Idate.**

■■■

Note:

Science & Technology

Highlights

- Micro Swimmers for Drug Delivery
- Jupiter Like Protoplanet
- XE Variant of the Coronavirus
- Nipah virus Infection (NiV)
- Human Genome

- Colour Blindness
- Genome Editing
- GSLV-F10
- Earth Observation Satellite: EOS-02
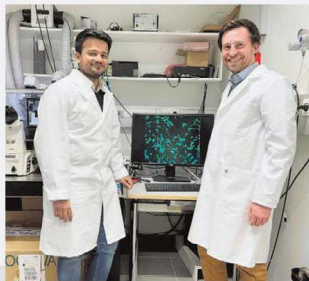- Near Field Communication Technology

Micro Swimmers for Drug Delivery

Why in News?

Recently, research has shown that it is possible to use light as a fuel to **move microbots in real-body conditions** with **intelligent drug-delivery** that is **selectively sensitive to cancer cells.**

➤ These microbots are referred to as **microswimmers.**

➤ The research is led by **Max Planck Institute for Intelligent Systems (MPI-IS) and Max Planck Institute for Solid State Research (MPI-FKF), Stuttgart, Germany.**

Swimming through viscous body fluids

■ The nearly spherical micro-swimmers (1 to 10 micrometre in size) can self-propel, energised by light

■ Like in a solar cell, the incident light is converted into electrons and holes on the surface of the swimmers, which in turn react to form ions

■ These ions move around the particle and make the fluid flow around it, causing the micro-swimmers to move

Varied tactics: By changing the pH of the solution or by triggering it with light, the researchers showed that drug release could be activated

■ The micro-swimmers are made from the two-dimensional compound poly(heptazine imide) carbon nitride

the salt ions stop the reaction ions from moving freely

■ The researchers found that the ions in the salty solution passed through the pores of PHI carbon nitride leaving little or no resistance

■ In addition to transporting salt ions from the fluid, the voids and pores on the microparticles acted like cargo bays to soak up drug molecules

■ The researchers showed drug release could also be activated by testing with Doxorubicin

■ The body fluids and blood contain dissolved salts. and

What are the Key Points of the Research?

➤ **About:** These microbots are made from the **two-dimensional compound poly (heptazine imide) carbon nitride (i.e. PHI carbon nitride).**

- These microbots are like **miniaturised humans.**

- They range from **1-10 micrometre** (a micrometre is one-millionth of a metre) in size, and can self-propel when energised by shining light.

➤ **How Microbots Swim:** The **PHI carbon nitride microparticles** are photocatalytic.

- The particles are nearly **spherical, and the incident light illuminates one-half of the sphere,** leaving the other dark.

- As **photocatalysis is light-driven,** it occurs only on the brightened hemisphere.

- As the ions move from the **bright side to the dark side**, micro-swimmers march towards the direction of the light source.

- This reaction, combined with the **particle's electric field,** makes the **microbots (micro-swimmers) swim**.

➤ **Existing Barriers:** The body fluids and blood contain dissolved salts.

- When salts are present, the **salt ions stop the reaction ions from moving freely** as they will just bind or recombine with them and stop them.

- So all the **chemically propelled swimmers can't swim in solutions containing salts.**

- For example, when **dissolved in water, common salt (NaCl)** breaks up into sodium (Na +) and chloride (Cl -) ions.

- These ions will neutralise the ions created by the photocatalytic reaction, **thereby impeding the self-propulsion.**

➤ **Contribution of Research:** The researchers found that the ions in the **salty solution passed** through the pores of PHI carbon nitride. Thus, there was **little or no resistance from the salt ions.**

Note:

drishti

○ In addition to transporting salt ions from the fluid, the voids and pores on the microparticles worked as cargo bays and could soak up large amounts of drug.

○ Microswimmers for drug delivery introduced **in the past relied on 'artificial capsules,"** which were meant to be filled with drugs and delivered to specific locations in the body.

● Creating these capsules, however, could be both complex and expensive. In contrast, the particles used by the researchers are cheap, organic, and spongy by design, binding directly to drugs or other substances.

● This means that they could be easier to implement on a large-scale. Remarkably, they can also be loaded with more drugs (i.e., 185% of their own mass) than other materials used in the past.

➢ **Significance:** Microswimmers could **allow doctors to deliver drugs to targeted regions inside the human body.**

○ The microswimmers **could also help to introduce specific substances in lakes or in the ocean.**

○ For instance, the **swimmers could be deployed in endangered natural environments to heal specific animal species** or exterminate harmful organisms.
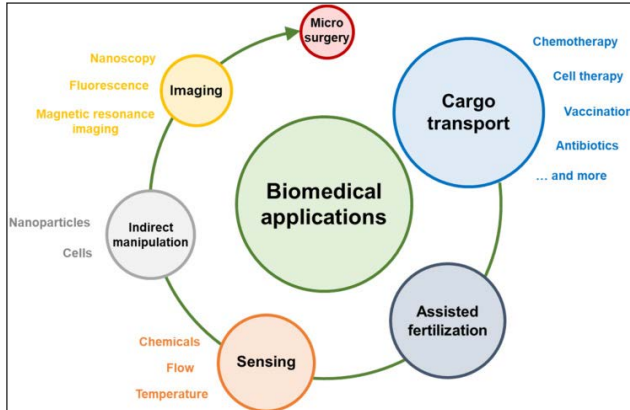
Jupiter Like Protoplanet

Why in News?

Recently, the **Hubble Space Telescope** has photographed a **Jupiter**-like **protoplanet** forming through a process that researchers have described as i**ntense and violent.**

➢ The Hubble Space Telescope is a project of international cooperation between **National Aeronautics and Space Administration (NASA)** and ESA (European Space Agency).

What is the Newly Forming Planet?

➢ The **newly forming planet** captured by Hubble is called **AB Aurigae b** and embedded in a protoplanetary disk with distinct spiral structures swirling around and surrounding a young star that is estimated to be about 2 million years old.

○ That is also about the **same age our solar system** was when planet formation was underway.

○ It is **531 light-years away from our sun.**

➢ This protoplanet is probably around **nine times the size of Jupiter** and orbits its **host star at a distance of 8.6 billion miles**, over two times the distance between our Sun and **pluto**.

What is a Protoplanet?

➢ Protoplanets are small celestial objects that are the size of a moon or a bit bigger. They are small planets, like an even smaller version of a **dwarf planet.**

○ Astronomers believe that these objects form during the creation of a solar system.

➢ The most popular theory of how a solar system is formed says that a **giant cloud of molecular dust collapsed, forming one or more stars.**

➢ Then a cloud of gas forms around the new star. As a result of gravity and other forces, **the dust and other particles in this cloud collide and stick together** forming larger masses.

➢ While **some of these objects break apart on impact, a number of them continue to grow.**

➢ Once they reach a certain size – around a kilometre – these objects are large enough to attract particles and other small objects with their gravity. **They continue to get larger until they form protoplanets.**

What is NASA's Disk Instability Theory?

➢ According to NASA, this discovery supports a long-debated theory called **"disk instability,"** which tries to explain how planets similar to Jupiter are formed.

○ The model is for giant planet formation where a protoplanetary disk becomes dense and cool enough to be unstable to gravitational collapse and thereby resulting in the formation of a gaseous protoplanet.

Note:

➢ According to the Disk Instability theory, **matter slowly moves inwards in this disc as dust particles grow to centimetre-sized pebbles.**

➢ This is seen as the first step towards the formation of **kilometre-sized planetesimals** that eventually come together to form planets.

○ **Planetesimals** are solid objects thought to exist in protoplanetary disks and debris disks.

XE Variant of the Coronavirus

Why in News

Recently, a **50-year-old woman in Mumbai,** may have been **infected with the newly-discovered 'XE' variant** of the **coronavirus.**

➢ XE is a sub-variant of **Omicron,** which caused the **third wave of Covid-19**, which had not been found in India until now.

➢ So far, there is **no indication that it is more dangerous than other variants.**

What is the XE Variant of Coronavirus?

➢ The Omicron variant, which is responsible for over **90% of the infections** detected in 2022, has two **prominent sub-variants**, called **BA.1 and BA.2**.

➢ The XE variant is what is called a **'recombinant'**. This means it contains the **mutations found in BA.1 as well as BA.2 varieties of Omicron.**

○ Recombinant variants are **not uncommon.**

○ For example, variants that contain the **characteristic mutations of Delta and Omicron have also been identified.**

➢ This was first discovered in the United Kingdom in January 2022, and so far more than **600 samples of XE have been found in different countries.**

➢ In fact, variants that contain the characteristic mutations of **Delta** and Omicron have also been identified.

Is there a Threat from XE?

➢ As of now, there is **no evidence to show that the XE variant** is significantly different from the other varieties of Omicron.

➢ However, this variant is noticed to be about **10% more transmissible** than the dominant **BA.2 variant.**

○ In India, it was the BA.2 that was the **most dominant during the third wave.**

➢ Nevertheless, a **fresh wave of infections in India can never be ruled out,** considering that the virus has not been eliminated, and is also undergoing mutations.

How are New Variants Formed?

➢ When a virus multiplies it **doesn't always manage to produce an exact copy of itself.**

➢ This means that, over time, the virus may start to **differ slightly in terms of its genetic sequence.**
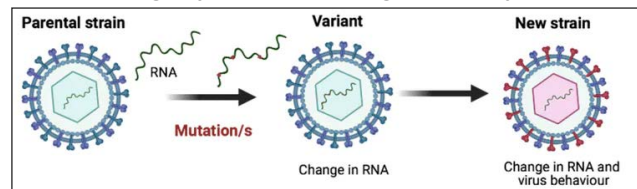
➢ Any changes to the viral genetic sequence during this process is **known as a Mutation.**

➢ Viruses with **new mutations are sometimes called Variants.** Variants can differ by one or multiple mutations.

➢ When a new variant has different functional properties to the original virus and becomes established in a population, it is sometimes referred to as a **New Strain of the virus.**

○ All strains are variants, but **not all variants are strains.**

Nipah virus Infection (NiV)

Why in News?

Recently, Scientists detected the **presence of IgG antibodies against Nipah virus infection (NiV)** in 51 bats that were captured from Karnataka, Kerala, Tamil Nadu and Puducherry.

What is Antibody?

➢ Antibody, also called immunoglobulin, is a **protective protein produced by the immune system** in response to the presence of a foreign substance, called an antigen.

➢ A wide range of substances are **regarded by the body as antigens**, including disease-causing organisms and toxic materials.

➢ Antibodies recognize and attack onto antigens in order to remove them from the body.

Note:

What are the Different Types of Antibodies?

➤ **IgG:**
  ○ It is the **main antibody in blood and it has a powerful ability to bind to bacteria** and toxins, and thus it takes on an important role in the biological defense system.
  ○ It is the **only isotype that can pass through the placenta**, and IgG transferred from the mother's body protects a newborn.

➤ **IgM:**
  ○ It is **constructed of five units of basic Y-shaped structures** and is mainly distributed to the blood. Produced first upon pathogen invasion by B cells, IgM has a key role in the initial immune system defense for protecting the body.
    • The B-cell, also called B-lymphocyte, is a type of white blood cell that plays a significant role in protecting your body from infection.

➤ **IgA:**
  ○ While in blood, **IgA is mainly present as monomers** (the shape of a single Y), but it forms dimers (a combination of 2 Ys) in secretions such as bowel fluid, nasal discharge, and saliva, to prevent bacterial invasion from a mucous membrane. It is also present in breast milk and protects the gastrointestinal tract of newborns from bacterial and viral infection.

➤ **IgD:**
  ○ It is **present on the surface of B cells** and it is reported to play a role in the induction of antibody production and the prevention of respiratory tract infections.

➤ **IgE:**
  ○ It is believed that **IgE was originally related to immunity reactions to parasites**. By binding to mast cells, **IgE is believed to be involved in allergies such as pollinosis.**

What are the Key Highlights about the Nipah virus?

➤ **About:**
  ○ It is a **zoonotic virus** (it is transmitted from animals to humans).
  ○ The organism which causes Nipah Virus encephalitis is an RNA or **Ribonucleic acid virus** of the family Paramyxoviridae, genus Henipavirus, and is closely related to Hendra virus.

    • **Hendra virus (HeV) infection** is a rare emerging zoonosis that causes severe and often fatal disease in both infected horses and humans.
  ○ It **first broke out in Malaysia and Singapore** in 1998 and 1999.
  ○ It **first appeared in domestic pigs** and has been found among several species of domestic animals including dogs, cats, goats, horses and sheep.

➤ **Transmission:**
  ○ The disease spreads through **fruit bats** or 'flying foxes,' of the genus Pteropus, who are natural reservoir hosts of the Nipah and Hendra viruses.
  ○ The **virus is present in bat urine** and potentially, bat faeces, saliva, and birthing fluids.

➤ **Symptoms:**
  ○ The human infection presents as an **encephalitic syndrome** marked by fever, headache, drowsiness, disorientation, mental confusion, coma, and potentially death.

➤ **Prevention:**
  ○ Currently, there are **no vaccines for both humans and animals**. Intensive supportive care is given to humans infected by Nipah virus.

Human Genome

Why in News?

Scientists had **published the map of the human genome for the first time** nearly two decades ago which was hailed as a breakthrough.

➤ In 2003, scientists got the breakthrough, but it was incomplete as about **8% of the human DNA was left unsequenced.**

➤ Now for the first time, a large team has accounted for completing the 8% picture of the human genome.

➤ In 2020, the Ministry of Science and Technology had approved an ambitious gene-mapping project called the **Genome India Project (GIP).**

What is Genome?

➤ A **genome** refers to **all of the genetic material in an organism,** and the human genome is mostly the same in all people, but a very small part of the DNA does vary between one individual and another.

Note:

➢ Every organism's genetic code is contained in its **Deoxyribose Nucleic Acid (DNA)**, the building blocks of life.

➢ The discovery that DNA is **structured as a "double helix" by James Watson and Francis Crick in 1953,** started the quest for understanding how genes dictate life, its traits, and what causes diseases.

➢ **Each genome contains all of the information needed** to build and maintain that organism.

➢ In humans, a copy of the entire genome contains more than 3 billion DNA base pairs.

What is the Difference between Genome and Gene?

GENE VERSUS GENOME

GENE	GENOME
A gene is a part of a DNA molecule	The genome is the total DNA in a cell
Hereditary element of genetic information	All set of nuclear DNA
Encodes protein synthesis	Encodes both proteins and regulatory elements for protein synthesis
Length is about a few hundreds of bases	Length of the genome of a higher organism is about billion base pairs
A higher organism has about thousands of genes	Each organism has only one genome
Variations of the gene named alleles can be naturally selected	Horizontal gene transfer & duplication cause large variations in the genome

What was the Breakthrough for the First time?

➢ The genetic sequence was made available in 2003 from the **Human Genome Project.**

○ **Human Genome Project** is an **international collaboration** between 1990 and 2003, containing information from a region of the human genome known as the **euchromatin.**

○ Here, the chromosome is rich in genes, and the DNA encodes for protein.

➢ The 8% that was left out was in the **area called heterochromatin, which is a smaller portion of the genome**, and does not produce protein.

➢ There were **at least two key reasons why heterochromatin was given lower priority.**

○ **First:** This part of the genome was thought to be **"junk DNA",** because it had no clear function.

○ **Second:** The euchromatin contained more genes that were simpler to sequence with the tools available at the time.

➢ Now, the fully sequenced genome is the **result of the efforts of a global collaboration called the Telomere-2-Telomere (T2T) project.**

○ The invention of new methods of DNA sequencing and computational analysis helped complete the reading of the remaining 8% of the genome.

What is in the 8%?

➢ The new reference genome, called **T2T-CHM13**, includes **highly repetitive DNA sequences found in and around the telomeres** (structures at the ends of chromosomes) and the centromeres (at the middle section of each chromosome).

➢ The new sequence also reveals **long stretches of DNA that are duplicated in the genome** and are **known to play important roles in evolution and disease.**

➢ The findings have **revealed a large number of genetic variations**, and these variations appear in large part within these repeated sequences.

➢ Many of the **newly revealed regions have important functions in the genome** even if they do not include active genes.

What is the Significance of this Breakthrough?

➢ **Make Easier the Study of Genetic Variation:**

○ A complete human genome **makes it easier to study genetic variation** between individuals or between populations.

Note:

➢ **Can be used for reference while Studying the Genome:**
   ○ By constructing a complete human genome, **scientists can use it for reference while studying the genome of various individuals**.
      ● It would **help them understand which variations**, if any, might be responsible for disease.

➢ **Study Provide More Accurate Information:**
   ○ The T2T consortium **used the now-complete genome sequence as a reference** to discover more than 2 million additional variants in the human genome.

➢ **Complement the Standard Human Reference Genome:**
   ○ The new T2T reference genome will complement the standard human reference genome, **known as Genome Reference Consortium build 38 (GRCh38)**, which originated from the Human Genome Project and has been updated since.


Human Genome Sequencing
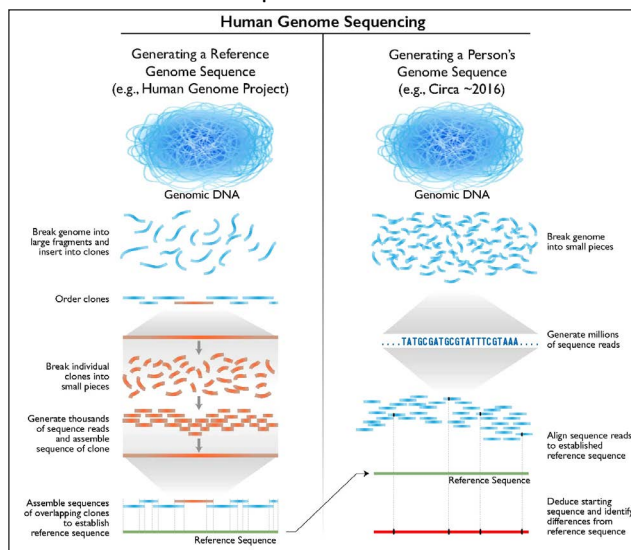
Colour Blindness

Why in News

Recently, the **Supreme Court** has directed the **Film and Television Institute of India (FTII)** not to exclude candidates suffering from **colour blindness** from its **courses on film making and editing and asked it to make changes to its curriculum instead.**

What is Colour Blindness?

➢ **About:** Colour blindness is the **inability to see colours in the normal way.** Colour blind individuals often **cannot distinguish between certain colours** — usually **greens** and **reds**, and sometimes **blues** as well.

○ It is also known as **colour deficiency.**
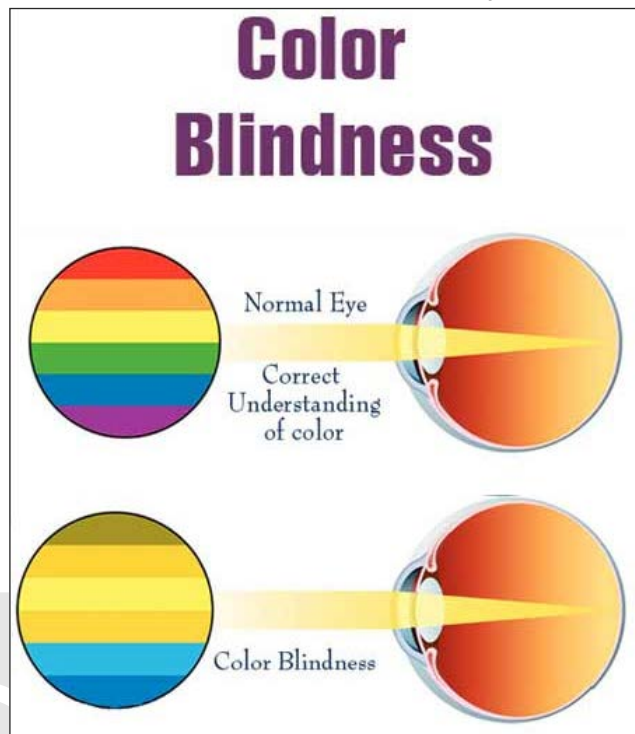
➢ **Anatomy:** Two types of cells in the **retina detect light:**
   ○ **Rods:** These help in distinguishing between **light and dark.**
   ○ **Cones:** These help in detecting **colour**.
   ○ There are three types of cones that see colour — **red, green, and blue** — and our brains use the information from these cells to perceive colour.
   ○ Colour blindness can be the result of the **absence of one or more of these cone cells, or their failure to work properly.**

➢ **Different Kinds:** Colour blindness may be of **different kinds and degrees.**
   ○ In a situation where **all three cone cells** are present **but one of them is malfunctioning,** mild colour blindness may occur.
   ○ **Mildly colour blind people** often see all colours properly only when the light is good.
   ○ In the most **severe kind** of colour blindness, **vision is black-and-white**, that is, everything appears as a **shade of grey**. This is not very common.

➢ **Causes**:
   ○ **Congenital Colour Blindness:** Most colour blind people are **born with the condition (congenital colour blindness)**. Congenital colour vision deficiencies are **usually passed on genetically.**

Note:

- This type of Colour blindness **generally affects both eyes,** and the condition remains roughly the **same for as long as the individual is alive.**
  - ○ **Medical Conditions:** A problem with colour vision that arises later in **life could be the result of disease, trauma, or ingested toxins.**
    - If colour blindness arises **out of disease, one eye may be affected differently** from the other, and the difficulty could worsen over time.
    - Medical conditions that **may increase the risk of getting colour blindness** include **glaucoma, diabetes, Alzheimer's, Parkinson's,** alcoholism, **leukaemia,** and **sickle-cell anaemia.**
- ➤ **Treatment:** Colour blindness cannot as **yet be treated or reversed.**
  - ○ However, it can be **corrected to some extent by wearing special contact lenses or colour filter glasses.**
  - ○ There is some research that suggests **gene replacement therapy** can help modify the condition.
- ➤ **Gender Differentiation**: **Men** suffer from a **higher incidence of colour blindness** than **women.**
  - ○ Around the world, **every tenth male is estimated to have some form of colour deficiency.**
  - ○ Men of Northern European descent are considered to be especially vulnerable.
- ➤ **Restriction in Jobs:** Colour blindness impairs in some ways the **ability to do certain kinds of jobs, s**uch as being a **pilot or joining the armed forces.**
  - ○ However, it depends on the severity of the colour blindness, and the **rules in place in different jurisdictions.**
  - ○ There are an **estimated 300 million people in the world** with colour vision deficiency.
- ➤ **Initiative Taken by Government:** In June 2020, India's **Ministry of Road Transport and Highways** amended the **Central Motor Vehicles Rules 1989** to enable citizens with mild to medium colour blindness t**o obtain a driver's licence.**

What is the Film and Television Institute of India?

- ➤ The **Film and Television Institute of India (FTII)** was set up by the Government of India in 1960, in the premises of the erstwhile **Prabhat Studios in Pune.**
- ➤ Prabhat Studio was a pioneer in the **business of filmmaking** and shifted to Pune from Kolhapur in 1933.
- ➤ It is an autonomous body under the Union **Ministry of Information and Broadcasting.**

Genome Editing

Why in News?

Recently, the **Government has allowed genome-edited plants without the cumbersome GMO (Genetically Modified Organisms) regulation at the Genetic Engineering Appraisal Committee (GEAC).**

- ➤ The government has **exempted Site Directed Nuclease (SDN) 1 and 2 genomes from Rules 7-11 of the Environment Protection Act,** thus allowing it to avoid a long process for approval of GM crops through the Genetic Engineering Appraisal Committee (GEAC).
- ➤ The **Institutional BioSafety Committee (IBSC)** under the Environment Protection Act would now be entrusted to certify that the genome edited crop is devoid of any foreign DNA.

What is the Genetic Engineering Appraisal Committee?
- ➤ It **functions under the Ministry of Environment, Forest and Climate Change (MoEF&CC).**
- ➤ It is responsible for the appraisal of activities involving large-scale use of hazardous microorganisms and recombinants in research and industrial production from the environmental angle.
- ➤ The committee is also responsible for the appraisal of proposals relating to the release of genetically engineered organisms and products into the environment including experimental field trials.
- ➤ GEAC is chaired by the Special Secretary/ Additional Secretary of MoEF&CC and co-chaired by a representative from the Department of Biotechnology (DBT).

What is Genome Editing?

- ➤ Genome editing (also called **gene editing**) is a group of technologies that give scientists the ability to change an organism's **Deoxy-Ribonucleic Acid (DNA).**
- ➤ These technologies allow genetic material to be added, removed, or altered at particular locations in the genome.

➢ Advanced research has **allowed scientists to develop the highly effective Clustered Regularly Interspaced Palindromic Repeat (CRISPR)** -associated proteins based systems. This system allows for **targeted intervention at the genome sequence.**

  ❍ This tool has opened up various possibilities in plant breeding. Using this tool, agricultural scientists can now edit the genome to insert specific traits in the gene sequence.

➢ Depending on the nature of the edit that is carried out, the **process is divided into three categories — SDN 1, SDN 2 and SDN 3.**

  ❍ **Site Directed Nuclease (SDN) 1 introduces** changes in the host genome's DNA through small insertions/ deletions without introduction of foreign genetic material.

  ❍ **In SDN 2,** the edit involves using a small DNA template to generate specific changes. Both these processes **do not involve alien genetic material** and the end result is indistinguishable from conventionally bred crop varieties.

  ❍ **The SDN3 process involves larger DNA elements or full length genes of foreign origin** which makes it similar to Genetically modified organisms (GMO) development.

How is Gene Editing different from GMO development?

➢ Genetically Modified Organisms (GMO) involves **modification of the genetic material of the host by introduction of a foreign genetic material**.

➢ In the case of agriculture, soil bacteria is the best mining source for such genes which are then inserted into the host genome using genetic engineering.

  ❍ For example, in case of cotton, introduction of genes cry1Ac and cry2Ab mined from the soil bacterium Bacillus Thuringiensis (BT) allow the native cotton plant to generate endotoxins to fight pink bollworm naturally.

  ❍ **BT Cotton** uses this advantage to help farmers naturally fight pink bollworm which is the most common pest for cotton farmers.

➢ The basic difference between genome editing and genetic engineering is that while the former does not involve the introduction of foreign genetic material, the latter does.

➢ In the case of agriculture, **both the techniques aim to generate variants which are better yielding and more resistant to biotic and abiotic stress.**

➢ Before the advent of genetic engineering, such variety improvement was done through selective breeding which involved carefully crossing plants with specific traits to produce the desired trait in the offspring.

➢ Genetic engineering has not only made this work more accurate but has also allowed scientists to have greater control on trait development.

What are the Regulatory Issues Preventing the Technique?

➢ Across the world, GM crops have been a topic of debate, with many environmentalists **opposing it on the grounds of bio safety and incomplete data**. In India, the introduction of GM crops is a laborious process which involves multiple levels of checks.

  ❍ Till date the only crop which has crossed the regulatory red tape is Bt cotton.

➢ Scientists both in India and across the world have been quick to draw the line between GM crops and genome edited crops. The latter, they have pointed out**,** has no foreign genetic material in them which makes them indistinguishable from traditional hybrids.

  ❍ Globally, **European Union** countries have bracketed genome edited crops with GM crops. Countries like Argentina, Israel, US, Canada, etc have liberal regulations for genome edited crops.

GSLV-F10

Why in News?

In 2021, a high-level panel was established to examine the **failed Geosynchronous Satellite GSLV-F10/Earth Observation Satellites (EOS)-03 mission** and recommended measures for making the **Cryogenic Upper Stage (CUS)** more robust.

Note:

➢ The **Geosynchronous Satellite Launch Vehicle (GSLV)** with improvements added to its CUS is expected to be ready in the second half of this year.

What is a Geosynchronous Satellite Launch Vehicle (GSLV)?

➢ GSLV is a **space launch vehicle designed, developed, and operated by the Indian Space Research Organisation (ISRO)** to launch satellites and other space objects into **Geosynchronous Transfer Orbits.**
  - ○ GSLV has been designed for **launching communication satellites.**

➢ Geosynchronous satellites are launched into orbit in the **same direction the Earth is spinning and can have any inclination.**
  - ○ The satellites in the geosynchronous orbits appear to **remain permanently fixed in the same position in the sky.**

➢ GSLV has the capability to put a heavier payload in orbit than the **Polar Satellite Launch Vehicle (PSLV).**

➢ It is a **three-stage launcher with strap-on motors.**

What is Cryogenic Upper Stage?

➢ GSLV follows a s**olid fuel first stage** with another **liquid fuel stage coming next.** **The second stage is followed by a third stage** known as **CUS.**
  - ○ It was the rocket's **crucial third stage**, which then failed to ignite and led to the **failure of the GSLV-F10.**

➢ The cryogenic stage is **technically a very complex system compared to solid or earth-storable liquid propellant stage**s due to its use of **propellants at extremely low temperatures** and the **associated thermal and structural problems.**
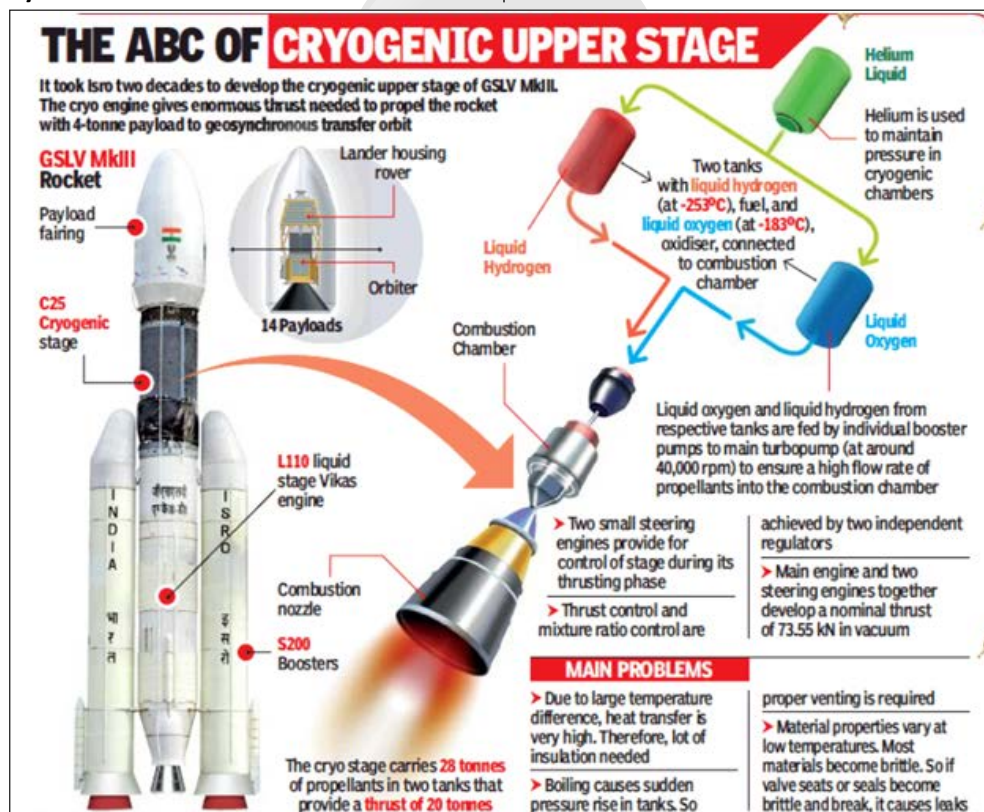
THE ABC OF CRYOGENIC UPPER STAGE

What are Earth Observation Satellites?

➢ **Earth observation satellites** are the satellites equipped with r**emote sensing technology.**
  - ○ Earth observation is the gathering of information about Earth's physical, chemical and biological systems.

➢ Many earth observation satellites have been employed on sun-synchronous orbit.

➢ Other earth observation satellites launched by ISRO include **RESOURCESAT- 2, 2A, CARTOSAT-1, 2, 2A, 2B, RISAT-1 and 2, OCEANSAT-2, Megha-Tropiques, SARAL and SCATSAT-1, INSAT-3DR, 3D, etc.**

Note:

Launch vehicles used by ISRO	
Satellite Launch Vehicle (SLV)	➢ The first rocket developed by ISRO was simply called **SLV, or Satellite Launch Vehicle**. ➢ It was followed by the **Augmented Satellite Launch Vehicle or ASLV.**
Augmented Satellite Launch Vehicle (ASLV)	➢ SLV and ASLV both could carry small satellites, **weighing up to 150 kg**, to lower earth orbits. ➢ ASLV operated till the early **1990s before PSLV** came on the scene.

Polar Satellite Launch Vehicle (PSLV)	➢ PSLV's first launch was in 1994, and it has been ISRO's main rocket ever since. Today's PSLV, however, is **vastly improved and several times more powerful than the ones** used in the 1990s.
	  ❍ It is the first Indian launch vehicle to be equipped with liquid stages.
	➢ PSLV is the **most reliable rocket used by ISRO till date**, with 52 of its 54 flights being successful.
	  ❍ It successfully launched two spacecraft – **Chandrayaan-1** in 2008 and **Mars Orbiter Spacecraft** in 2013 – that later traveled to Moon and Mars respectively.
	  ❍ ISRO **currently uses two launch vehicles – PSLV and GSLV** (Geosynchronous Satellite Launch Vehicle), but there are lots of different variants of these.

Geosynchronous Satellite Launch Vehicle (GSLV)	➢ GSLV is a much **more powerful rocket,** meant to carry **heavier satellites much deeper into space**. Till date, GSLV rockets have carried out 18 missions, of which **four ended in failure.**
	➢ It **can take 10,000-kg satellites** to lower earth orbits.
	➢ The indigenously developed **Cryogenic Upper Stage (CUS)**, forms the third stage of GSLV Mk II.
	➢ Mk-III versions have made ISRO entirely **self-sufficient for launching its satellites.**
	  ❍ Before this, it used to depend on the European Arianne launch vehicle to take its heavier satellites into space.
	  ❍ GSLV-Mk III is **a fourth generation, three stage launch vehicle** with four liquid strap-ons. The indigenously developed CUS, which is flight proven, forms the third stage of GSLV Mk III.
	  ❍ The rocket has three-stages with two solid motor strap-ons (S200), a liquid propellant core stage (L110) and a cryogenic stage (C-25).

Small Satellite Launch Vehicle (SSLV)	➢ SSLV is targeted at rising global demand for the launch of small and micro-satellites. ➢ SSLV is meant to offer **cost-effective launch services for satellites up to 500 kg.** ➢ It is supposed to carry an indigenous earth observation satellite EOS-03 into space.
Reusable Rockets/ Future Rockets	➢ The future rockets are meant to be reusable. Only a small part of the rocket would be destroyed during the mission. ➢ The bulk of it would r**e-enter the earth's atmosphere and land very much like an airplane**, and can be used in future missions. ➢ Reusable rockets would **cut down on costs and energy**, and also reduce space debris, which is becoming a serious problem because of the large number of launches. ➢ **Fully-reusable rockets are still to be developed**, but partially-reusable launch vehicles are already in use. ➢ ISRO has **also developed a reusable rocket, called RLV-TD (Reusable Launch Vehicle Technology Demonstrator)** which has had a successful test flight in 2016.

Note:

drishti

Earth Observation Satellite: EOS-02

Why in News?

The Union Minister of Science & Technology said that **EOS (Earth Observation Satellite)-02** satellite will be launched in the second quarter of 2022.

➢ The launch was delayed due to **pandemic** and consequent **lockdown.**

➢ Earlier, the **Indian Space Research Organisation's** earth observation satellite **EOS-04 and two small satellites (INSPIREsat-1 and INS-2TD)** were successfully placed into the intended orbit by the **PSLV (Polar Satellite Launch Vehicle)-C52** rocket.

What is the EOS-02 Satellite?

➢ EOS-02 is **Technology demonstration satellite for various new technologies** with applications that include **agriculture, forestry, geology, hydrology, miniaturised power electronics, reaction wheels** etc. and forming the payload for **SSLV (Small Satellite Launch Vehicle)-1.**

   ❍ **SSLV** is the smallest vehicle weighing only 110-tonne. **It will take only 72 hours to integrate, unlike the 70 days taken now for a launch vehicle.**

   ❍ It aims to **cater to the market for the launch of small satellites into Earth's low orbits** that has emerged in recent years to cater to the needs of developing countries, universities for small satellites, and private corporations.

What are the Other Satellites in the EOS Series?

➢ **EOS-01:**

   ❍ Earth Observation satellite meant for Agriculture, Forestry & **disaster management** support

➢ **EOS-03:**

   ❍ First Agile Earth Observation satellite in **Geostationary orbit** and applications which include near real time imaging, quick monitoring of natural disasters, spectral signatures for agriculture, forestry etc.

➢ **EOS-04:**

   ❍ **Radar** Imaging satellite meant to provide high quality images under all weather conditions for applications such as Agriculture, Forestry & Plantations, Soil Moisture & Hydrology and **Flood** Mapping.

➢ **EOS-05:**

   ❍ Earth Observation Satellite in the Geostationary Orbit.

➢ **EOS-06:**

   ❍ Earth Observation satellite meant for applications, which include ocean related services and advisories towards potential fishing zone forecast , ocean state forecast.

What are Earth Observation Satellites?

➢ Earth observation satellites are **the satellites equipped with remote sensing technology.** Earth observation is the gathering of information about Earth's physical, chemical and biological systems.

➢ Many earth observation satellites have been employed **on sun-synchronous orbit.**

➢ Other earth observation satellites launched by ISRO include RESOURCESAT- 2, 2A, CARTOSAT-1, 2, 2A, 2B, RISAT-1 and 2, OCEANSAT-2, Megha-Tropiques, SARAL and SCATSAT-1, INSAT-3DR, 3D, etc.

First launch of **2022**

On Monday, Earth Observation Satellite **EOS-04** and two small satellites — INSPIREsat-1 and **INS-2TD** — were placed in the orbit by the **PSLV-C52** rocket. A detailed look at the payload

DETAILS OF THE LAUNCH

1. Monday's was the 54th flight of PSLV and 23rd mission using PSLV-XL configuration with six PSOM-XLs (strap-on motors)

2. After a flight of about 18 minutes, the vehicle injected the satellites into their intended orbit

3. Primary satellite EOS-04 was put into the intended sun synchronous polar orbit of 529 km altitude at 6.17 a.m.

EOS-04 Weight: **1,710 kg**
Mission life: **10 years**
Use: Radar Imaging Satellite is designed to provide high quality images under all weather conditions for applications such as agriculture, forestry and plantations, soil moisture and hydrology and flood mapping

INSPIREsat-1 Weight: **8.1 kg**
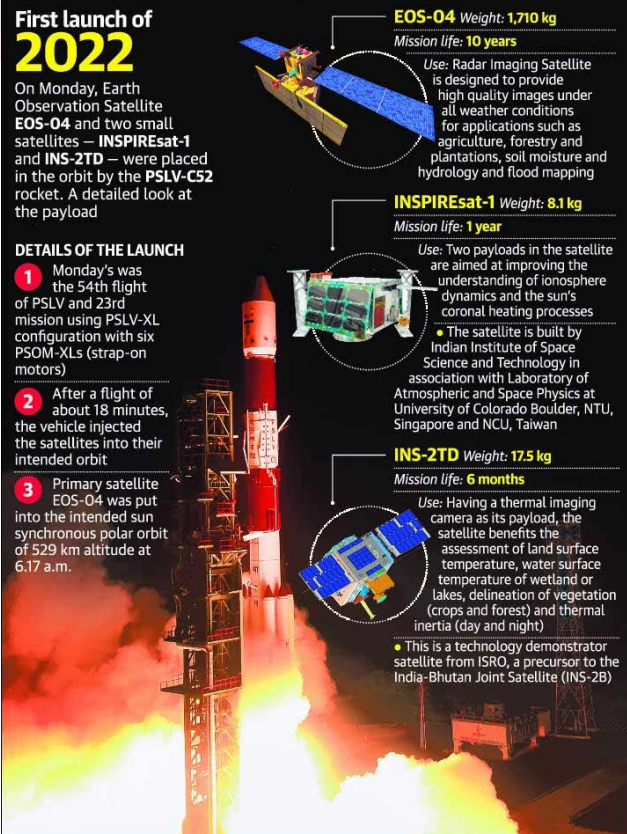Mission life: **1 year**
Use: Two payloads in the satellite are aimed at improving the understanding of ionosphere dynamics and the sun's coronal heating processes
• The satellite is built by Indian Institute of Space Science and Technology in association with Laboratory of Atmospheric and Space Physics at University of Colorado Boulder, NTU, Singapore and NCU, Taiwan

INS-2TD Weight: **17.5 kg**
Mission life: **6 months**
Use: Having a thermal imaging camera as its payload, the satellite benefits the assessment of land surface temperature, water surface temperature of wetland or lakes, delineation of vegetation (crops and forest) and thermal inertia (day and night)
• This is a technology demonstrator satellite from ISRO, a precursor to the India-Bhutan Joint Satellite (INS-2B)

Note:

Near Field Communication Technology

Why in News?

Google Pay has recently launched a new feature in India, 'Tap to pay for UPI', in collaboration with Pine Labs. The feature makes use of **Near Field Communication (NFC) technology.**

➢ The functionality will allow users with NFC-enabled Android smartphones and **UPI (Unified Payments Interface)** accounts linked to Google Pay to carry out transactions just by tapping their phones on any Pine Labs Android point-of-sale (POS) terminal across the country.

➢ The process is **much faster compared to scanning a QR code or entering the UPI-linked mobile number** which has been the conventional way till now.

➢ In February 2022, **Apple introduced Tap to Pay** on the iPhone.

What is NFC and how does it work?

➢ NFC is a **short-range wireless connectivity technology that allows NFC-enabled devices to communicate with each other** and transfer information quickly and easily with a single touch - whether to pay bills, exchange business cards, download coupons, or share a document.

➢ NFC transmits data **through electromagnetic radio fields,** to enable communication between two devices. Both devices must contain NFC chips, as transactions take place **within a very short distance.**

    ○ NFC-enabled devices must be either physically touching or within a few centimetres from each other for data transfer to occur.

➢ In 2004, consumer electronics companies, Nokia, Philips and Sony together formed the NFC Forum, which outlined the architecture for NFC technology to create powerful new consumer-driven products.

➢ Nokia released the first NFC-enabled phone in 2007.

What are the other applications of NFC technology?

➢ It is used i**n contactless banking cards to perform money transactions** or to generate contact-less tickets for public transport.

    ○ Contactless cards and readers use NFC in several applications from securing networks and buildings to monitoring inventory and sales, preventing auto theft, and running unmanned toll booths.

➢ It is **present in speakers, household appliances, and other electronic devices** that are controlled through smartphones.

➢ It **also has an application in healthcare**, to monitor patient stats through NFC-enabled wristbands. NFC is **used in wireless charging** too.

How safe is this technology?

➢ NFC technology is designed for an operation between devices within a few centimetres from each other. This makes it **difficult for attackers to record the communication between the devices compared to other wireless technologies** which have a working distance of several metres.

➢ The user of the NFC-enabled device determines by the touch gesture which entity the NFC communication should take place with, making it more difficult for the attacker to get connected.

➢ The **security level of the NFC communication is by default higher** compared to other wireless communication protocols.

➢ Since the receiving device reads data the instant one sends it, NFCs **also reduce the chance of human error.**

Where does it stand in comparison to other wireless technologies?

➢ The **IrDa (Infrared) technology is a short range (a few metres) connection based on the exchange of data over infrared light** where the two communication devices must be positioned within a line of sight. Today, this technology is **mainly used for remote control devices.**

➢ For larger data communication with computer devices **this technology was replaced by Bluetooth or WiFi connections.**

    ○ However, for these technologies' **receiver devices need their own power supply due to the larger working distance**.

    ○ Therefore, the receiving device **cannot be powered by the Radiofrequency (RF) field like in NFC.**

Note:

○ Another consequence of the larger working distance is the **need for the user to configure their device and to pair them together for communication.** Connection cannot be initiated by a simple touch gesture like in NFC.
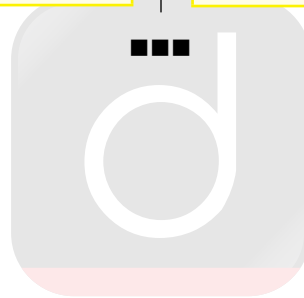
Note:

Bluetooth: **Developed in the late 1990s,** it is a technology designed **to enable short-range wireless communication between electronic devices,** such as between a laptop and a smartphone or between a computer and a television.

➢ Bluetooth **works by using radio frequencies,** rather than the infrared spectrum used by traditional remote controls. As a result, Bluetooth eliminates the need not only for a wire connection but also for maintaining a clear line of sight to communicate between devices.

➢ Bluetooth works at 2.4GHz frequency.

Wi-Fi (Wireless Fidelity): It is **similar to Bluetooth in that it also uses radio waves for high-speed data transfer over short distances** without the need for a wire connection.

➢ Wi-Fi works by breaking a signal into pieces and transmitting those fragments over multiple radio frequencies. This technique enables the signal to be transmitted at a lower power per frequency and also allows multiple devices to use the same Wi-Fi transmitter.

➢ Initially **developed in the 1990s,** Wi-Fi has undergone several standardization processes, approved by the Institute of Electrical and Electronics Engineers (IEEE), to allow for greater bandwidth in data transfer.

➢ Wi-Fi based networks work at 2.4, 3.6 and 5 GHz.

Note:

Environment & Ecology

Highlights

- *Palmking*
- *State Energy and Climate Index*
- *Green Initiatives for Effective Plastic Waste Management*
- *UNEP Report on Noise Pollution*
- *Draft Indian Antarctic Bill 2022*
- *Dolphin Population in Chilika Lake*
- *Two New Geological Heritage Sites*

- *Global Wind Report 2022*
- *Coastal Erosion*
- *Biogas Energy*
- *Managing Forest Fires in a Changing Climate*
- *District Ganga Committees and Namami Gange*
- *Air Quality Database 2022: WHO*
- *IPCC: Part Three of Sixth Assessment Report*

Palmking

Why in News?

Recently, the rare butterfly **Palmking *(Amathusia phidippus)*** was sighted for the first time in Tamil Nadu.

➤ It is the **321st species of butterfly found in Tamil Nadu** among the 1,500 species in India.
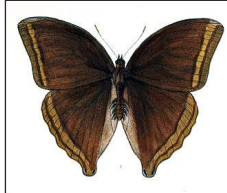
What is Palmking?

➤ **About:**
- Palmking was **first recorded in South India** by British scientist **H.S.Ferguson in 1891.** More than a Century later, it was **rediscovered in 2007.**
- Palmking belongs to the **Nymphalidae subfamily and feeds on palm, coconut and calamus varieties** of plants.
- The butterfly is characterised by **its brown colour and dark bands and is described as reclusive, mostly resting in the shade**.
- It is not easy to spot a Palmking because **its wood colour makes for easy camouflage and it rarely spreads its wings**.

➤ **Distribution:**
- This butterfly is widely distributed across parts of **India, Myanmar, Indo China, Peninsular Malaysia and Thailand.**
- It occurs in the **Indonesian archipelago and the Philippines.**

- In India, Palmking sightings were recorded in the forests of **Arippa, Shendurney, Periyar Tiger Reserve** in the south of **Western Ghats**.

State Energy and Climate Index

Why in News?

Recently, the **NITI Aayog** launched the **State Energy and Climate Index** (SECI). It is the **first index that aims to track the efforts made by states and UTs** in the **climate and energy sector.**

➤ The parameters of the index have been devised keeping in mind **India's goals for climate change and clean energy transition**.

What are the Key Points of SECI?

➤ **Objectives:** The objectives of the index are:
- **Ranking the States** based on their efforts towards improving energy access, energy consumption, energy efficiency, and safeguarding the environment.
- **Helping drive the agenda** of the affordable, accessible, efficient and clean energy transition at the State level;
- **Encouraging healthy competition** among the states on different dimensions of energy and climate.

➤ **Parameters:** The State Energy and Climate Index (SECI) ranks states and UTs on **six parameters**:
- Discoms' (Power distribution companies) Performance;
- Access Affordability And Reliability Of Energy;

Note:

○ Clean Energy Initiatives;

○ Energy Efficiency;

○ Environmental Sustainability;

○ New Initiatives.

➢ **Categorization:** Based on the outcome of SECI scores, states and union territories have been categorized into **three groups -- front runners, achievers, and aspirants.**

○ **Top Performers**: Gujarat, Kerala and Punjab have been adjudged as top three performer states in the NITI Aayog's SECI.

● The top three performers among smaller states are **Goa, Tripura and Manipur.**

○ **Unsatisfactory Performance:** States like Chhattisgarh, Madhya Pradesh and Jharkhand were placed at the bottom.

Category	SECI score	
Front-runners (Top one-third)	Composite SECI score>=46	
Achievers (Middle one-third)	Composite SECI score between 36 and 46	
Aspirants (Lowest one-third)	Composite SECI score<=36	

➢ **Need:** India is a **resource-rich and diverse country**. Many of its states are comparable to countries in the **European Union** in terms of area, population, and diversity of resources.

○ Thus, a **one-size-fits-all approach** will not be appropriate as each state and Union Territory (UT) differ in terms of culture, geography, and use of energy resources.

○ It is imperative for each state and UT to have its **own policy to harness its potential and capability.**

What are India's Climate Change Commitments?

➢ The Prime Minister of India at the **COP-26 Glasgow summit** presented five nectar elements, **Panchamrit**, to deal with climate change:

○ India will reach its **non-fossil installed electricity capacity to 500 GW by 2030.**

○ India will meet **50% of its electricity requirements from renewable energy by 2030.**

○ India will reduce the **total projected carbon emissions by one billion tonnes from now onwards till 2030.**

○ By 2030, India will reduce the carbon intensity of its **economy by less than 45%.**

○ **By the year 2070,** India will achieve the **target of Net-zero.**

Summarised list of Global indices and India's ranking				
Index	World Energy Trilemma Index (WETI)	Energy Transition Index (ETI)	Renewable Energy Country Attractiveness Index (RECAI)	Climate Change Performance Index (CCPI)
Publishing Agency	World Energy Council	World Economic Forum (WEF)	Ernst & Young (EY)	Germanwatch e.V.
What it measures	Measures energy system performance in terms of Energy Security, Energy Equity, Environmental Sustainability in Country context	Checks nation's energy system information	Ranks performance of economies based on the investment made in the renewable energy sector -energy supply, renewable technologies, & ease of doing business	Measures country's progress towards the NDC 2030 targets and compares climate protection performance of countries
India's Rank	75/127 (2021)	87/115 (2021)	3/40 (2021)	10/63 (2022)
Best performing countries	Top 3: Sweden, Switzerland, Denmark	Top 3: Sweden, Norway, Denmark	Top 2: USA & Mainland China	Top 6: Denmark (4th), Sweden (5th), Norway (6th)

Green Initiatives for Effective Plastic Waste Management

Why in News?

Recently, the Union Minister of Environment, Forest & Climate Change (MoEFCC) launched the Awareness Mascot **'Prakriti'& Green Initiatives for Effective Plastic Waste Management.**

➢ The mascot will **spread greater awareness among masses** about small changes that can be sustainably adopted in our lifestyle for a better environment.

➢ Earlier in February, the Ministry of Environment, Forest, and Climate Change announced the **Plastic Waste Management (Amendment) Rules, 2022.**

What are the Green Initiatives Launched?

➢ **National Dashboard on Elimination of Single Use Plastic (SUP) and Plastic Waste Management** by MoEFCC to bring all stakeholders including Central Ministries/ Departments, State/UT Governments at one place and track the progress made for elimination of SUP and effective management of plastic waste.

➢ **Extended Producer Responsibility (EPR) Portal** by **Central Pollution Control Board {CPCB}** for Plastic Packaging, improving accountability, traceability, transparency and facilitating ease of reporting compliance to EPR Obligations by Producers, Importers and Brand-owners

Note:

➢ **Mobile App** for Single Use Plastics Grievance Redressal by CPCB to empower citizens to check sale/usage/manufacturing of SUP in their area and tackle the plastic menace.

➢ **Monitoring module for Single Use Plastics (SUPs)** by CPCB for local bodies, State Pollution Control Boards (SPCBs) and CPCB, to inventorize details of SUP production/sale & usage in commercial establishments at district level, and on-ground enforcement of ban on SUP.

➢ **Industrial production of Graphene from Waste Plastic** by National Institute of Health and Environment & National Research Development Corporation to promote more industries to come forward to upcycle plastic waste.

What is Plastic Waste?

➢ Unlike other forms of wastes like paper, food peels, leaves etc, which are biodegradable (capable of being decomposed by bacteria or other living organisms) in nature, **plastic waste because of its non-biodegradable nature persists into the environment,** for hundreds (or even thousands) of years.

➢ Plastic pollution is **caused by the accumulation of plastic waste in the environment**. It can be categorised in **primary plastics**, such as cigarette butts and bottle caps, or **secondary plastics,** resulting from the degradation of the primary ones.

➢ Plastic has become one of the **most pressing environmental issues** that we are facing today.
  ○ **India** is generating about **3.5 million tonnes of plastic waste annually and the per capita plastic waste generation has almost doubled over the last five years.**

➢ Plastic pollution **adversely affects our ecosystems and is also linked to air pollution**.

What are the Major Challenges to Plastic Waste Management?

➢ **Mismanaged Plastic Waste (plastic dumped openly):** In the form of microplastics/microbeads when plastic enters the environment via inland waterways, wastewater outflows, and transport by wind or tides cannot all be filtered out once it enters the ocean.
  ○ As plastics travel with ocean currents, an island of trash called the Great Pacific Garbage Patch has been created.

➢ **Spurious Biodegradable Plastic:** In the **absence of robust testing and certification** to verify claims made by producers, spurious biodegradable and compostable plastics are entering the marketplace.

➢ **Online or E-Commerce Companies:** Apart from the plastic we consume through traditional retail, **the popularity of online retail and food delivery apps, though restricted to big cities, is contributing to the rise in plastic waste.**

➢ **Microplastics**: After entering into the aquatic environment, **microplastics** can travel vast distances floating in seawater, or sediment to the seabed. A recent study has revealed that microplastics in the atmosphere are trapped by the clouds and the falling snow.
  ○ **Microplastic particles** are commonly white or opaque in colour, which are commonly mistaken by many surface-feeding fishes as food (plankton) and can even move up the food chain to human consumers (from eating contaminated fish/seafood/shellfish).

➢ **Marine Litter:** Plastic pollution in freshwater and marine environments have been identified as a global problem and it is estimated that plastic pollution accounts for **60-80% of marine plastic waste.**

➢ **Terrestrial Plastic:** 80% of plastic pollution originates from land-based sources with the remainder from ocean-based sources (fishing nets, fishing ropes).

What are other Related Initiatives?
➢ **Swachh Bharat Mission**
➢ **India Plastics Pact**
➢ **Project REPLAN**
➢ **Un-Plastic Collective**
➢ **GoLitter Partnerships Project**

UNEP Report on Noise Pollution

Why in News?

Recently released **United Nations Environment Programme** report titled **Annual Frontiers Report 2022** became **controversial on account of the mention of a single city, Moradabad of Uttar Pradesh.**

➢ The **Frontiers report identifies and offers solutions to three environmental issues:** urban noise pollution,

Note:

wildfires and phenological shifts that merit attention and action from governments and the public at large to address the triple planetary crisis of **climate change**, **pollution** and **biodiversity loss.**

What was the Controversy?

➢ The report **compiles studies about noise levels** in several cities around the world and illustrates a subset of 61 cities and the range of dB (decibel) levels that have been measured.

➢ **Delhi, Jaipur, Kolkata, Asansol and Moradabad** are the five Indian cities mentioned in this list.

➢ **Moradabad in Uttar Pradesh** was shown as having a dB range from 29 to 114.

   ○ At a maximum value of 114, it was the **second-noisiest city in the list.**

   ○ While **road traffic, industry and high population density** are well-known factors associated with high dB levels, the inclusion of Moradabad appeared strange because similar studies in the past had never suggested it to be an unusually noisy city.

➢ The **first was Dhaka, Bangladesh** at a maximum value of 119 dB.

Why are Measurements of Noise Important?

➢ **Fulfil the WHO Guidelines:**

   ○ The latest 2018 **World Health Organization (WHO)** guidelines established a health-protective recommendation for road traffic noise levels of 53 dB.

➢ **Adverse Effects on Public Health:**

   ○ The **Frontiers report compiled a host of evidence**, including the adverse effects of noise on public health, which range from mild and temporary distress to severe and chronic physical impairment.

      • Estimates suggest that in **Europe 22 million and 6.5 million people suffer from chronic noise annoyance** and sleep disturbance, respectively.

      • The **elderly, pregnant women and shift workers** are among those at risk of noise-induced sleep disturbance.

      • **Noise-induced awakenings** can trigger a **range of physiological and psychological stress** responses because sleep is necessary for hormonal regulation and cardiovascular functioning.

• **Traffic noise exposure** is a **risk factor for the development of cardiovascular and metabolic disorders** such as elevated blood pressure, arterial hypertension, coronary heart disease and diabetes.

• **Long-term exposure to environmental noise contributes** to 48,000 new cases of ischemic heart disease and causes 12,000 premature deaths annually in Europe.

What is India Doing about Noise Pollution?

➢ The **Central Pollution Control Board (CPCB)** is mandated to track noise levels, set standards as well as ensure, via their State units, that sources of excessive noise are controlled.

➢ The **agency has a manual monitoring system** where sensors are installed in major cities and few cities have the facility to track noise levels in real time.

What are the Laws related to Noise Pollution in India?

➢ Noise pollution is regulated separately under the **Noise Pollution (Regulation and Control) Rules, 2000**.

   ○ Earlier, **noise pollution and its sources** were addressed under the **Air (Prevention and Control of Pollution) Act, 1981.**

➢ Additionally, **noise standards for motor vehicles, air-conditioners, refrigerators,** diesel generators and certain types of construction equipment are prescribed under the **Environment (Protection) Rules, 1986.**

➢ **Noise emanating from industry** is regulated by **State Pollution Control Boards/Pollution Control Committees (SPCBs/PCCs)** for states/Union territories under the Air (Prevention and Control of Pollution) Act, 1981.

Draft Indian Antarctic Bill 2022

Why in News?

Recently, the government has introduced the **'Antarctic Bill' in the Lok Sabha**, which **envisages regulating visits and activities to Antarctica** as well potential disputes that may arise among those present on the continent.

➢ The Bill is **applicable to Indian citizens as well as foreign citizens.**

Note:

➢ In October 2021, **India extended its support for protecting the Antarctic environment** and for co-sponsoring the proposal of the **European Union** for designating East Antarctica and the Weddell Sea as **Marine Protected Areas (MPAs).**

➢ Earlier, a 100-km long body of ice in Antarctica, which has been experiencing rapid melting, was formally **named Glasgow** after the Glasgow climate summit.

What are the Provisions under the Bill?

➢ **Regulate Visiting:**
  ○ The bill has listed **strict guidelines and a system of permits**, which will be issued by a government-appointed committee, without which any expedition or individual will not be allowed to enter Antarctica.
    ● The bill has **provision to establish a committee on Antarctic governance and environmental protection** to monitor, implement and ensure compliance with the relevant international laws, emissions standards and rules of protection.

➢ **Protecting Mineral Resources:**
  ○ The Bill further **prohibits drilling, dredging, excavation or collection of mineral resources** or even doing anything to identify where such mineral deposits occur.
    ● The only exception is for **scientific research with a permit.**

➢ **Protecting Native Plants:**
  ○ There will be strict **prohibition on damaging native plants; flying or landing helicopters or operating vessels** that could disturb birds and seals; using firearms that could disturb the birds and animals; remove soil or any biological material native to Antarctica; engage in any activity that could adversely change the habitat of birds and animals, or harm them.

➢ **Prohibition on introducing Birds not Native to Antarctica:**
  ○ Introduction of animals, birds, plants or **microscopic organisms** that are not native to Antarctica are also prohibited.
    ● **Violators can face imprisonment** as well as penalties.

➢ **Provisions for Indian Tour Operators:**
  ○ The Bill **also provides for Indian tour operators** to be able to operate in Antarctica after acquiring a permit.

○ There are **40 permanent research stations in Antarctica** of which two – **Maitri and Bharati** — are Indian.

What is the Objective of the Bill?

➢ To **provide a harmonious policy framework for India's Antarctic activities** through a well-established legal mechanism; facilitate activities of the Indian Antarctic programme, including management of Antarctic tourism and sustainable development of fisheries.

What is the Need of Such Law?

➢ **To Fulfill Provisions under the Antarctica Treaty:**
  ○ **India had been a signatory to the Antarctica Treaty since 1983** and that **encumbered India to specify a set of laws governing portions** of the continent where it had its research bases.
    ● The **Treaty made it mandatory for the 54 signatory countries to specify laws** governing territories on which their stations are located.

➢ **Preserve the Pristine Nature of the Continent:**
  ○ India is **also signatory to treaties such as the Convention on the Conservation of Antarctic Marine Living Resources** and the **Commission for Conservation of Antarctic Marine Living Resources**.
    ● Both the conventions **enjoin India to help preserve the pristine nature of the continent.**

What are the Key Highlights about Antarctica?

➢ Antarctica is **uninhabited except for those manning the nearly 40 permanent stations** established by several countries, including India, for carrying out scientific research.
  ○ India maintains **two research stations on the continent:** 'Maitri' (commissioned in 1989) at Schirmacher Hills and 'Bharati' (2012) at Larsemann Hills.
  ○ It has also **launched 41 scientific expeditions every year** thus far. Together with **'Himadri' station in Svalbard**, above the Arctic circle, India is among an **elite group of countries with multiple research** in the polar regions.

➢ Antarctica is **Earth's southernmost continent.** It contains the **geographic South Pole** and is situated in the **Antarctic region of the Southern Hemisphere.**

Note:

- At 14,000,000 square kilometers, it is the **fifth-largest continent.**
- The **Indian Antarctic Programme** is a multi-disciplinary, multi-institutional programme under the control of the National Centre for Antarctic and Ocean Research, Ministry of Earth Sciences.
- India officially **acceded to the Antarctic Treaty System in August 1983.**
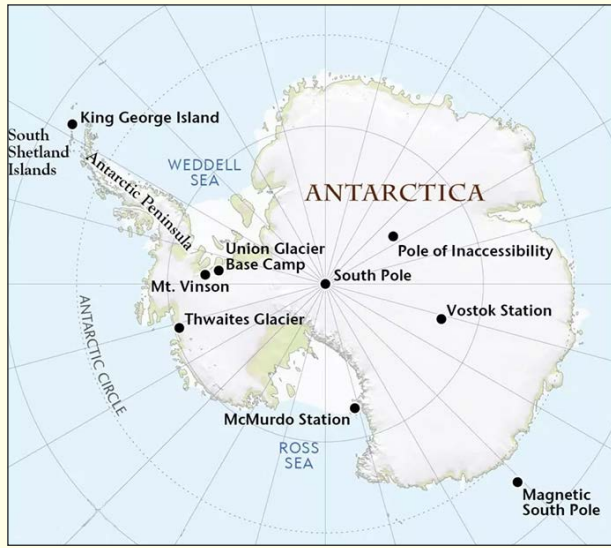
Dolphin Population in Chilika Lake

Why in News?

The dolphin population along **Odisha's coast and in its water bodies** has increased but the number of Irrawaddy dolphins in Chilika lake has fallen.

- A total of **six species of dolphins — Irrawaddy, bottlenose, humpback, striped, finless and spinner dolphins** — have been recorded.

What are Different Species of Dolphins?

- **About Irrawaddy Dolphins:**
  - **Habitat:** Irrawaddy dolphins are **found in coastal areas in South and Southeast Asia**, and in **three rivers:** the Ayeyarwady (Myanmar), the Mahakam (Indonesian Borneo) and the Mekong.
    - The Mekong River Irrawaddy dolphins inhabit a 118-mile stretch of the river between Cambodia and Lao PDR.

  - **Conservation Status:**
    - **IUCN Red List:** Endangered
    - **CITES:** Appendix I
    - **Wildlife Protection Act, 1972:** Schedule I
- **About Indo- Pacific Bottlenose Dolphins:**
  - **Habitat:** Indo-Pacific Bottlenose Dolphins generally occur in shallow coastal waters of the Indian Ocean, Southeast Asia and Australia.
  - **Conservation Status:**
    - **IUCN Red List:** Near Threatened
    - **CITES:** Appendix II
- **About Indian Ocean Humpback Dolphins:**
  - **Habitat:** The Indian Ocean Humpback Dolphin occurs within the Indian Ocean from South Africa to India.
  - **Conservation Status:**
    - **IUCN Red List:** Endangered
    - **CITES:** Appendix I
    - **Wildlife Protection Act, 1972:** Schedule I
- **About Striped Dolphins:**
  - **Habitat:** The striped dolphin inhabits temperate or tropical, off-shore waters.
    - It is found in abundance in the North and South Atlantic Oceans, including the Mediterranean and Gulf of Mexico, the Indian Ocean, and the Pacific Ocean.
  - **Conservation Status:**
    - **IUCN Red List:** Least Concern
    - **CITES:** Appendix II
- **About Finless Dolphins:**
  - **Habitat:** The finless porpoise originally inhabited salt water niches along the coast of the Indo-Pacific Ocean.
  - **Conservation Status:**
    - **IUCN Red List:** Critically Endangered
    - **CITES:** Appendix I
- **About Spinner Dolphin:**
  - **Habitat:** The spinner dolphin is a small dolphin found in off-shore tropical waters around the world.
    - It is famous for its acrobatic displays in which it rotates around its longitudinal axis as it leaps through the air.
  - **Conservation Status:**
    - **IUCN Red List:** Least Concern
    - **CITES:** Appendix II

Note:

Chilika Lake

➢ Chilika is **Asia's largest and world's second largest lagoon.**

➢ It **lies on the east coast of India in the state of Odisha**, separated from the mighty Bay of Bengal by a small strip of sand.

➢ It spreads over Puri, Khurda and Ganjam districts of Odisha on the east coast of India, at the mouth of the Daya River, flowing into the Bay of Bengal, covering an area of over 1,100 square kilometers.

➢ It is the **largest wintering ground for migratory birds** on the Indian sub-continent and is home to a number of threatened species of plants and animals.

➢ In 1981, Chilika Lake was designated the **first Indian wetland of international importance** under the **Ramsar Convention**.

➢ Major attraction at Chilika is **Irrawaddy dolphins** which are often spotted off Satapada Island.

➢ The **large Nalabana Island (Forest of Reeds)** covering about 16 sq km in the lagoon area was declared **a bird sanctuary** in 1987.

➢ **Kalijai Temple** - Located on an island in the Chilika Lake.

Two New Geological Heritage Sites

Why in News?

Recently, **Geological Survey of India (GSI)** has identified t**wo geological heritage sites in the Indian Himalayan Region of India.**

➢ The sites identified are **Siwalik Fossil Park, Himachal Pradesh** and **Stromatolite bearing Dolomite / Limestone of Buxa Formation of Buxa Formation, Sikkim.**

➢ With inclusion of these two sites, there are **34 Geological Heritage Sites in India.**

➢ Earlier, the GSI **identified certain geological sites across the Northeast** for promotion of geo-tourism.

What are the Key Points?

➢ **Siwalik Fossil Park (Himachal Pradesh):** The Siwalik Fossil park displays a rich collection of vertebrate fossils recovered from the Siwalik rocks of the area of Plio-Pleistocene age **(2.6 million to 11,700 years ago).**

○ The deposition of Siwalik sediments took place in the narrow linear depression, called the 'fore deep', which started developing in front of the Himalayas since the inception of its uplift in the middle **Miocene (23 million years to 2.6 million years ago).**

➢ **Stromatolite bearing Dolomite / Limestone of Buxa Formation of Buxa Formation (Sikkim):** This Geoheritage site at Mamley exposes lithounits of Buxa Formation, Daling Group of Proterozoic age **(2.5 billion years to 541 million years ago).**

○ The dolostones (sedimentary rock) are profusely stromatolitic (Precambrian algal structures). This site provides one of the rare examples of early life in Sikkim Himalaya.

○ The Precambrian is the **earliest of the geologic ages,** which are marked by different layers of sedimentary rock.

What are Geo-heritage Sites?

➢ Geo-heritage refers to the geological features which are inherently or culturally **significant offering insight to earth's evolution or history to earth science** or that can be utilized for education.

➢ **Geological Survey of India (GSI) is the parent body** which is making efforts towards identification and protection of geo-heritage sites/national geological monuments in the country.

Geological heritage site/ National geological monument	
ANDHRA PRADESH	➢ Volcanogenic bedded Barytes, Mangampeta, Cuddapah Dist.
	➢ Eparchaean Unconformity, Chittor Dist.
	➢ Natural Geological Arch, Tirumala Hills, Chittor Dist.
	➢ Erra Matti Dibbalu- the dissected and stabilized coastal red sediment mounds located between Vishakhapatnam and Bhimunipatnam.
KERALA	➢ Laterite near Angadipuram PWD rest house premises, Malapuram Dist.
	➢ Varkala Cliff Section, Thiruvanatapuram Dist.

Note:

TAMILNADU	➢ Fossil wood near Tiruvakkarai, South Arcot Dist.
	➢ National fossil wood park, Sattanur, Tiruchirapalli Dist.
	➢ Charnockite, St. Thomas Mount, Madras.
	➢ Badlands of Karai Formation with Cretaceous fossils along Karai – Kulakkalnattam Section, Perambalur District.
MAHARASHTRA	➢ Lonar Lake, Buldana Dist.
GUJARAT	➢ Sedimentary Structures – Eddy Markings, Kadan Dam, Panch Mahals Dist.
RAJASTHAN	➢ Sendra Granite, Pali Dist.
	➢ Barr Conglomerate, Pali Dist.
	➢ Stromatolite Fossil Park, Jharmarkotra Rock Phosphate deposit, Udaipur Dist.
	➢ Gossan in Rajpura-Dariba Mineralised belt, Udaipur Dist.
	➢ Stromatolite Park near Bhojunda, Chittaurgarh Dist.
	➢ Akal Fossil Wood Park, Jaisalmer Dist.
	➢ Kishangarh Nepheline Syenite, Ajmer Dist.
	➢ Welded Tuff, Jodhpur Dist.
	➢ Jodhpur Group – Malani Igneous Suite Contact, Jodhpur Dist.
	➢ Great Boundary Fault at Satur, Bundi Dist.
KARNATAKA	➢ Columnar Lava, St Mary Island Udupi Dist.
	➢ Pillow lavas near Mardihalli, Chitradurga Dist.
	➢ Peninsular Gneiss, Lalbagh, Banglore
	➢ Pyroclastics & Pillow lavas, Kolar Gold fields, Kolar Dist.
CHATTISGARH	➢ Lower Permian Marine bed at Manendragarh, Surguja Dist.
HIMACHAL PRADESH	➢ Siwalik Fossil Park, Saketi, Sirmur dt.,

ODISHA	➢ Pillow Lava in Iron ore belt at Nomira, Keonjhar dist.
JHARKHAND	➢ Plant Fossil bearing Inter-trappean beds of Rajmahal Formation, upper Gondwana sequence around Mandro, Sahibganj dist.
NAGALAND	➢ Nagahill Ophiolite Site near Pungro,
SIKKIM	➢ Stromatolite bearing Dolomite / Limestone of Buxa Formation at Mamley, near Namchi, South district.

Global Wind Report 2022

Why in News?

Recently, the **Global Wind Report for 2022** was published by the **Global Wind Energy Council (GWEC).**

➢ GWEC was established in 2005 to **provide a credible and representative forum** for the entire wind energy sector at an international level.

What are the Key Highlights of the Report?

➢ **Wind Energy Installations Must Quadruple Every Year:**
  ○ Wind energy installations **every year across the world must quadruple from the 94 GW (Gigawatt) installed in 2021** within this decade to meet the global climate targets.
    ● Without the necessary amplification, restricting global warming over pre-industrial levels to 1.5 degrees Celsius — a target set by the **Paris Agreement** — and achieving **Net Zero emissions** by 2050 may become difficult.

➢ **Capacity Installed in 2021:**
  ○ New installations of 93.6 GW in 2021 brought global cumulative wind energy capacity to 837 GW, a Year-on-Year (YoY) growth of 12%.
  ○ The **onshore wind market** added 72.5 GW worldwide. That is 18% lower than the previous year **due to a slowdown in China and the US, the world's two largest wind markets.**
  ○ The **offshore wind market** enjoyed its best ever year in 2021, with 21.1GW commissioned.

Note:

- ➢ **New offshore installations likely to Decline:**
  - ○ New offshore installations in 2022 are likely to decline to the 2019/2020 levels.
    - Decline will be primarily **due to the reduction of installations in China.**
  - ○ However, **market growth is expected to regain momentum from 2023,** eventually passing the 30GW-mark in 2026.
- ➢ **Offshore Wind Energy Generation Increases Return:**
  - ○ Offshore wind energy generation **increases return on investment,** along with reducing **greenhouse gas emissions.**
  - ○ Carbon dioxide emissions can reduce by 0.3-1.61 gigatonnes every year by 2050 if offshore wind energy generation is scaled up.

What are the Challenges to Growth of the Wind Energy Sector?

- ➢ **Inconsistent policy environments** focused on short-term political aims.
- ➢ **Badly designed markets** which do not enable bankable renewable energy projects.
- ➢ Infrastructure and transmission bottlenecks.
- ➢ **A lack of adequate industrial and trade policies** related to renewable technologies
- ➢ Hostile political or misinformation campaigns.

What is the Scope of the Wind Energy Sector in India?

- ➢ In India, more than **1.4 GW of wind was installed in 2021**, exceeding the 1.1 GW of installations during the previous year.
- ➢ The Government has **set a target of installing 5 GW of offshore capacity by 2022 and 30 GW by 2030**.
  - ○ India is yet to develop its offshore wind energy facility.
- ➢ India can **generate 127 GW of offshore wind energy** with its 7,600 km of coastline.
  - ○ **Onshore wind energy** refers to turbines that are located on land and use wind to generate electricity.
  - ○ **Offshore wind energy** is the energy generated from the wind at sea.
- ➢ The Indian wind market outlook for 2022 and 2023 is projected at 3.2 GW and 4.1 GW of onshore wind installations, respectively.

What are the Related Initiatives?

- ➢ **National Wind-Solar Hybrid Policy:** The main objective of the National Wind-Solar Hybrid Policy, 2018 is to provide a framework for promotion of large grid connected wind-solar PV hybrid systems for optimal and efficient utilization of wind and solar resources, transmission infrastructure and land.
- ➢ **National Offshore Wind Energy Policy:** The National Offshore wind energy policy was notified in October 2015 with an objective to develop the offshore wind energy in the Indian **Exclusive Economic Zone (EEZ)** along the Indian coastline of 7600 km.

Coastal Erosion

Why in News?

Recently, the Ministry of Earth Sciences informed the Lok Sabha that of the 6,907.18 km long Indian coastline of the mainland, a significant area is under varying degrees of **Coastal erosion.**

- ➢ **About 34% is under varying degrees of erosion,** while 26% of the coastline is of an accreting nature, and the remaining 40% is in a stable state.
- ➢ **West Bengal suffered erosion along about 60.5% of the coast** (323.07 km) over the period from 1990 to 2018. This is followed by Kerala (46.4%) and Tamil Nadu (42.7%) respectively.
- ➢ Earlier, the **Indian National Centre for Ocean Information Services (INCOIS)** had prepared and published an atlas of **Coastal Vulnerability Index (CVI)** maps for the entire coastline of India.

What is Coastal Erosion?

- ➢ **About:**
  - ○ Coastal erosion is **the process by which local sea level rise, strong wave action, and coastal flooding wear down or carry away** rocks, soils, and/or sands along the coast.
    - **Erosion and Accretion:** Erosion and accretion are complementary to each other. If the sand and sediments have drifted from one side, it must accumulate somewhere else.
    - Soil erosion is the loss of land and human habitation as sea water washes off regions of soil along the coastline.

Note:

- Soil accretion, on the other hand, results in an increase in the land area.

> **Impact:**
  - Recreational activities (sun bathing, picnicking, swimming, surfing, fishing, boating, diving, etc.) may be affected **if existing beaches are reduced in width or disappear altogether.** Also, there can be an impact on livelihoods of coastal communities.

> **Measures:**
  - Coastal habitats such as **Mangroves, Coral Reefs** and **lagoons are recognized as the best defense against sea storms and erosion**, deflecting and absorbing much of the energy of sea storms. Therefore, it is important to maintain these natural habitats for shore protection as well as for environmental conservation.

What features does coastal erosion cause?
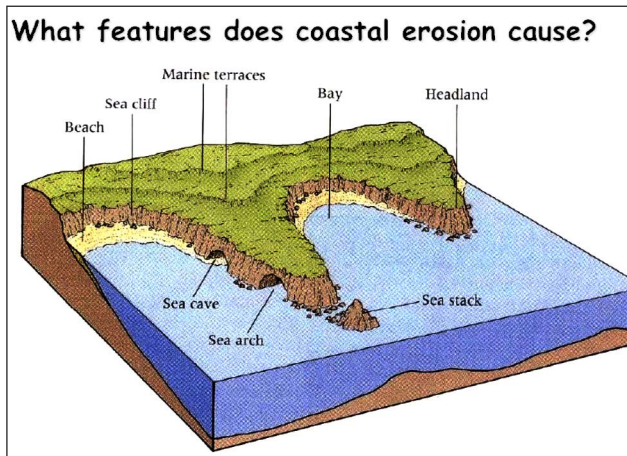
What are the Factors causing Coastal Erosion?

NATURAL	ARTIFICIAL
a) Action of breaking waves	a) Construction of unplanned structures
b) Effect of severe cyclonic storms	b) Reduction of sediment supply due to damming of rivers
c) Rise in sea level	c) Removal of sand from beaches
d) Deflation	d) Dredging of inlet channels
e) Tidal current	e) Unplanned reclamation

> **Natural Phenomena:**
  - Wave energy is considered to be the primary reason for coastal erosion.
  - Natural hazards like cyclones, thermal expansion of seawater, storm surges, tsunami etc due to the melting of continental glaciers and ice sheets as a result of climate change hamper the natural rhythm and precipitate erosion.

> **Littoral Drift:**
  - Strong littoral drift resulting in sand movement can also be considered as one of the major reasons for coastal erosion.

- Littoral drift means the natural movement of sediment along marine or lake shorelines by wave action in response to prevailing winds.

> **Anthropogenic Activities:**
  - Dredging, sand mining and coral mining have contributed to coastal erosion causing sediment deficit, modification of water depth leading to longshore drift and altered wave refraction.
    - Coastal erosion has been sparked by fishing harbours and dams constructed in the catchment area of rivers and ports reducing the flow of sediments from river estuaries.

What are the Indian Initiatives for Coastal Management?

> **National Centre for Sustainable Coastal Management:**
  - It aims to promote integrated and sustainable management of the coastal and marine areas in India for the benefit and wellbeing of the traditional coastal and island communities.

> **Integrated Coastal Zone Management Plan:**
  - It is a process for the management of the coast using an integrated approach, regarding all aspects of the coastal zone, including geographical and political boundaries, in an attempt to achieve sustainability.

> **Coastal Regulation Zone:**
  - The Coastal Regulation Zone (CRZ) notification was issued in 1991 under the Environmental Protection Act, 1986, by theMinistry of Environment, Forest and Climate Change to regulate activities in coastal areas of India.

What are the Methods for Coastal Protection?

> Artificial Beach Nourishment

> Protective Structures: Seawalls, Revetments.

> Structures to Trap Sediment Movement.

> Combination of Artificial Beach Nourishment & Structures.

> Control of Beach Groundwater Table or Beach Dewatering System.

> Vegetation Planting.

> Use of Geo-synthetic Tubes/Bags.

Note:

Biogas Energy

Why in News?

Recently, the Noida authority announced that they might shift the plant to another location that was supposed to be the site for a Sewage Treatment Plant (STP) after residents protested against the setting up of an **Automatic Compressed Biogas (CBG) plant.**

What is Biogas?

➢ It mainly comprises **hydro-carbon which is combustible** and can produce heat and energy when burnt.

➢ Biogas is produced through a **biochemical process** in which certain types of bacteria **convert the biological wastes into useful bio-gas.**

➢ Since the useful gas originates from a biological process, it has been termed as bio-gas.

   ❍ **Methane gas** is the main constituent of biogas.
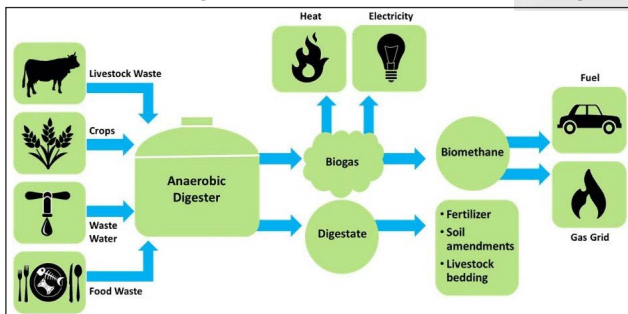
What are the Issues Related to Biomass?

➢ **Pollution:**

   ❍ Pollution caused by **burning wood, fossil fuels and other materials** (like refuse-derived fuel utilised in waste-to-energy plants) to produce energy for cooking, heating and lighting is **one of the major roadblocks to improving health and quality of life for people.**

   ❍ Pollutants emitted due to the burning of fossil fuels and biomass not only affect the health of people but are **also responsible for climate change.**

➢ **Waste Generation:**

   ❍ Every year, **India generates almost 62 million tonnes of Municipal Solid Waste (MSW)**, roughly half of which is organic in nature.

   ❍ This **organic fraction of MSW decomposes to produce methane**, when disposed improperly like in landfills.

➢ **Disposing of organic wastes in landfills or burning trash** is an environmental as well as health hazard. Apart from causing **Greenhouse Gas (GHG) emissions**, such unscientific waste disposal leads to diseases like **dengue fever** and **malaria.**

➢ **Caused Health Hazard:**

   ❍ Many **chronic illnesses like asthma, emphysema, cancer and heart disease** have also been linked to **air pollution** by numerous studies.

What is the Significance of Biogas Adoption?

➢ **Pollution Free Cities:**

   ❍ The biogas solution can **help make our cities clean and pollution-free.**

      ● Leaching of toxic substances from landfills contaminates the groundwater.

      ● Decomposing organic matter releases huge amounts of methane into the environment, causing air pollution and global warming as methane is a very potent GHG.

➢ **Handling Organic Waste:**

   ❍ Installing large-scale municipal biogas systems **can help cities handle organic waste efficiently to overcome the environmental and socio-economic challenges** posed by overburdened landfills.

   ❍ Municipal waste can be **fed into these plants to create clean and green fuel,** along with biofertilizers, while keeping the cities clean and hygienic.

➢ **Helpful for Women:**

   ❍ Switching to biogas **could be good for women** because they won't be exposed to **harmful smoke and pollution.**

      ● Over **four million people die every year** all over the world due to high levels of indoor air pollution caused by the burning of fossil fuels and biomass.

      ● The **female members of a household are affected by indoor pollution** as they spend more time inside the house.

➢ **Will Transform Energy Dependence:**

   ❍ Biogas **can play a critical role in transforming the energy dependence** of rural and agricultural communities, which majorly depends on burning wood, dung, charcoal, coal and other fossil fuels for their energy needs.

Note:

- Only 26.53% of the total power generated in India is from **renewable sources.**
- The high dependence on non-renewable sources is the leading cause of the long-standing energy problems in the country.

➢ **Addresses Handling of Livestock Manure:**
  ○ Installing biogas plants at the **micro- and macro-level can address the critical issues of handling livestock manure and agricultural wastes**, deteriorating soil quality, **water pollution** and **deforestation.**

➢ **Reduces Carbon Dioxide Emissions:**
  ○ A fully functional biogas digester, for every tonne of feedstock processed, **can reduce approximately 2.83 tonnes of carbon dioxide emissions in a year.**
  ○ Using biogas digesters to convert organic waste into clean energy **can significantly contribute to countering challenges like pollution, climate change, livelihood inequalities** and health in individual households as well as entire communities.

➢ **Will Improve Soil Quality:**
  ○ The **digestate**, a by-product generated in the biogas plants, can be used as a biofertilizer as it is rich in organic content and revitalises the soil.
    - The digestate is rich **in micro- and macro-nutrient**s required by the plants and can **replace the synthetic fertilisers** that deteriorate the soil quality over time.

➢ **Reduce Gender Inequalities:**
  ○ Biogas can also **help in reducing gender inequalities** and empowering women, which, in turn, will improve the quality of lives.
  ○ As rural households gain access to biogas as cooking fuel, **women and girls** do not need to spend time collecting firewood and other fuel and can utilise this spare time for **education, acquiring new skills, and community work.**
  ○ Acquiring new skills will eventually **enable them to have access to new employment and business opportunities** that help them to be financially independent and have more decision-making power in the household.

➢ **Can be Helpful in Achieving SDG Goal:**
  ○ Biogas can **significantly contribute to achieving several UN-mandated Sustainable Development Goals (SDG)** such as zero hunger; good health and wellbeing; gender equality; clean water and sanitation; sustainable, affordable and clean energy; decent work and economic growth; reduced inequalities; sustainable cities and communities; and climate action.

What are the Related Initiatives taken by the Government?

➢ **SATAT :**
  ○ SATAT stands for **Sustainable Alternative Towards Affordable Transportation.**
  ○ It is an initiative with the objective of **setting up Compressed Biogas production plants,** and make it available for market use for automotives by inviting expression of interest through potential investors.

Managing Forest Fires in a Changing Climate

Why in News?

According to a study(Managing Forest Fires in a Changing Climate) released by the **Council on Energy, Environment and Water (CEEW),** the **frequency and intensity of forest fires, as well as the number of months in which such fires occur, have increased** in the past two decades.

➢ CEEW is an independent, non-partisan, one of Asia's leading not-for-profit policy research institutions, devoted to research on all matters affecting the use, reuse, and misuse of resources.

What are the Forest Fires?

➢ Also called **bush or vegetation fire or wildfire, it can be described as any uncontrolled and non-prescribed combustion or burning of plants** in a natural setting such as a forest, grassland, brush land or tundra, which consumes the natural fuels and spreads based on environmental conditions (e.g., wind, topography).

➢ Forest Fires **can be incited by human actions, such as land clearing**, extreme drought or in rare cases by **lightning.**

➢ There are three conditions that need to be present in order for a wildfire to burn: f**uel, oxygen, and a heat source.**

Note:

What are the Findings?

➤ **Increase in Forest Fires:**

○ There has been **a ten-fold increase in forest fires in the past two decades**, and more than 62% of Indian states are prone to high-intensity forest fires.

○ Andhra Pradesh, Assam, Chhattisgarh, Odisha and Maharashtra **are the most prone to high-intensity forest fire events** caused by rapid **change in climate.**

○ **Mizoram has had the highest number of forest fire incidences** in the last two decades, with more than 95% of its districts being forest fire hotspots.

○ **Districts that were earlier flood prone have now become drought prone** due to a "swapping trend" as a result of climatic changes.

○ **More than 75 % of Indian districts are extreme climate event hotspot**s, and more than 30 % of districts are extreme forest fire hotspots.

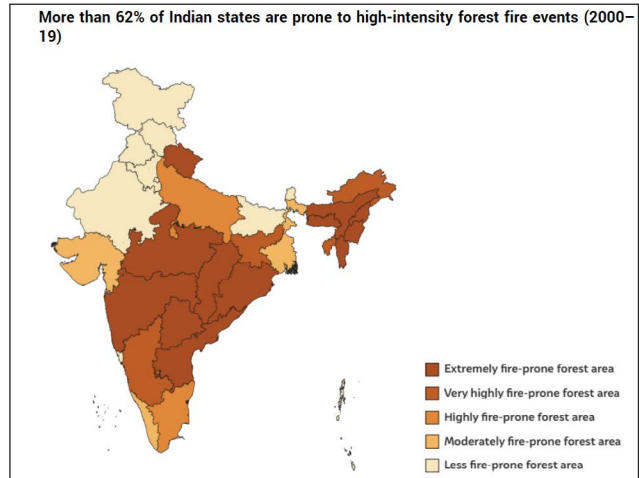| Forest fire hotspot states and districts in order of proneness (highest to lowest)		
Decade(s)	**State hotspots**	**District hotspots**
2000–19	Andhra Pradesh, Assam, Chhattisgarh, Odisha, Maharashtra, Madhya Pradesh, Manipur, Mizoram, Nagaland, Uttarakhand	Dima Hasao, Lunglei, Lawangtalai, Mamit, Harda, Jabalpur, Hoshangabad, Narayanpur, Udham Singh Nagar, Kandhamal, Garhchiroli

➤ **More Incidences in the Northeast:**

○ Most of the **NER (northeastern region)** are witnessing an increased frequency of forest fire incidences in recent decades.

○ Despite the NER being a rain-fed area, it is witnessing more forest fire incidences during increased dry spells across March-May and due to the muddled rainfall distribution pattern.

➤ **Prolonged Duration of Incidences:**

○ Earlier, forest fires would take place **during the summer months**, that is between May and June. **Now, during spring, between March and May, because of climatic changes**.

○ The duration that forest fires could take place was two to three months **earlier, but it is now nearly six months.**

● A **Forest Survey of India report** in 2019 found that 36 % of forest cover in India falls in zones that are prone to forest fires.

More than 62% of Indian states are prone to high-intensity forest fire events (2000–19)

Legend:
- Extremely fire-prone forest area
- Very highly fire-prone forest area
- Highly fire-prone forest area
- Moderately fire-prone forest area
- Less fire-prone forest area

What is the Recent Data on Forest Fires?

➤ A total of **381 forest fires have been reported in India by 30th March, 2022,** according to the **Forest Survey of India.** Madhya Pradesh has recorded the highest number of fires at 133.

○ In March 2022, significant forest fires were reported in states such as Uttarakhand, Madhya Pradesh and Rajasthan.

➤ The **recent fire at Rajasthan's Sariska Tiger Reserve** was also considered to have been unseasonal, with high temperatures exacerbating the spread of the fire.

➤ January 2021 saw prolonged fires in Uttarakhand, Himachal Pradesh (Kullu Valley) and Nagaland-Manipur border (**Dzukou Valley**)

➤ Recent fires also include those in **Bandhavgarh Forest Reserve in Madhya Pradesh**.

What are the Recommendations of CEEW?

➤ **Recognise as a Disaster:**

○ The forest fires should be treated as **"natural disasters" and be brought under the National Disaster Management Authority.**

○ Moreover, by designating forest fires as natural disasters, the**re will also be a financial allotment made to manage them**.

➤ **Develop Alert system:**

○ A **forest fire only alert system** needs to be developed that can provide real time impact-based alerts.

Note:

drishti

- ➢ **Enhance Adaptive Capacity:**
  - ○ Capacity-building initiatives targeted at district administrations and forest-dependent communities can avert the extent of loss and damage due to forest fires.
- ➢ **Provide Clean Air Shelters:**
  - ○ The state government/state forest departments (SFDs) should **repurpose public buildings like government schools and community halls by fitting them with clean air solutions** – like air filters – to create clean air shelters for communities worst impacted by fires and smoke from forest fires.

> **What are the Efforts to Mitigate Forest Fires?**
> - ➢ Since 2004, the FSI (Forest Survey of India) developed the **Forest Fire Alert System to monitor forest fires in real time.**
>   - ○ In its advanced version launched in January 2019, the system now uses satellite information gathered from **NASA** and **ISRO.**
> - ➢ **National Action Plan on Forest Fires (NAPFF)** 2018 and Forest Fire Prevention and Management Scheme.

District Ganga Committees and Namami Gange

Why in News?

The Ministry of Jal Shakti has launched the **'Digital Dashboard for District Ganga Committees (DGCs) Performance Monitoring System' (GDPMS) under Namami Gange Programme**.

- ➢ The Digital Dashboard has been devised to help the DGCs in **enhancing people-river connections.**

What are District Ganga Committees?

- ➢ District Ganga Committees were constituted in the districts on the **Ganga River basin** for putting in place a mechanism at the district level to ensure people's participation in management and pollution abatement in river Ganga and its tributaries.
- ➢ The DGCs are mandated to ensure proper utilization of assets created under Namami Gange, monitor drains/sewage falling in River Ganga and its tributaries, and create a strong connect of people with Ganga rejuvenation.

What is Namami Gange?

- ➢ Namami Gange Programme **is an Integrated Conservation Mission, approved as a 'Flagship Programme'** by the Union Government in June 2014 to accomplish the twin objectives of effective abatement of pollution and conservation and rejuvenation of National River Ganga.
- ➢ It is being **operated under the Department of Water Resources, River Development and Ganga Rejuvenation, Ministry of Jal Shakti.**
- ➢ The program is being implemented by the **National Mission for Clean Ganga (NMCG),** and its state counterpart organizations i.e State Program Management Groups (SPMGs).
- ➢ NMCG is the implementation wing o**f National Ganga Council** (set in 2016; which replaced the National Ganga River Basin Authority - NGRBA).
- ➢ It has a Rs. 20,000-crore, centrally-funded, non-lapsable corpus and consists of nearly 288 projects.
- ➢ **The main pillars of the programme are:**
  - ○ Sewage Treatment Infrastructure
  - ○ River-Front Development
  - ○ River-Surface Cleaning
  - ○ Biodiversity
  - ○ Afforestation
  - ○ Public Awareness
  - ○ Industrial Effluent Monitoring
  - ○ Ganga Gram

> **What are the Related Initiatives?**
> - ➢ **Ganga Action Plan:** It was the first River Action Plan that was taken up by the Ministry of Environment, Forest and Climate Change in 1985, to improve the water quality by the interception, diversion, and treatment of domestic sewage.
>   - ○ The National River Conservation Plan is an extension to the Ganga Action Plan. It aims at cleaning the Ganga river under Ganga Action Plan phase-2.
> - ➢ **National River Ganga Basin Authority (NRGBA):** It was formed by the Government of India in the year 2009 under Section-3 of the Environment Protection Act, 1986.
>   - ○ It declared the Ganga as the 'National River' of India.

➢ **Clean Ganga Fund:** In 2014, it was formed for cleaning up of the Ganga, setting up of waste treatment plants, and conservation of biotic diversity of the river.

➢ **Bhuvan-Ganga Web App:** It ensures involvement of the public in monitoring of pollution entering into the river Ganga.

➢ **Ban on Waste Disposal:** In 2017, the **National Green Tribunal** banned the disposal of any waste in the Ganga.

What is the Ganga River System?

➢ The headwaters of the Ganga called the 'Bhagirathi' are fed by the Gangotri Glacier and joined by the Alaknanda at Devprayag in Uttarakhand.

➢ At Haridwar, Ganga emerges from the mountains to the plains.

➢ The Ganga is joined by many tributaries from the Himalayas, a few of them being major rivers such as the Yamuna, the Ghaghara, the Gandak and the Kosi.

Air Quality Database 2022: WHO

Why in News?

Ahead of the **World Health Day (7th April)**, the **World Health Organisation (WHO)** has released **Air Quality Database 2022,** which shows that Almost the entire global population (99%) breathes air **that exceeds WHO's air quality limits.**

➢ The WHO for the first time has taken **ground measurements of annual mean concentrations** of nitrogen dioxide (NO_2). It also **includes measurements of Particulate Matter** with diameters equal or smaller than 10 µm (PM10) or 2.5 µm (PM2.5).

➢ The findings have prompted **WHO to highlight the importance of curbing fossil fuel use and taking other tangible steps** to reduce air pollution levels.

➢ Earlier, in the **2021 World Air Quality Report** released by IQAir (a Swiss group), India was home to 11 of the 15 most polluted cities in Central and South Asia in 2021.

What are the Findings?

➢ **Unhealthy Air:** More than 6,000 cities in 117 countries are now monitoring air quality but their residents are still breathing unhealthy levels of fine particulate matter and nitrogen dioxide, while people in low and middle-income countries suffer the highest exposure.

➢ **Increased Collection of Data:** As many as 2,000 more cities and human settlements are now recording ground monitoring data for particulate matter, PM10 and/or PM2.5, than in the last update (2018).

○ This marks an almost sixfold rise in reporting since the database was first made in 2011.

➢ **Impact of Air Pollution:** Meanwhile, evidence base for the damage air pollution does to the human body has been growing rapidly and points to significant harm caused by even low levels of many air pollutants.

○ Particulate matter, especially **PM 2.5, is capable of penetrating deep into the lungs and entering the bloodstream**, causing **Cardiovascular**, Cerebrovascular (stroke) and **Respiratory Impacts**.

○ NO_2 is associated with respiratory diseases, particularly asthma, leading to respiratory symptoms (such as coughing, wheezing or difficulty breathing), hospital admissions and visits to emergency rooms.

➢ **Compliance with WHO Air Quality Guidelines:** In the 117 countries monitoring air quality, the air in 17% of cities in high-income countries falls below WHO's air quality guidelines for PM 2.5 or PM 10.

○ In low and middle-income countries, air quality in less than 1% of the cities complies with WHO recommended thresholds.

What are the WHO's New Air Quality Guidelines?

➢ The 2021 guidelines **recommend new air quality levels to protect the health of populations, by reducing levels of key air pollutants**, some of which also contribute to climate change.

➢ By striving to achieve these guideline levels, **countries will be both protecting health as well as mitigating global climate change.**

➢ WHO move **sets the stage for eventual shifts in policy in the government towards evolving newer stricter standards.**

➢ WHO's **new guidelines recommend air quality levels for 6 pollutants**, where evidence has advanced the most on health effects from exposure.

○ 6 classical pollutants include particulate matter (PM 2.5 and 10), ozone (O_3), nitrogen dioxide (NO_2) sulfur dioxide (SO_2) and carbon monoxide (CO).

Note:

New WHO Global Air Quality Guidelines

Pollutant		Time	2005 levels	New 2021 levels
$PM_{2.5}$	Particulate matter < 2,5 microns	Annual	10	5
		24-hour	25	15
PM_{10}	Particulate matter <10 microns	Annual	20	15
		24-hour	50	45
O_3	Ozone	Peak season	-	60
		8-hour	100	100
NO_2	Nitrogen dioxide	Annual	40	10
		24-hour	-	25
SO_2	Sulfur dioxide	24-hour	20	40
CO	Carbon monoxide	24-hour	-	4

What are the Suggestions to Improve Air Quality and Health?

➢ Adopt or revise and implement **national air quality standards according to the latest WHO Air Quality Guidelines.**

➢ **Monitor air quality** and **identify sources** of air pollution.

➢ **Support the transition to exclusive use of clean household energy** for cooking, heating and lighting.

➢ **Build safe and affordable public transport systems** and pedestrian- and cycle-friendly networks

➢ **Implement stricter vehicle emissions and efficiency standards**; and enforce mandatory inspection and maintenance for vehicles.

➢ **Invest in energy-efficient housing** and power generation

➢ **Improve industry and municipal waste** management

➢ **Reduce agricultural waste incineration**, forest fires and certain agro-forestry activities (e.g. charcoal production)

➢ **Include air pollution in curricula for health professionals** and providing tools for the health sector to engage.

# IPCC: Part Three of Sixth Assessment Report

Why in News?

Recently, the **United Nations'** climate science body, the **Intergovernmental Panel on Climate Change (IPCC)** published the third part of its **Sixth Assessment Report (AR6)**.

➢ This **second part** of the report was **published in March 2022** which was **about climate change impacts, risks and vulnerabilities, and adaptation options.**

➢ The first part of this report, on the physical science of climate change was published in 2021. It had **warned that 1.5 degree Celsius warming was likely to be achieved** before 2040 itself.

What are the Key Findings of the Report?

➢ **GreenHouse Gas Emissions:**

○ In 2019, global net anthropogenic **Greenhouse gas (GHG)** emissions were at **59 Gigatonnes of carbon dioxide equivalent (GtCO$_2$e),** 54% higher than in 1990.

● **Net emissions** refer to emissions accounted for after deducting emissions soaked up by the world's forests and oceans.

● **Anthropogenic emissions** refer to emissions that originate from human-driven activities like the burning of coal for energy or cutting of forests.

○ This emissions growth has been driven mainly by CO_2 emissions from the burning of fossil fuels and the industrial sector, as well as methane emissions.

○ But the average annual rate of **growth slowed to 1.3% per year in the period 2010-19, compared to 2.1% per year in the period 2000-09.**

○ At least 18 countries have reduced GHG emissions for longer than 10 years on a continuous basis due to decarbonisation of their energy system, energy efficiency measures and reduced energy demand.

Global net anthropogenic emissions have continued to rise across all major groups of greenhouse gases.
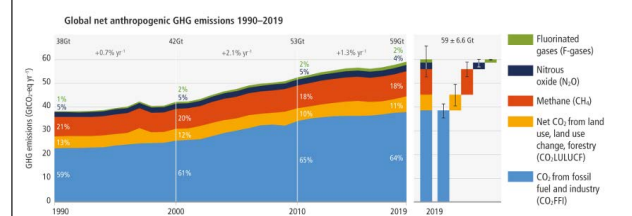
➢ **Emission by the Least Developed Countries:**

○ Carbon inequality remains pervasive as ever with **Least Developed Countries** (LDCs) emitting only **3.3% of global emissions in 2019.**

○ Their average per capita emissions in the period 1990-2019 were only 1.7 tonnes **CO$_2$e**, compared to the global average of 6.9 **tCO$_2$e**.

○ LDCs contributed less than 0.4% of total historical CO_2 emissions from fossil fuels and industry in the period 1850-2019.

○ Globally, **41% of the world's population lived in countries emitting less than 3 tCO2e per capita in 2019.**

Historical cumulative net anthropogenic CO_2 emissions per region (1850–2019)

Net anthropogenic GHG emissions per capita and for total population, per region (2019)
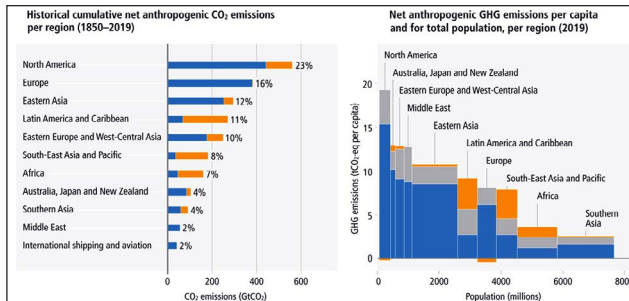
➢ **Pledges to the Paris Agreement**:

○ Upon adding up the NDCs announced by countries till October 2021, the IPCC finds that it is likely that warming will exceed 1.5 degrees Celsius (°C) in this century, thereby failing the **Paris Agreement's mandate.**

● Current pledges made by countries who have signed the **Paris Agreement** are known as **Nationally Determined Contributions (NDCs)**.

○ The CO_2 emissions from existing and planned fossil fuel infrastructure — coal, oil, and gas — contribute greatly to this projected failure.

Median global warming across scenarios in categories C1 to C8
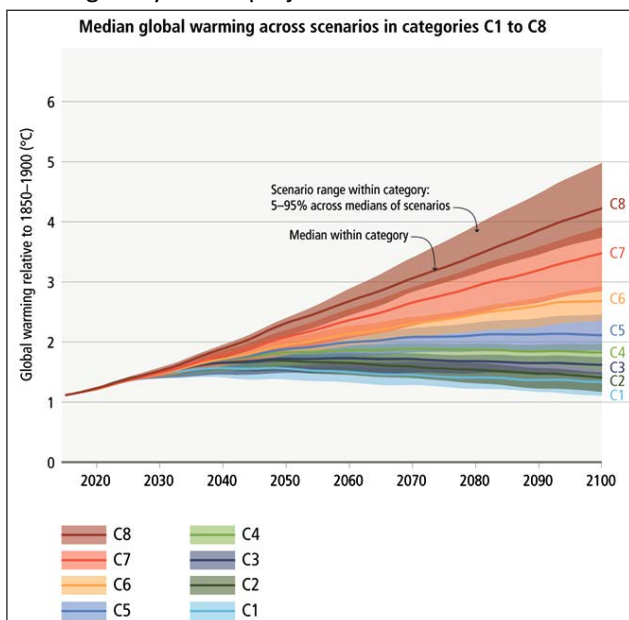
○ In its **best-case scenario**, known as the **C1 pathway,** the IPCC outlines what the world needs to do to limit temperatures to 1.5°C, with limited or no 'overshoot'.

● **Overshoot** refers to global temperatures crossing the 1.5°C threshold temporarily, but then being brought back down using technologies that suck CO_2 out of the atmosphere.

○ To achieve the C1 pathway, global **GHG emissions must fall by 43% by 2030.**

➢ **Low Emissions Technologies:**

○ Widespread 'system transformations' are required across the energy, buildings, transport, land and other sectors, to achieve the 1.5°C target and this will **involve adopting low-emission or zero carbon pathways** of development in each sector. And solutions are available at affordable costs.

○ The **costs of low emissions technologies have fallen continuously since 2010**. On a unit costs basis, **solar energy** has dropped 85%, **wind** by 55 %, and **lithium-ion batteries** by 85%.

○ Their **deployment, or usage, has increased multiple fold since 2010** — 10 times for solar and 100 times for electric vehicles.

○ Reducing fossil fuel use in the energy sector, demand management and energy efficiency in the industrial sector and adopting the principles of 'sufficiency' and efficiency in the construction of buildings are among the plethora of solutions.

➢ **Demand-side Mitigation:**

○ It also adds that **demand-side mitigation**, ie, behavioural changes such as adopting plant-based diets, or shifting to walking and cycling "**can reduce global GHG emissions in end use sectors by 40-70% by 2050** compared to baseline scenarios" and improve wellbeing.

● Most of the potential for demand-side mitigation currently lies in developed countries.

➢ **Impact on GDP:**

○ The IPCC states that **low-cost climate mitigation options** could **halve global GHG emissions by 2030.** In fact, the **long-term benefits of limiting warming far outweigh the costs**.

○ Investing in decarbonisation would have a minimal impact on global **Gross Domestic Product (GDP).**

Note:

➢ **Short Fall of Finances:**
  ○ Financial flows fall short of the levels needed to achieve the ambitious mitigation goals, however.
  ○ The gaps are the **widest for the agriculture, forestry, and other land uses (AFOLU) sector and for developing countries.**
    ● But the **global financial system is large enough** and "sufficient global capital and liquidity" exist to close these gaps.
  ○ For **developing countries**, it recommends **scaled up public grants, as well as "increased levels of public finance** and publicly mobilised private finance flows from developed to developing countries in the context of the USD 100 billion-a-year goal; increase the use of public guarantees to reduce risks and leverage private flows at lower cost; local capital markets development and building greater trust in international cooperation processes".

What is the Intergovernmental Panel on Climate Change?

➢ It is the **international body for assessing the science related to climate change**.

➢ It was set up in 1988 by the **World Meteorological Organisation (WMO)** and **United Nations Environment Programme (UNEP)** to provide policymakers with regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation.

➢ IPCC assessments **provide a scientific basis for governments at all levels to develop climate related policies,** and they underlie negotiations at the UN Climate Conference – the **United Nations Framework Convention on Climate Change (UNFCCC).**

What is the Assessment Report of IPCC?

➢ The Assessment Reports, the **first of which had come out in 1990**, are the most **comprehensive evaluations of the state of the earth's climate.**
  ○ Every few years (about 7 years), the IPCC produces assessment reports.

➢ **Hundreds of experts** go through every available piece of relevant, published scientific information to prepare a common understanding of the changing climate.

➢ The four subsequent assessment reports, each thousands of pages long, came out in **1995, 2001, 2007 and 2015.**
  ○ These have formed the basis of the **global response to climate change.**

➢ Over the years, each assessment report has built on the work of the previous ones, **adding more evidence, information and data.**
  ○ So that most of the conclusions about climate change and its impacts have far greater clarity, certainty and wealth of new evidence now, than earlier.

➢ It is these negotiations that have produced the **Paris Agreement**, and previously the **Kyoto Protocol.**
  ○ The Paris Agreement, negotiated on the basis of the **Fifth Assessment Report.**

➢ The Assessment Reports - by three working groups of scientists.
  ○ **Working Group-I** - Deals with the scientific basis for climate change.
  ○ **Working Group-II** - Looks at the likely impacts, vulnerabilities and adaptation issues.
    ● **Working Group-III** - Deals with actions that can be taken to combat climate change.

■■■

History

Highlights

- *Jallianwala Bagh Massacre*
- *Jyotirao Phule*
- *Mahavir Jayanti*
- *Birth Anniversary of B R Ambedkar*
- *Babu Jagjivan Ram*

Jallianwala Bagh Massacre

Why in News?

Recently, the **Prime Minister** paid tributes to people killed in the **Jallianwala Bagh massacre in 1919**.

➢ He asserted that their unparalleled courage and sacrifice will **keep motivating the coming generations. 13th April**, 2022 marks the **103 years of the incident.**

➢ Earlier, the Gujarat government marked 100 years of the **Pal-Dadhvav killings,** calling it a massacre **"bigger than the Jallianwala Bagh".**

What is the Jallianwala Bagh Massacre?

➢ **About:** The Jallianwala Bagh massacre or the Amritsar massacre of **13th April 1919** accounts for the **gruesome execution of hundreds of innocent people** by the **Gurkha British Indian army** on the orders of the then **Anglo-Indian Brigadier R.E.H. Dyer.**

  ○ These people were protesting peacefully against the **Rowlatt Act 1919.**

What was the Rowlatt Act 1919?

➢ During **World War I (1914–18)** the British government of India enacted a **series of repressive emergency powers** that were intended to combat subversive activities.

  ○ In this context, this act was passed on the recommendations of the Sedition **Committee chaired by Sir Sidney Rowlatt.**

  ○ It **gave the government enormous powers to repress political activities** and allowed detention of political prisoners without trial for two years.

➢ **Background: Mahatma Gandhi** wanted non-violent civil disobedience against such unjust laws, which would start with a hartal on **6th April 1919.**

  ○ In Punjab, on **9th April 1919,** two nationalist leaders, **Saifuddin Kitchlew and Dr. Satyapal,** were arrested by the British officials **without any provocation** except that they had addressed protest meetings, and taken to some unknown destination.

  ○ This caused resentment among the Indian protestors who came out in thousands on **10th April** to show their solidarity with their leaders.

  ○ To curb any future protest, the government put martial law in place and law and order in Punjab was handed over to **Brigadier-General Dyer.**

➢ **Day of the Incident:** On **13th April, Baisakhi day**, a large crowd of people mostly from neighbouring villages, unaware of the prohibitory orders in Amritsar gathered in the Jallianwala Bagh.

  ○ Brigadier- **General Dyer** arrived on the scene with his men.

  ○ The troops surrounded the gathering under orders from **General Dyer** and blocked the only exit point and opened fire on the **unarmed crowd killing more than 1000 unarmed men, women, and children.**

Note:

➢ **Aftermath/Significance of the Incident**
  ○ Jallianwala Bagh became a key point in the **history of India's struggle** for independence and it is now an **important monument in the country.**
  ○ The Jallianwala Bagh tragedy was one of the causes that led **Mahatma Gandhi** to begin organising his first large-scale and sustained nonviolent protest (satyagraha) campaign, the **Non Cooperation Movement (1920–22).**
  ○ The Bengali poet and **Nobel laureate Rabindranath Tagore** renounced the knighthood that he had **received in 1915.**
  ○ The then government of India ordered an investigation of the incident (**the Hunter Commission**), which in 1920 **censured Dyer** for his actions and ordered him to resign from the military.

Jyotirao Phule

Why in News?

The Prime Minister has paid tribute to the great social reformer, philosopher and writer **Mahatma Jyotirao Phule** on his birth anniversary (11ᵗʰ April). He is also known as Jyotiba Phule.
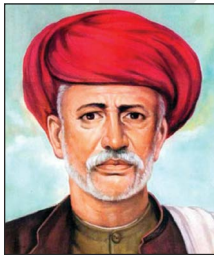
Who was Jyotirao Phule?

➢ **Brief Profile:**
  ○ **Birth:** Phule was born on 11ᵗʰ April, 1827 in present-day Maharashtra and **belonged to the Mali caste of gardeners and vegetable farmers.**
  ○ **Education:** In 1841, Phule was enrolled at the Scottish Missionary High School (Pune), where he completed education.
  ○ **Ideology:** His Ideology was based on: Liberty; Egalitarianism; Socialism.
    ● Phule was **influenced by Thomas Paine's book titled The Rights of Man** and believed that the only solution to combat the social evils was the enlightenment of women and members of the lower castes.
  ○ **Major Publications:** Tritiya Ratna (1855); Powada: Chatrapati Shivajiraje Bhosle Yancha (1869); Gulamgiri (1873), Shetkarayacha Aasud (1881).

  ○ **Related Association:** Phule along with his followers **formed Satyashodhak Samaj in 1873** which meant 'Seekers of Truth' in order to attain equal social and economic benefits for the lower castes in Maharashtra.
  ○ **Municipal Council Member:** He was appointed commissioner to the Poona municipality and served in the position until 1883.
  ○ **Title of Mahatma:** He was bestowed with the title of Mahatma on 11ᵗʰ May, 1888 **by a Maharashtrian social activist Vithalrao Krishnaji Vandekar.**

➢ **Social Reformer:**
  ○ In 1848, **he taught his wife (Savitribai) how to read and write**, after which the couple opened the first indigenously run school for girls in Pune where they both taught.
    ● He was a **believer in gender equality** and he exemplified his beliefs by involving his wife in all his social reform activities.
  ○ By 1852, the **Phules had established three schools but all of them had shut by 1858** due to the shortage of funds after the Revolt of 1857.
  ○ Jyotiba realised the pathetic conditions of widows and established an ashram for young widows and eventually **became an advocate of the idea of Widow Remarriage.**
  ○ Jyotirao **attacked the orthodox Brahmins and other upper castes** and termed them as "hypocrites".
  ○ In 1868, **Jyotirao constructed a common bathing tank outside his house to exhibit his embracing attitude towards all human beings** and wished to dine with everyone, regardless of their caste.
    ● He started awareness campaigns that **ultimately inspired the likes of Dr. B.R. Ambedkar and Mahatma Gandhi**, stalwarts who undertook major initiatives against caste discrimination later.
  ○ It is believed by many that **it was Phule who first used the term 'Dalit'** for the depiction of oppressed masses often placed outside the 'varna system'.
  ○ He **worked for abolishment of untouchability and caste system** in Maharashtra.

➢ **Death:** 28ᵗʰ November, 1890. His memorial is built in Phule Wada, Pune, Maharashtra.

Note:

Mahavir Jayanti

Why in News?

The Prime Minister has greeted people on **Mahavir Jayanti**, recalling the noble teachings of Bhagwan Mahavir, especially the emphasis on peace, compassion and brotherhood.

What is Mahavir Jayanti?

➢ **About:**
  ○ Mahavir Jayanti is **one of the most auspicious festivals in the Jain community.**
  ○ This day marks the **birth of Vardhamana Mahavira,** who was the 24th and the last Tirthankara who succeeded the 23rd Tirthankara, Parshvanatha.
  ○ According to Jain texts, Lord Mahavira was born on the 13th day of the bright half of the moon in the **month of Chaitra.**
    ● As per the **Gregorian calendar**, Mahavir Jayanti is usually celebrated during the month of March or April.
  ○ A procession is called with the idol of Lord Mahavira **called the Rath Yatra.**
  ○ Reciting stavans or Jain prayers, statues of the lord are given a ceremonial bath called **abhisheka.**

➢ **Lord Mahavira:**
  ○ Mahavir was born to King Siddhartha of Kundagrama and Queen Trishala, a Lichchhavi princess in the year **540 BC in the Vajji kingdom**, identical with **modern day Vaishali in Bihar.**
  ○ Mahavira belonged to the **Ikshvaku dynasty.**
  ○ There are several historians who believe that he was born in a place called Ahalya bhumi and the land has not been plowed for hundreds of years by the family that owns it.
  ○ Lord Mahavir was named **Vardhamana, which means "one who grows".**
  ○ He abandoned worldly life at the age of 30 and **attained 'kaivalya' or omniscience at the age of 42.**
  ○ Mahavira taught ahimsa (non-violence), Satya (truth), asteya (non-stealing), brahmacharya (chastity) and aparigraha (non-attachment) to his disciples and **his teachings were called Jain Agamas.**

○ Ordinary people were able to understand the teachings of Mahavira and his followers because **they used Prakrit.**
○ It is believed that the **Mahavira passed away and attained moksha (liberation from the cycle of birth and death) at the age of 72** in 468 BC at a place called **Pavapuri near modern Rajgir in Bihar.**

What is Jainism?
➢ The word Jaina comes from the term **Jina, meaning conqueror.**
➢ Tirthankara is a Sanskrit word meaning '**Ford maker', i.e., one who is able to ford the river, to cross beyond the perpetual flow of earthly life.**
➢ Jainism attaches **utmost importance to ahimsa or non-violence.**
➢ It preaches **5 mahavratas** (the 5 great vows):
  ○ Ahimsa (Non-violence)
  ○ Satya (Truth)
  ○ Asteya or Acharya (Non-stealing)
  ○ Aparigraha (Non-attachment/Non-possession)
  ○ Brahmacharya (Celibacy/Chastity)
➢ Among these 5 teachings, the **Brahmacharya (Celibacy/Chastity) was added by Mahavira.**
➢ The three jewels or Triratna of Jainism include:
  ○ Samyak Darshana (right faith).
  ○ Samyak Gyana (right knowledge).
  ○ Samyak Charitra (right conduct).
➢ Jainism is a religion of self-help.
  ○ There are no gods or spiritual beings that will help human beings.
  ○ It does not condemn the varna system.
➢ In later times, it got divided into two sects:
  ○ **Shvetambaras (white-clad)** under Sthalabahu.
  ○ **Digambaras (sky-clad)** under the leadership of Bhadrabahu.
➢ The important idea in **Jainism is that the entire world is animated:** even stones, rocks, and water have life.
➢ Non-injury to living beings, especially to humans, animals, plants, and insects, is central to Jaina philosophy.
➢ According to Jain teachings, the **cycle of birth and rebirth is shaped through karma.**
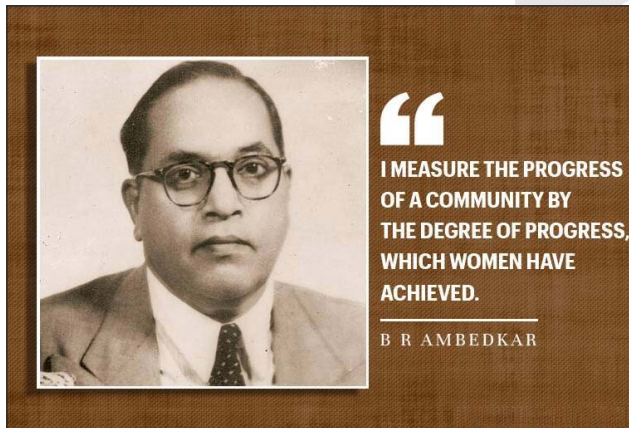
Note:

drishti

> Asceticism and penance are required to free oneself from the cycle of karma and achieve the liberation of the soul.
> The **practice of Santhara is also a part of Jainism.**
> ○ It is the ritual of fasting unto death. Swetambara Jains call it Santhara whereas Digambars call it Sallekhana.

Birth Anniversary of B R Ambedkar

Why in News?

The nation celebrated the **131st birth anniversary of B R Ambedkar on** 14th April 2022.

> Dr. Ambedkar was a **social reformer, jurist, economist, author, polyglot** (knowing or using several languages) **orator**, a **scholar**, and **thinker of comparative religions**.

I MEASURE THE PROGRESS OF A COMMUNITY BY THE DEGREE OF PROGRESS, WHICH WOMEN HAVE ACHIEVED.

B R AMBEDKAR

What are the Key Points?

> **Birth:**
> ○ Babasaheb Dr. Bhimrao Ambedkar was born in **1891 in Mhow, Central Province** (now Madhya Pradesh).
> **Brief Profile:**
> ○ He is known as the Father of the Indian Constitution and was **India's first Law Minister.**
> ○ He was the **Chairman of the Drafting Committee for the new Constitution**.
> ○ He was a **well-known statesman who fought for the rights of the Dalits** and other socially backward classes.

> **Contributions:**
> ○ He led the **Mahad Satyagraha in March 1927 against Hindus** who were opposing the decision of the Municipal Board.
>   ● **In 1926, the Municipal Board of Mahad** (Maharashtra) passed an order to throw open the tank to all communities. Earlier, the untouchables were not allowed to use water from the Mahad tank.
> ○ He participated in **all three Round Table Conferences**.
> ○ **In 1932**, Dr. Ambedkar **signed the Poona pact with Mahatma Gandhi**, which abandoned the idea of separate electorates **for the depressed classes** (Communal Award).
>   ● However, the seats reserved for the depressed classes were increased from **71 to 147 in provincial legislatures** and to **18% of the total in the Central Legislature**.
> ○ His ideas before the **Hilton Young Commission served** as the foundation of the **Reserve Bank of India (RBI).**
> **Election and Designation:**
> ○ **In 1936**, he was elected to the **Bombay Legislative Assembly** as a legislator (MLA).
> ○ He **was appointed** to the **Executive Council of Viceroy** as a Labour member **in 1942**.
> ○ **In 1947**, Dr. Ambedkar accepted **PM Nehru's invitation to become Minister of Law** in the first Cabinet of independent India.
> **Shift to Buddhism:**
> ○ **He resigned** from the cabinet in **1951**, over differences on the Hindu Code Bill.
> ○ He **converted to Buddhism**. He **died on 6th December 1956 (Mahaparinirvan Diwas).**
>   ● **Chaitya Bhoomi** is a memorial to B R Ambedkar, located in Mumbai.
> ○ He was awarded India's highest civilian honour the **Bharat Ratna** in 1990.
> **Important Works:**
> ○ **Journals:**
>   ● Mooknayak (1920)
>   ● Bahishkrit Bharat (1927)

Note:

- Samatha (1929)
- Janata (1930)
- **Books:**
  - Annihilation of Caste
  - Buddha or Karl Marx
  - The Untouchable: Who are They and Why They Have Become Untouchables
  - Buddha and His Dhamma
  - The Rise and Fall of Hindu Women
- **Organisations:**
  - Bahishkrit Hitkarini Sabha (1923)
  - Independent Labor Party (1936)
  - Scheduled Castes Federation (1942)

➢ **Relevance of Ambedkar in Present Times:**
  - Caste-based inequality in India still persists. While Dalits have acquired a political identity through **reservation** and forming their own political parties, they **lack behind in social dimensions** (health and education) and economic dimension.
  - There has been a **rise of communal polarization and communalization of politics**. It is necessary that Ambedkar's vision of constitutional morality must supersede religious morality to avoid permanent damage to the Indian Constitution.

What were Round Table Conferences?

➢ **First Round Table Conference:** It was held in London on 12th November, 1930 but the Congress did not participate in it.
  - In March 1931, Mahatma Gandhi and Lord Irwin (Viceroy of India 1926-31) entered into a Pact, called Gandhi-Irwin Pact, by which the Congress called off the Civil Disobedience Movement and agreed to participate in the Round Table Conference.

➢ **Second Round Table Conference:** It was held in London on the 7th of September, 1931.

➢ **Third Round Table Conference:** It was held in London on the 17th of November, 1932 to consider the reports of various sub-committees appointed from time to time. It ultimately led to the passage of the Govt. of India Act, 1935.
  - Congress did not participate as most of the leaders were in jail.

Babu Jagjivan Ram

Why in News?

The Prime Minister paid tributes to freedom fighter **Babu Jagjivan Ram** on his 115th birth anniversary (5th April).

➢ Jagjivan Ram, popularly known as Babuji, was a **national leader, a freedom fighter, a crusader of social justice**, a champion of depressed classes and an outstanding Parliamentarian.

Remembering **BABU JAGJIVAN RAM** ON HIS BIRTH ANNIVERSARY
5 APRIL 1908 - 6 JULY 1986

Who was Jagjeevan Ram and What are his Contributions?

➢ **Birth:**
  - Jagjivan Ram was born **on 5th April 1908** in Chandwa in Bihar to a Dalit family.

➢ **Early Life and Education:**
  - He **pursued his schooling at the nearby town of Arrah** where he faced discrimination for the first time.
    - He **was considered 'untouchable' and had to drink water from a different pot**.
    - **Jagjivan Ram protested against this by breaking the pot.** The principal then had to remove the separate pot from the school.
  - In **1925**, Jagjivan Ram met scholar **Pandit Madan Mohan Malaviya** and was greatly inspired by him. On Malaviya's invitation, **he joined the Banaras Hindu University.**
    - Even at the university, **Jagjivan Ram faced discrimination.** This inspired him to protest against such social boycotts of a section of society.
    - He also o**rganised the scheduled castes to protest against injustice.**
  - After his stint at BHU, he joined the **University of Calcutta from where he secured a B.Sc. degree in 1931.**
  - Jagjivan Ram had organised a number of Ravidas Sammelans and had **celebrated Guru Ravidas Jayanti in different areas** of Calcutta (Kolkata).

Note:

drishti

- ➢ **Pre Independence Contributions:**
  - ○ In 1931, he **became a member of the Indian National Congress** (Congress Party).
  - ○ He was **instrumental in the foundation of the All India Depressed Classes League**, an organisation dedicated to attaining equality for untouchables, in 1934-35.
    - He was a champion of social equality and equal rights for the Depressed Classes.
  - ○ In 1935, he proposed at a session of the **Hindu Mahasabha that drinking water wells and temples be open to untouchables.**
  - ○ In 1935, Babuji also appeared before the **Hammond Commission at Ranchi** and demanded, for the first time, voting rights for the Dalits.
  - ○ He was jailed twice in the early 1940s for his political activities associated with the **Quit India movement** against British rule.
- ➢ **Post Independence Contributions:**
  - ○ When Jawaharlal Nehr**u formed the provisional government, Jagjivan Ram became its youngest minister.**

- ○ After independence he **held the labour portfolio until 1952.** Thereafter he served in Nehru's cabinet in the posts of **minister for communications** (1952–56), **transport and railways** (1956–62), and **transport and communications** (1962–63).
- ○ He served as minister for **food and agriculture** (1967–70), and in 1970 he was made minister of defence.
  - The **Indo-Pakistan War of 1971** was fought when he was the defence minister.
- ○ **He left Congress in 1977** and joined the Janata Party alliance, along with his Congress for Democracy (new party). He later served as the Deputy Prime Minister of India (1977–79).
- ○ Jagjivan Ram was a **member of the Parliament uninterrupted from 1936 to 1986 (40 years)** and this is a world record.
- ○ He also holds another record for being the **longest-serving cabinet minister in India (30 years).**
- ➢ **Death:**
  - ○ He died on **6ᵗʰ July 1986 at New Delhi.**
  - ○ His memorial at his cremation place is named **Samta Sthal** (Place of Equality).

■■■

Note:

Geography

Highlights

- *India to Receive Normal Monsoon: IMD*
- *Mullaperiyar Dam Issue*

India to Receive Normal Monsoon: IMD

Why in News?

Recently, the **India Meteorological Department (IMD)** released its **first Long Range Forecast (LRF)** for 2022 which says that the **country is likely to receive a normal monsoon for the fourth consecutive year.**

➢ While forecasting a **'normal' southwest monsoon** for this year, IMD also **revised downwards the definition** of what constitutes average rainfall.

➢ Every year, the **IMD issues a two-stage forecast:** the first one in April and the second one in the last week of May, which is a more detailed forecast and also illustrates how the monsoon will spread over the country.

> **What is the India Meteorological Department (IMD)?**
> ➢ IMD was **established in 1875.**
> ➢ It is **an agency of the Ministry of Earth Sciences.**
> ➢ It is the principal agency responsible for meteorological observations, weather forecasting and seismology.

What are the Key Highlights of the Forecast?

➢ **India will get Normal Monsoon:**
  ○ India would get **99% of the Long Period Average (LPA) rainfall** — changed from 89 cm to 88 cm in 2018, and in the periodic update in 2022, again revised to 87 cm.
    ● A monsoon is **considered "normal"** when **rainfall falls between 96% and 104% of the LPA.**

➢ **EL Nino not Expected:**
  ○ The IMD does **not expect an El Nino** but **currently La Nina conditions are prevailing over the equatorial Pacific** which will continue during the monsoon.

- El Nino is a **phenomenon associated with a warming of the Central Pacific** and drying up of the rains over northwest India, the coming monsoon.

- La Nina **events represent periods of below-average sea surface** temperatures across the east-central Equatorial Pacific.

➢ It is **indicated by sea-surface temperature** decreased by more than $0.9°F$ for at least five successive three-month seasons.

➢ **"Normal" to "above Normal" Rainfall:**
  ○ Current **indications suggest "normal" to "above normal" rainfall** in the northern parts of peninsular India, central India and the Himalayan foothills.
  ○ Many **parts of northeast India and southern parts of South India** are expected to see a subdued monsoon.

What is the Long Period Average (LPA)?

➢ According to the IMD, the "**LPA of rainfall is the rainfall recorded over a particular region** for a given interval (like month or season) averaged over a long period like 30 years, 50 years, etc".
  ○ The **IMD predicts a "normal", "below normal", or "above normal"** monsoon in relation to a benchmark **"Long Period Average" (LPA).**

➢ The IMD has in the **past calculated the LPA at 88 cm for the 1961-2010 period,** and at 89 cm for the 1951-2000.
  ○ It calculated the LPA at 87 cm **for the 1971-2020 period**.

➢ While this quantitative benchmark refers to the average rainfall recorded from June to September for the entire country, the amount of rain that falls every year varies from region to region and from month to month.

Note:

drishti

➢ Therefore, along with the countrywide figure, the **IMD also maintains LPAs for every meteorological region of the country.**
  ○ This **number ranges from around 61 cm** for the drier Northwest India to more than 143 cm for the wetter East and Northeast India.

Why is LPA Needed?

➢ **To Smooth Out Trends of Rainfall:**
  ○ An LPA is needed to smooth out trends so that a reasonably accurate prediction can be made because the IMD records rainfall data at more than 2,400 locations and 3,500 rain-gauge stations.
  ○ Because annual rainfall can vary greatly not just from region to region and from month to month, but also from year to year within a particular region or month

➢ **Covers for Large Variations in Either Directions:**
  ○ A 50-year LPA covers for large variations in either direction caused by freak years of unusually high or low rainfall (as a result of events such as El Nino or La Nina), as well as for the periodic **drought** years and the increasingly common extreme weather events caused by **climate change.**

What is the Range of a Normal Monsoon?

➢ The **LPA of the season rainfall over the country** as a whole for the period 1971-2020 is 87 cm.

➢ The **IMD maintains five rainfall distribution categories** on an all-India scale. These are:
  ○ *****Normal or Near Normal:** When the percentage departure of actual rainfall is +/-10% of LPA, that is, between 96-104% of LPA
  ○ *****Below Normal:** When departure of actual rainfall is less than 10% of LPA, that is 90-96% of LPA
  ○ ***Above normal:** When actual rainfall is 104-110% of LPA
  ○ ***Deficient:** When departure of actual rainfall is less than 90% of LPA
  ○ ***Excess:** When the departure of actual rainfall is more than 110% of LPA

Mullaperiyar Dam Issue

Why in News?

Recently, the **Supreme Court** ordered the reconstitution of the **Mullaperiyar dam's supervisory committee.**

➢ The committee will include **one technical expert each from Tamil Nadu and Kerala,** the two States involved in the dispute concerning safety of the dam.

What was the Supreme Court Ruling?

➢ The court has **empowered the panel with functions and powers** on par with that of the **National Dam Safety Authority (NDSA)**
  ○ NDSA is a body envisaged under the **Dam Safety Act, 2021.**

➢ For any act of failure, "appropriate action" will be taken against the persons concerned not only for having violated the directions of the court but also under the Act
  ○ The act **talks of one year imprisonment or fine or both for refusal** to comply with directions of bodies formed under the law.

➢ As per the Supreme Court latest order, the **two States are expected to nominate, within two weeks,** one representative each to the supervisory committee, in addition to one nominee each.

What do we Know about the Mullaperiyar Dam?

➢ The Mullaperiyar, a **126-year-old dam,** is located on the **confluence of the Mullayar and Periyar rivers** in Kerala's Idukki district.

Note:

- ➢ The dam stands at the height of 53.66 metres and 365.85 metres in length.
- ➢ The **dam** is owned, operated and maintained by Tamil Nadu.
  - ○ **Tamil Nadu maintained it for several purposes**, including irrigation, drinking water supply and hydro-power generation.

> **What are the Key Highlights about Periyar River?**
> - ➢ The Periyar River is the **longest river in the state of Kerala** with a length of 244 km.
> - ➢ It is also known as **'Lifeline of Kerala'** as it is one of the few perennial rivers in the state.
> - ➢ Periyar River originates from **Sivagiri hills of Western Ghats,** in Tamil Nadu and flows through the Periyar National Park.
> - ➢ The **main tributaries** of Periyar are Muthirapuzha, **Mullayar,** Cheruthoni, Perinjankutti.

What is the Dispute?

- ➢ In late 1979, after the eruption of the controversy over the structural stability of the dam, it was **decided at a tripartite meeting** chaired by K. C. Thomas, the then Chairman of the **Central Water Commission** that the **water level be lowered to 136 feet against** the full reservoir level of 152 feet so that Tamil Nadu could take up strengthening measures.
- ➢ In 2006 and 2014 the **Supreme Court held that the water level be raised to 142 feet**, up to which Tamil Nadu stored water even last year (2021).
- ➢ The court's judgment of 2014 also **provided for the formation of the supervisory committee** and the completion of the remaining work by Tamil Nadu.
  - ○ But, **there has been no end to litigation over the dam** with Kerala witnessing **landslides** in recent years.
- ➢ Though **there had been no reports of landslides in the vicinity of the dam site**, the events in other parts of the **State led to a renewed campaign against the dam.**
- ➢ The Kerala government **proposed that the existing dam be decommissioned** and a fresh one be built
  - ○ These **options are not completely acceptable to Tamil Nadu** which wants to complete the remaining strengthening work and restore the level to 152 feet.

Why is the Dam Safety Act?

- ➢ **About:**
  - ○ The Dam Safety Act, 2021 came into **force in December 2021.**
  - ○ The act is **aimed at addressing the long-felt need for addressing issues** concerning the safety of major dams all over the country.
  - ○ It **provides for surveillance, inspection, operation, and maintenance of certain dams** for prevention of disasters related to dam failure, apart from institutional mechanisms to ensure their safe functioning.
  - ○ The Act covers those dams having a height of over 15m and between 10m and 15m with certain stipulations.
- ➢ **Create two National Institutions:**
  - ○ **National Committee on Dam Safety (NCDS):** It seeks to **evolve dam safety policies** and recommend necessary regulations, and the
  - ○ **National Dam Safety Authority (NDSA):** It seeks to **implement policies and address unresolved issues** between the two States. The NDSA will be the regulatory body.
- ➢ **Create two State Level Institutions:**
  - ○ The legislation also envisages the formation of **State Dam Safety Organisations and State Committees on Dam Safety**.
    - • **Dam owners will be held responsible** for the construction, operation, maintenance, and supervision of dams.

How does the Dam Safety Act Affect Mullaperiyar?

- ➢ Since the act provides that the **NDSA will perform the role of the State Dam Safety Organisation for a dam located in one State and used by another**, the Mullaperiyar dam, strictly speaking, comes under the purview of the NDSA.
- ➢ Besides, the Supreme Court, which has been hearing petition after petition after its judgment in 2014, **mooted the idea of extending the powers of its supervisory committee** to take over charge of the safety and maintenance of the structure.

■■■

Note:

Art and Culture

Highlights

● *Traditional New Year Festivals*

● *Shiva Kumaraswami*

Traditional New Year Festivals

Why in News?

The President of India has greeted people on the eve of **Chaitra Shukladi, Gudi Padwa, Ugadi, Cheti Chand,** Vaisakhi, Vishu, Naba Barsha, Vaisakhadi and Puthandu-Pirappu and Bohag Bihu.

➢ These festivals of the spring season mark the beginning of the **traditional new year in India.**

What are the Traditional New Year Festivals?

➢ **Vaishakhi:**
   ○ It is also pronounced as Baisakhi, **observed by Hindus and Sikhs.**
   ○ It marks the beginning of **Hindu Solar New year.**
   ○ It commemorates the formation of Khalsa panth of warriors under **Guru Gobind Singh in 1699.**
   ○ Baisakhi was also the day when colonial British empire officials committed the **Jallianwala Bagh massacre** at a gathering, an event influential to the Indian movement against colonial rule.

➢ **Vishu:**
   ○ It is a Hindu festival **celebrated in the Indian state of Kerala,** Tulu Nadu region in Karnataka, Mahé district of Union Territory of Pondicherry, neighbouring areas of Tamil Nadu and their diaspora communities.
   ○ The festival **marks the first day of Medam, the ninth month in the solar calendar in Kerala.**
   ○ It therefore always **falls in the middle of April in the Gregorian calendar on 14th or 15th April every year.**

➢ **Puthandu:**
   ○ Also known as **Puthuvarudam** or **Tamil New Year**, is the first day of the year on the Tamil calendar and traditionally celebrated as a festival.
   ○ The festival date is set with the **solar cycle of the lunisolar Hindu calendar**, as the first day of the Tamil month Chithirai.
   ○ It therefore falls on or about **14th April every year on the Gregorian calendar.**

➢ **Bohag Bihu:**
   ○ Bohag Bihu or Rongali Bihu also called **Xaat Bihu** (seven Bihus) is a traditional aboriginal ethnic festival **celebrated in the state of Assam** and other parts of northeastern India by the indigenous ethnic groups of Assam.
   ○ It marks the beginning of the Assamese New Year.
   ○ It usually falls in the **2nd week of April**, historically signifying the time of harvest.

➢ **Naba Barsha:**
   ○ Naba Barsha is the celebration of the new year in **West Bengal** as per the Bengali Calendar.
   ○ It is also **popularly known as the PoilaBaisakh which literally translates to first Baisakhi (a month in the lunisolar calendar of the Bengalis).**
      ● The people of Bengal come together and celebrate this new year in their own way by making it loud and magical like every other Bengali festival.
   ○ The festival is celebrated by all castes and religions all across Bengal.
   ○ **After Durga Pooja, this is the second most hyped festival in Bengal**, this festival connects the people of Bengal, especially the Bengalis who are originally Hindu.

➢ **Chaitra Sukladi:**
   ○ It marks the beginning of the new year of the **Vikram Samvat** also known as the **Vedic [Hindu] calendar.**
   ○ Vikram Samvat is based on the day **when the emperor Vikramaditya defeated Sakas, invaded Ujjain and called for a new era.**

Note:

○ Under his supervision, astronomers formed a new calendar based on the luni-solar system that is still followed in the northern regions of India.

○ It is the first day during the waxing phase (in which the visible side of the moon is getting bigger every night) of the moon in the Chaitra (first month of Hindu calendar).

➢ **Gudi Padwa and Ugadi:**

○ These festivals are celebrated by the people in the **Deccan region** including **Karnataka**, **Andhra Pradesh** and **Maharashtra**.

○ The common practice in the celebrations of both the festivals is the festive food that is prepared with a mix of sweet and bitter.

○ A famous concoction served is **jaggery (sweet)** and **neem (bitter)**, called **bevu-bella** in the South, signifying that life brings both happiness and sorrows.

○ **Gudi** is a doll prepared in Maharashtrian homes. A bamboo stick is adorned with green or red brocade to make the gudi. This gudi is placed prominently in the house or outside a window/ door for all to see.

○ For **Ugadi**, doors in homes are adorned with mango leaf decorations called **toranalu or Torana in Kannada.**

➢ **Cheti Chand:**

○ **Sindhis** celebrate the new year as Cheti Chand. **Chaitra month is called 'Chet'** in Sindhi.

○ The day commemorates the **birth anniversary** of **Uderolal/Jhulelal**, the patron saint of Sindhis.

➢ **Navreh:**

○ It is the **lunar new yea**r that is celebrated in **Kashmir**.

○ It is the Sanskrit word 'Nav-Varsha' from which the word 'Navreh' has been derived.

○ It falls on the first day of the **Chaitra Navratri**.

○ On this day, Kashmiri pandits look at a bowl of rice which is considered as a symbol of riches and fertility.

➢ **Sajibu Cheiraoba:**

○ It is the great ritual festival of **Meiteis** (an ethnic group in **Manipur**) which is observed on the first day of **Manipur lunar month Shajibu,** which falls in the month of April every year.

○ On the day of the festival, people arrange a joint family feast in which traditional cuisines are offered to local deities at the entrance gates of the houses.

Shiva Kumaraswami

Why in News?

Recently, the Union Minister of Home Affairs inaugurated and participated in the 115th Birthday Celebrations of **Dr. Shri Shri Shri Shiva Kumaraswami & Guruvandana Mahotsava** in Siddaganga Mutt, Tumkur, Karnataka.

Who was Shivkumar Swami?

➢ Shivakumara Swami of Siddhaganga Mutt in Tumkur was **a revered seer of the Lingayat-Veerashaiva faith** and was the **Lingayat religious head of Sree Siddaganga Mutt.**

➢ **Born on 1st April, 1907, in Veerapura village of Ramanagara (Karnataka)**, he was well known for his philanthropic activities.

➢ He **worked for 88 years to realize the thought of Basaveshwara** and paved the way to bring equality, education and making people spiritually rich.

➢ In recognition of his social work, **he was conferred with the third-highest civilian award, Padma Bhushan, in 2015** and the Karnataka Ratna in 2007.

➢ He was **also conferred with an honorary degree of Doctor of Literature by Karnataka University** in the year 1965.

➢ He **founded the Sri Siddaganga Education Society Trust,** which runs close to 125 educational institutions in Karnataka – from primary schools, school for the blind to colleges of arts, science, commerce and engineering.

➢ He was **known as a "walking god"** among his followers.

➢ He **passed away in 2019.**

Note:

Who are Lingayats?

➢ The term Lingayat **denotes a person who wears a personal linga, an iconic form of god Shiva**, on the body which is received during the initiation ceremony.

➢ Lingayats are the **followers of the 12ᵗʰ-century social reformer-philosopher poet, Basaveshwara.**

➢ **Basaveshwara was against the caste system** and Vedic rituals.

➢ The Lingayats are **strict monotheists.** They enjoin the worship of only one God, namely, Linga (Shiva).

➢ The word **'Linga' does not mean Linga established in temples, but universal consciousness** qualified by the universal energy (Shakti).

➢ Lingayats had been classified as a **Hindu subcaste called "Veerashaiva Lingayats"** and they are considered to be Shaivites.

Why the Lingayats Seek Separate Religion from Hindu?

➢ Lingayats had distanced **themselves from Hindu Veerashaivas because the latter followed the Vedas and supported the caste system**, to which Basaveshwara was against.

➢ Veerashaivas are the followers of the **five peethas (religious centers), called Pancha Peethas.**
  ○ These peethas are **set up on similar lines to the four peethas** set up by **Adi Shankara.**

■■■

Security

Highlights

- *Neptune: Anti-ship Cruise Missile*
- *Israel's New Laser Missile Defense System*
- *Solid Fuel Ducted Ramjet Booster*
- *AFSPA and Northeast*
- *CALM Systems*
- *Enhanced Pinaka Mk-I Rocket System*

Neptune: Anti-ship Cruise Missile

Why in News?

Recently, Ukraine claimed that it has damaged the **Russian Black Sea Fleet Flagship 'Moskva'** by **Neptune Anti-Ship Cruise Missiles.**

What is Neptune?

➢ The Neptune is a **coastal anti-ship cruise missile** that is capable of the **destruction of naval vessels in a range of 300 km**.

➢ The Missile system was inducted into the **Ukrainian Defence Forces in March 2021** after being in development for six years.

➢ The cruise missile was developed in haste by the military as the Russian threat to the coastal areas of Ukraine was growing rapidly since the **occupation of Crimea in 2014**.

➢ The design of this missile is based on a **Russian Kh-35** cruise missile which goes by the **North Atlantic Treaty Organization (NATO) name of AS-20 Kayak**.

➢ The cruise missile attack was **carried out using TB-2 drones** as decoys along with other measures toward saturation of the cruiser's **Air Defence systems.**

What is Moskva?

➢ Moskva is a **guided missile cruiser** of the Russian Navy named after the city of Moscow.

- ○ A cruiser is a **large surface warship** built for high speed and great cruising radius, capable of not only defending its own fleet and coastlines but also threatening those of the enemy.

➢ The Moskva was originally commissioned as the Slava in **1983**.

- ○ It was **recommissioned in 2000** as the Moskva with refurbished weapon systems and electronics.

➢ It has a displacement of **12,490 tons**.

➢ It is the **flagship of the Black Sea Fleet of the Russian Navy** and carries a crew of around 500 personnel.

Key characteristics of ballistic and cruise missiles		
Characteristics	**Ballistic missiles**	**Cruise missiles**
Range	From low to very high *Up to 15 000 km*	Mostly around 1 000 km *Up to 4 000 km*
Altitude	High *Easily detectable*	Low *Hard to detect*
Precision	Low – around a few hundred metres *Fit for large targets*	High – a few metres *Fit for small and mobile targets*
Speed	Up to 25 000 km/h at impact *Very hard to intercept*	Around 1 000 km/h *Possibility to intercept*

Israel's New Laser Missile Defense System

Why in News?

Recently, Israel has successfully tested a new laser missile defence system, it has intercepted mortars, rockets and anti-tank missiles.

Note:

➢ Israel's **Iron Dome defense system** has been a great success, with a 90% interception rate against incoming rocket fire.

What is a Laser Missile Defence System?

➢ The Israeli-made laser system, known as the **"Iron Beam,"** which is designed to complement a series of aerial defence systems, including the more costly rocket-intercepting.

➢ The Iron Beam's **interceptions are silent, they're invisible.**

   ○ It is **using Directed-Energy (DE) weapon system** and can go a long way in providing aerial defence.

   ○ A DE weapon is a system using DE primarily as a direct means to disable, damage or destroy adversary equipment, facilities, and personnel.

➢ Little is known about the laser system's effectiveness, but it is expected to be deployed on land, in the air and at sea.

➢ It is an effective, accurate, easy-to-operate tool that is significantly cheaper than any other existing means of protection.

Solid Fuel Ducted Ramjet Booster

Why in News?

Recently, India successfully flight tested **Solid Fuel Ducted Ramjet (SFDR) Booster**, a missile system, at the Integrated Test Range (ITR) in Chandipur off the Odisha coast.

➢ The **Defence Research and Development Organisation (DRDO)** began developing SFDR first in 2017 and had conducted successful tests in 2018 and 2019 as well.

What is SFDR?

➢ **About:**

   ○ It is a missile propulsion technology jointly developed by **India and Russia**.

   ○ SFDR technology is a missile propulsion system based on the concept of **Ramjet Engine** principle.

      ● A ramjet is **a form of air-breathing jet engine that uses the vehicle's forward motion to compress incoming air** for combustion without a rotating compressor.

      ● In a ramjet, the **high pressure is produced by "ramming" external air into the combustor** using the forward speed of the vehicle. The external air that is brought into the propulsion system becomes the working fluid.

      ● Ramjets **produce thrust only when the vehicle is already moving**; ramjets cannot produce thrust when the engine is stationary or static.
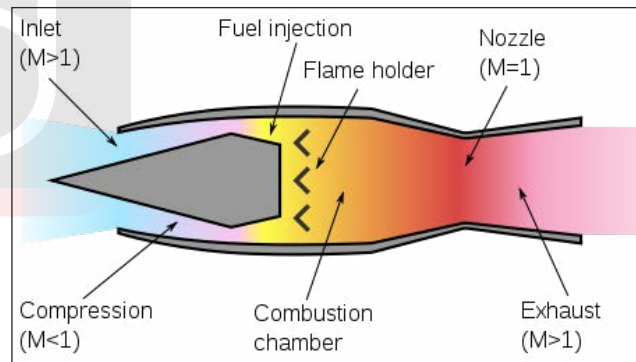
   ○ The system utilises a **solid fuelled air-breathing ramjet engine.**

      ● Unlike solid-propellant rockets, the Ramjet takes up oxygen from the atmosphere during flight. Thus, it is light in weight and can carry more fuel.

   ○ The SFDR has been developed by **Defence Research and Development Laboratory, Hyderabad** in collaboration with other **DRDO laboratories** such as Research Centre Imarat, Hyderabad and **High Energy Materials Research Laboratory, Pune.**

➢ **Significance:**

   ○ It enables the **missile to intercept aerial threats at very long range** at supersonic speeds.

   ○ At present, **such technology is available only with a handful of countries** in the world.

- Air-to-air missiles which use SFDR technology **can achieve longer ranges as they do not require oxidisers** (take oxygen from the atmosphere).
- The missile based on SFDR **fly at supersonic speeds and high manoeuvrability ensures the target aircraft cannot get away.**

What is the Defence Research and Development Organisation?
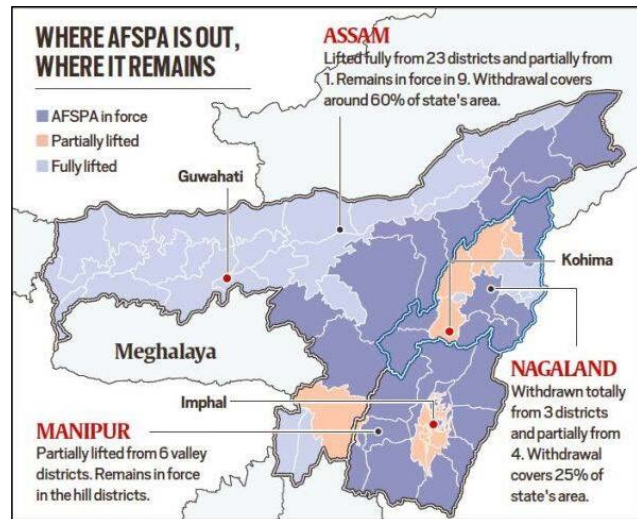
➢ **About:**
- DRDO works under the administrative control of the Ministry of Defence, Government of India.
- It is **working to establish a world class science and technology base for India** and provides Defence Services decisive edge by equipping them with internationally competitive systems and solutions.
- It was **established in 1958** after combining the Technical Development Establishment (TDEs) of the Indian Army and the Directorate of Technical Development & Production (DTDP) with the Defence Science Organisation (DSO).
- It is **responsible for carrying out the Integrated Guided Missile Development Programme (IGMDP).**

➢ **Some of the recent tests conducted by DRDO:**
- **Helina and Dhruvastra: Anti-tank Guided Missile**
- **Smart Anti Airfield Weapon**
- **Army Variant of MRSAM**
- **Land-attack Version of BrahMos Missile**
- **Quick Reaction Surface-to-Air Missile System**
- **Enhanced Version of Pinaka Mk-1 Missile**
- **NAG Missile: Anti Tank Guided Missile**

AFSPA and Northeast

Why in News?

Recently, the Union Government has partially withdrawn the **Armed Forces Special Powers Act (AFSPA), 1958** from parts of **three Northeast states— Assam, Nagaland and Manipur.**

➢ Currently, AFSPA remains in force in parts of these **three states as well as in parts of Arunachal Pradesh and Jammu & Kashmir.**

WHERE AFSPA IS OUT, WHERE IT REMAINS

- AFSPA in force
- Partially lifted
- Fully lifted

ASSAM Lifted fully from 23 districts and partially from 1. Remains in force in 9. Withdrawal covers around 60% of state's area.

NAGALAND Withdrawn totally from 3 districts and partially from 4. Withdrawal covers 25% of state's area.

MANIPUR Partially lifted from 6 valley districts. Remains in force in the hill districts.

What is AFSPA?

➢ AFSPA gives **sweeping powers to the armed forces.**
- For example, it allows them to **open fire, even causing death, against any person in contravention to the law or carrying arms and ammunition.**
- Also, it gives them powers to **arrest individuals without warrants**, on the basis of "**reasonable suspicion**", and **search premises without warrants**.

➢ It can be imposed by the Centre or the Governor of a state, on the state or parts of it, after these areas are declared **"disturbed'' under Section 3.**
- The Act was amended in 1972 and the powers to **declare an area as "disturbed"** were conferred concurrently **upon the Central government along with the States.**
- Currently, the Union Home Ministry issues periodic "**disturbed area" notification to extend AFSPA only for Nagaland and Arunachal Pradesh.**
- The notification for Manipur and Assam is issued by the State governments.
- Tripura revoked the Act in 2015 and Meghalaya was under AFSPA for 27 years, until it was revoked by the MHA from 1st April 2018.

What is the Role of State Governments Vis-a-Vis AFSPA?

➢ **Informal Consultation with State:** While the **Act gives powers to the central government to unilaterally take the decision** to impose AFSPA, this is usually done **informally in consonance with the state government.**

Note:

○ The Centre takes its decision after having **received a recommendation from the state government.**

➢ **Coordination with Local Police:** While the Act gives powers to security forces to open fire, this cannot be done **without prior warning given to the suspect.**

○ According to the act, after the apprehension of suspects, the s**ecurity forces have to hand them over to the local police station within 24 hours.**

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

Why has AFSPA been withdrawn now and Its Impact?

➢ **Withdrawal:** Reduction in areas under AFSPA is a result of the **improved security situation** and **fast-tracked development** due to the consistent efforts and **several agreements to end insurgency** and bring lasting peace in the North-East by the Indian government.

○ For example, In **Nagaland, all major groups — the NSCN(I-M) and Naga National Political Groups (NNPGs)** — are at advanced stages of concluding agreements with the government.

➢ **Impact:** The Northeast has lived under the shadow of AFSPA for **nearly 60 years, creating a feeling of alienation from the rest of the country.**

○ The move is expected to help **demilitarise the region; it will lift restrictions on movements through checkpoints and frisking of residents.**

Why was AFSPA imposed on the Northeast in the first place?

➢ **Naga Insurgency:** When the Naga nationalist movement kicked off in the 1950s with the setting up of the **Naga National Council (NNC),** the Assam police forces allegedly used force to **quell the movement.**

○ As an armed movement took root in Nagaland, **AFSPA was passed in Parliament, and subsequently imposed on the entire state.**

○ In Manipur, too, it was imposed in 1958 in the three Naga-dominated districts of Senapati, Tamenglong and Ukhrul, where the NNC was active.

➢ **Secessionist and Nationalist Movements:** As secessionist and nationalist movements started sprouting in other Northeastern states, AFSPA started being extended and imposed.

What has made AFSPA unpopular among the people?

➢ **Furtherance of Feeling of Alienation:** According to leaders of the Naga nationalist movement, the **use of force and AFSPA furthered the feeling of alienation of the Naga people, solidifying Naga nationalism.**

➢ **Draconian Law & Fake Encounters:** Various incidents of violence have been recorded in the Northeastern states, as AFSPA gives **sweeping powers to security forces**.

○ In a writ petition filed in the **Supreme Court in 2012,** the families of victims of extra-judicial killings alleged **1,528 fake encounters had taken place in the state from May 1979 to May 2012.**

○ The Supreme Court set up a commission to **scrutinize six of these cases, and the commission found all six to be fake encounters.**

➢ **Bypassing State:** There have been instances where the Centre has overruled the state, such as the imposition of AFSPA in Tripura in 1972.

What attempts have been made to repeal AFSPA or reduce its area of operation in the past?

➢ **Protest by Irom Sharmila:** In 2000, the activist Irom Sharmila began a hunger strike that would continue for 16 years against AFSPA in Manipur.

➢ **Justice Jeevan Reddy:** In 2004, the then central government set up a five-member committee under former Supreme Court Justice Jeevan Reddy.

○ The committee recommended the repeal of AFSPA and called it "highly undesirable", and held that it had become a symbol of oppression.

➢ **Second Administrative Reforms Commission Recommendation:** Subsequently, the Second Administrative Reforms Commission, headed by **Veeerapa Moily, endorsed these recommendations.**
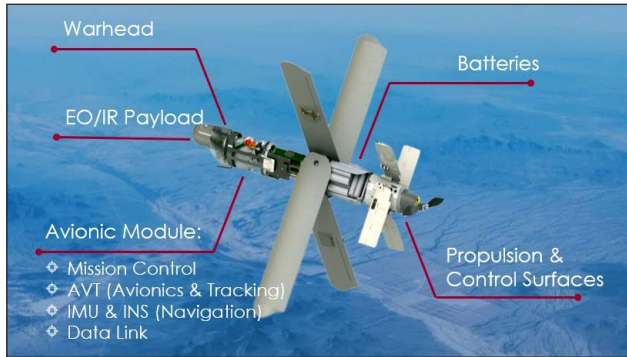
CALM Systems

Why in News?

Recently, the **Indian Army** has issued a **Request for Information (RFI)** for the **Canister Launched Anti-Armour Loiter Ammunition (CALM) System** of its mechanised forces.

Note:

➢ Earlier, the Indian Army had issued a RFI for the supply of **Articulated All-Terrain Vehicles** to be deployed in **Ladakh** and **Kutch**.

What exactly is a CALM System?

➢ The CALM System is a **pre-loaded canister with loiter ammunition** or a **drone**. Loiter munitions are a mix of a **surface-to-surface missile** and a drone.

➢ Once fired it **can remain aloft for a period of time over the area of operation**, and when a target is sighted it can be guided down to destroy the target with the explosive payload that it carries.

➢ Usually, **loiter ammunition carry a camera which is nose-mounted** and which can be **used by the operator to see the area of operation and choose targets**.

➢ These munitions **also have variants which can be recovered and reused in case they are not used for any strike.**

➢ The **top down attack capability of the loiter ammunition gives it a big advantage** over targets such as tanks which are vulnerable to any attack on the top where the armour protection is weak.
  ○ Loiter munitions are **smaller, cheaper and less complex systems than combat or armed drones.**

Has it been Used by Any Country?

➢ The CALM System had been very **effectively used in the Armenia-Azerbaijan conflict** in 2021 where the **Azerbaijan forces made extensive use of Israeli systems** to wreak havoc on Armenian tanks, radar systems, communication hubs and other military targets.

➢ The **Russian military is also using their ZALA KYB loiter ammunition in Ukraine** while some reports say that the US has also provided Ukraine with its Switchblade loiter munitions that could target Russian armour 10 km away.

Where will the Army use CALM Systems?

➢ The CALM Systems will be used in the **plains and deserts of the Western parts of the country** as well as the **Northern high altitude areas** of heights up to 5,000 metres.

➢ It will be **employed by the Mechanised Infantry units of the Army for surveillance of beyond line of sight targets** by day and night in real time and beyond visual range engagement of enemy armoured fighting vehicles and other ground based weapon platforms over extended ranges.

Enhanced Pinaka Mk-I Rocket System

Why in News?

The **Enhanced Pinaka Mk-I Rocket System (EPRS)** was successfully test fired in the Pokhran range in Rajasthan.

➢ As part of the same set of trials, the **Area Denial Munition (ADM)** was also successfully tested.

➢ The tests also **validated the performance of different variants of munitions and fuzes** that can be **used in the Pinaka rocket system**.

➢ ADMs are **a category of ammunition used to prohibit the adversary from occupying or passing through a particular area**.

What is EPRS?

➢ The EPRS is the upgraded version of the Pinaka variant that has been in service with the Indian Army for the last decade.

Note:

○ The design and development has been carried out by Pune-based **DRDO (Defence Research and Development Organisation)** laboratories - **Armament Research and Development Establishment** (ARDE) and **High Energy Materials Research Laboratory** (HEMRL).

➢ The upgrades include advanced technologies enhancing the range to meet the emerging requirements of the battlefield.

➢ While the **Mark-1 has a range of 38 km, the enhanced version of Mark-1 tested in the last fortnight has a range of 45 km** with some key additional features.

➢ The new incarnation of **pinaka represents one of the few examples of an evolutionary process** being followed with an indigenous Indian weapon system.

What is Pinaka Rocket System?

➢ **About:**

○ The Pinaka rocket system is a **multi-barrel rocket system, which is** named after Lord Shiva's bow.

● It is developed by Pune-based Armament Research and Development Establishment (ARDE) and High Energy Materials Research Laboratory (HEMRL).

○ The development of the Pinaka was started by the DRDO in the late 1980s as an alternative to the Multi Barrel Rocket Launcher systems of **Russian make called the 'Grad', which are still in use by some regiments.**

○ After successful tests of Pinaka Mark-1 in late 1990, it was f**irst used in the battlefield during the Kargil war of 1999, quite successfully. Subsequently, multiple regiments of the system came up in the 2000s.**

➢ **Features:**

○ It can fire a salvo of **12 rockets over a period of 44 seconds.**

○ One battery of the Pinaka system consists of six launch vehicles, accompanied by loader systems, **radar** and links with network-based systems and a command post. **One battery can neutralise an area of 1 km by 1 km.**

● As a key tactic of **long-range artillery battle**, the launchers have to 'shoot and scoot' to **ensure they themselves do not become the targets, especially being detectable due to its back blast.**

➢ **Multiple Variants:**

○ DRDO has also developed and **successfully tested the Mk-II and guided variants of the Pinaka, which has a range of around 60 km**, while the Guided Pinaka system has a range of 75 km and has integrated navigation, control and guidance system to improve the end accuracy and enhance the range.

○ The navigation system of the Guided Pinaka missile is also aided by the **Indian Regional Navigation Satellite System (IRNSS).**

■■■

Note:

Miscellaneous

Highlights

- 5G Vertical Engagement and Partnership Program
- Ganoderma Lucidum: Magical Mushroom
- Operation Upalabdh: RPF
- Megaliths of Assam
- Helina: Anti-Tank Guided Missile
- MoU Between SEBI and FRC Mongolia

- Sangeet Natak Akademi and Lalit Kala Akademi Awards
- Nanar Refinery: Maharashtra
- INS Valsura
- Freedom Fighter: Prahlad Patel
- Small Savings Schemes
- VARUNA 2022

5G Vertical Engagement and Partnership Program

Why in News?

The Department of Telecommunications (DoT) has invited Expression of Interest (EoI) for **"5G Vertical Engagement and Partnership Program (VEPP)"** initiative to build strong collaboration partnerships across **5G Use-case ecosystem stakeholders.**

> **What is 5G Technology?**
> - 5G is the 5th generation mobile network. It is a new global wireless standard after 1G, 2G, 3G, and 4G networks.
> - It enables a new kind of network that is designed to connect virtually everyone and everything together including machines, objects, and devices.
> - Internet speeds in the high-band spectrum of 5G has been tested to be as high as 20 Gbps (gigabits per second), while, in most cases, the maximum internet data speed in 4G has been recorded at 1 Gbps.

What is 5G VEPP?

- **About:**
  - It is an Initiative, where the DoT will "facilitate necessary approvals, regulatory clearances **to enable use case prototyping, pilots, demos, trials at the user or vertical industry premises".**
  - The DoT will facilitate access to experimental spectrum, access to testbeds and engagement with academia, other ministries for necessary regulatory policies and pilots wherever feasible.
  - The technology stakeholders, which agree to be a part of the partnership will work to develop and deploy prototypes and pilots for 5G use cases as per the needs of the respective ministries or industry verticals to help accelerate commercial usage and adoption by enterprises.
- **Objectives:**
  - It **seeks to build strong collaboration partnerships** across 5G Use-case ecosystem stakeholders with velocity and with an exclusive emphasis to address User/Vertical Industry needs.
- **Significance:**
  - It will **enable close collaboration between User verticals and 5G Tech stakeholders** (Service providers, Solution providers & partner Original Equipment Manufacturers), which can trigger a multiplier effect to try & finetune 5G digital solutions in respective economic verticals.

Ganoderma Lucidum: Magical Mushroom

Why in News?

Recently, worldwide attempts are being made to popularise **Ganoderma lucidum** (Magical Mushroom) for business and livelihood, by cultivating it on wood logs and sawdust.

Note:

drishti

What are Magical Mushrooms?

➢ It is a **medicinal mushroom** in use for centuries **to heal diseases like diabetes, cancer, inflammation, ulcer as well as bacterial and skin infections**.

  ○ In India, however, the **potential of the fungus is still being explored.**

➢ It is considered **one of the most important medicinal mushrooms in the world** since its chemical constituents exhibit numerous medicinal properties.

  ○ They have earned it monikers such as **"mushroom of immortality", "celestial herb"** and **"auspicious herb"**. It is globally also known as **"red reishi mushroom".**

➢ The history of consumption of this mushroom can be **traced back to 5,000 years ago in China.** It also **finds mention in the historical and medical records** of countries like **Japan, Korea, Malaysia and India.**

➢ Unlike normal mushrooms, the peculiar character of this one is that it **grows on wood or wood-based substrate only.**

  ○ It thrives well in warm and **humid climates**, and grows preferably in mixed forests of **subtropical to temperate regions.**

➢ It **contains more than 400 chemical constituents**, including triterpenes, polysaccharides, nucleotides, alkaloids, steroids, amino acids, fatty acids and phenols.

  ○ These show medicinal properties such as **immunomodulatory, anti-hepatitis, anti-tumour, antioxidant, antimicrobial, anti- Human Immunodeficiency Virus (HIV), anti- malarial,** hypoglycaemic and anti-inflammatory properties.

○ Apart from medicines, *Ganoderma lucidum* is also used as a base material for manufacturing products such as **tea, coffee, energy supplements, health boosters, beverages, baked goods and anti-ageing cosmetics.**

What is the Scope of Cultivating it in India?

➢ Its **mass production is restricted to countries like China, Japan, Korea, Malaysia, Thailand and the United States of America.**

➢ Awareness regarding Ganoderma is spreading and the **demand of this mushroom has pushed many countries, including India, to produce it on a large scale and manufacture its products.**

➢ **India**, a country where a majority of population primarily relies on agriculture**, has great potential to cultivate this mushroom**.

  ○ It can be grown indoors and is thus safe from the impacts of extreme weather conditions, man-wildlife conflicts, harsh topography and poor soil conditions.

➢ In India, the mushroom is mostly restricted to laboratory research at present. **Some successful attempts for its cultivation, however, have been made by various Indian organisations.**

  ○ It is **cultivated on wood logs** (locally called billets) in the country.

➢ It can have **immense potential for livelihood generation,** but there are some challenges as well.

  ○ The dried fruiting bodies or raw powder of *Ganoderma lucidum* can be sold at **Rs 4,000-5000 per kilogram.**

Operation Upalabdh: RPF

Why in News?

Recently, **Railway Protection Force (RPF)** conducted a Pan India Drive against the alleged **black marketeers** under **Operation Upalabdh.**

➢ Earlier in February 2022, the RPF had launched a nationwide operation to curb human trafficking named **Operation AAHT.**

Note:

What is Operation Upalabdh?

➤ The month-long drive under **Operation Upalabdh** has been able to **curb the activities of touts substantially and make railway tickets available to the common man**.

What is the Railway Protection Force?

➤ The contingent of RPF is **an Armed Force of the Union of India.** It is a security force under the **ownership of Indian Railways, Ministry of Railways.**

   ❍ The history of the RPF dates back to **1882** when various railway companies appointed their own guards for protection of railway property.

➤ The force was **declared as statutory force in the year 1957** by an enactment of Parliament subsequently **declared as an Armed Force of the Union of India in the year 1985.**

➤ The RPF Rules were enacted in 1959 and **RPF Regulations published in 1966**. In the same year, some limited powers to apprehend and prosecute offenders involved in railway property were conferred on the Force by enacting the **Railway Property (Unlawful Possession) Act, 1966.**

➤ Primarily RPF has been entrusted with **responsibility of the safety of Railway property**. But, while the provisions of RPF Act were soon found wanting for the maintenance of an effective and disciplined Force, the RPF Rules and Regulations too were found judicially unsound.

   ❍ The **RPF Act, 1957** was accordingly modified by **Parliament** in 1985 for the constitution and maintenance of the Force as an armed force of the Union.

➤ This Force draws its men from all parts of the country and thus takes pride in reflecting a **truly national character and image.** The Force has earned recognition and glory since its inception.

Megaliths of Assam

Why in News?

Recently, Archaeologists have identified **65 large sandstone jars (Megaliths)** believed to be used for ritual burials across four sites in Hasao district, Assam.

➤ Earlier in 2020, the State Department of Archaeology, Chennai had identified 250 cairn-circles (Megalithic Structures) from the **Kodumanal excavation site in Erode district of Tamilnadu.**

What are the Assam Megaliths?

➤ Some jars are **tall and cylindrical**, while others are **partly or fully buried in the ground.**

➤ Some of them spanned up to **three metres high and two metres wide.** Some of the jars **feature decorative carvings, while others are plain.**

What is the History of Megaliths in Assam?

➤ The jars of Assam were **first sighted in 1929 by British civil servants James Philip Mills and John Henry Hutton,** who recorded their presence in **six sites in Dima Hasao**: **Derebore** (now Hojai Dobongling), **Kobak, Kartong, Molongpa** (now Melange Puram), **Ndunglo and Bolasan** (now Nuchubunglo).

➤ **Two sites were discovered in 2016**. In 2020, four more sites were discovered by the **History and Archaeology Department at North-Eastern Hill University, Shillong, Meghalaya.**

   ❍ At one site, **Nuchubunglo**, as many as 546 jars were found which was the largest such site in the world.

What is the significance of the Findings?

➤ While the jars are yet to be scientifically dated, the researchers said **links could be drawn with the stone jars found in Laos and Indonesia.**

   ❍ There are **typological and morphological similarities** between the jars found at all three sites.

➤ There is **no reported parallel anywhere else in India,** apart from the northeast – this points to the fact that once upon a time a group of people having similar kind of **cultural practice occupied the same geography between Laos and Northeast India**.

   ❍ Dating done at the **Laos** site suggests that jars were positioned at the sites as early as the late **second millennium BC.**

   ❍ In Laos, researchers had said there was a "**strong association" between the stone jars and mortuary practices, with human skeletal remains found inside and buried around the jars.**

   ❍ In Indonesia, the **function of the jars remains unconfirmed,** although some scholars suggest a similar mortuary role.

Note:

➢ It calls for more research to understand the "likely cultural relationship" between Assam and Laos and Indonesia.

What are Megaliths?

➢ A megalith is a large stone that has been used to construct a **prehistoric structure or monument, either alone or together with other stones.**

➢ Megaliths were constructed either as b**urial sites or commemorative (non-sepulchral) memorials**.

➢ The former are sites with actual burial remains, such as **dolmenoid cists** (box-shaped stone burial chambers), **cairn circles** (stone circles with defined peripheries) and **capstones** (distinctive mushroom-shaped burial chambers found mainly in Kerala).

➢ The urn or the sarcophagus containing the mortal remains was usually made of terracotta. Non-sepulchral megaliths include **memorial sites such as menhirs.**

➢ In India, archaeologists trace the majority of the megaliths to the **Iron Age (1500 BC to 500 BC),** though some sites precede the Iron Age, **extending up to 2000 BC.**

➢ Megaliths are spread across the Indian subcontinent. The majority of megalithic sites are found in Peninsular India, concentrated in the states of **Maharashtra** (mainly in Vidarbha), **Karnataka, Tamil Nadu, Kerala, Andhra Pradesh, and Telangana.**

Major Megalithic Sites in India
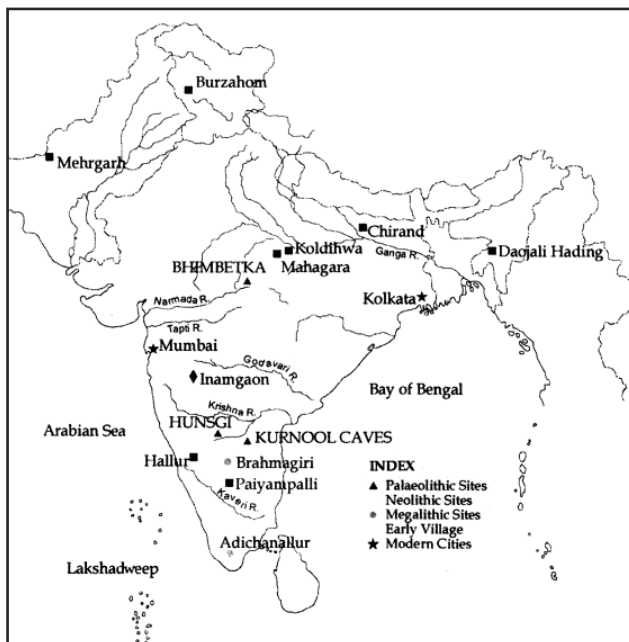
Helina: Anti-Tank Guided Missile

Why in News?

India has successfully flight-tested **Helina**, **an Anti-Tank Guided Missile** (ATGM), in Pokhran.

➢ According to the **Defence Research and Development Organisation** (DRDO), it is **one of the most advanced Anti-Tank Weapons in the world**.

➢ The test was **part of user validation trials of the third generation 'fire and forget' class missiles** developed by the DRDO.

What is Helina?

➢ **About:** Helina has been **developed by the Defence Research and Development Laboratory (DRDL), Hyderabad** under the **Missiles and Strategic Systems (MSS)** cluster of the DRDO.

○ Successful user trials of the missile have been conducted **since 2018**.

➢ **Features:** It has a **maximum range of seven kilometers** and has been **designed and developed for integration on the weaponized version of the ALH (Advanced Light Helicopter)**.

○ The missile system **has all-weather, day, and night capability** and can defeat battle tanks with conventional armour as well as explosive reactive armour.

○ It has been **developed for integration with choppers** in both the Army and the Air Force.

● The **Air Force version** of Helina is sometimes referred to as **Dhruvastra**.

○ Helina can **engage targets both in direct hit mode as well as top attack mode.**

● **Top Attack Mode:** In this mode, the missile is required to climb sharply after launch and travel at a certain altitude, and then plunge on the top of the target.

● **Direct Hit Mode:** The missile travels at a lower altitude, directly striking the target.

➢ **Other Anti-tank Missiles:** The DRDO has designed and developed a range of anti-tank missile technologies that include:

Note:

○ **The Nag:** It is a **third-generation fire-and-forget missile** developed for mechanized formations to engage heavily fortified enemy tanks.

○ **MPATGM:** It stands for **Man-Portable Anti-Tank Guided Missile** which has a range of 2.5 kilometers, with fire-and-forget and top attack capabilities for infantry use.

○ **SANT:** It is a **Smart Stand-off Anti-Tank Missile** being developed for launch from the Mi-35 Helicopter for the Air Force's anti-tank operations.

○ **ATGM for MBT Arjun:** ATGM for MBT Arjun is a **laser-guided, precision-guided munition** that is launched from the 120mm rifled gun of the Arjun tank to engage and defeat Explosive Reactive Armour-protected armoured targets.

MoU Between SEBI and FRC Mongolia

Why in News?

Recently, the Union Cabinet has approved the proposal for a bilateral Memorandum of Understanding (MoU) between **Securities and Exchange Board of India (SEBI) and Financial Regulatory Commission, Mongolia (FRC).**

➢ FRC is Mongolia's (non-bank) financial markets regulator.

➢ FRC, like SEBI, is a co-signatory to **International Organization of Securities Commissions' Multilateral MoU** (IOSCO MMoU).

What is the MoU about?

➢ The proposed bilateral MoU would, in addition to contributing towards strengthening the information sharing framework leading to effective enforcement of securities laws, also help in establishing a technical assistance programme.

○ The IOSCO MMoU does not have under its scope **the provision for technical assistance.**

➢ The technical assistance programme would benefit the Authorities by way of consultations on matters relating to capital markets, capacity building activities and training programmes for the staff.

What is IOSCO?

➢ **Founded:** April 1983

➢ **Headquarters**: Madrid, Spain

○ IOSCO Asia Pacific Hub is located in Kuala Lumpur, Malaysia.

➢ **About:**

○ **It is the international organization that brings together the world's securities regulators**, covering more than 95% of the world's securities markets, and is the global standard setter for the securities sector.

○ It works closely with the **G20 (Group of Twenty)** and the **Financial Stability Board (FSB)** in setting up the standards for strengthening the securities markets.

➢ **Objectives:**

○ The IOSCO Objectives and Principles of Securities Regulation have been endorsed by FSB as one of the key standards for sound financial systems.

○ IOSCO's enforcement role extends to matters of interpretation of **International Financial Reporting Standards (IFRS)**, where IOSCO maintains a (confidential) database of enforcement actions taken by member agencies.

● IFRS is an accounting standard that has been issued by the International Accounting Standards Board (IASB) with the objective of providing a common accounting language to increase transparency in the presentation of financial information.

What is SEBI?

➢ **About:**

○ SEBI is **a Statutory Body (a Non-Constitutional body which is set up by a Parliament) established on 12th April, 1992** in accordance with the provisions of the Securities and Exchange Board of India Act, 1992.

○ The basic functions of SEBI is to protect the interests of investors in securities and to promote and regulate the securities market.

○ The h**eadquarters of SEBI is situated in Mumbai.** The regional offices of SEBI are located in Ahmedabad, Kolkata, Chennai and Delhi.

➢ **Background:**

○ Before SEBI came into existence**, Controller of Capital Issues was the regulatory authority; it** derived authority from the Capital Issues (Control) Act, 1947.

Note:

○ I**nitially SEBI was a non statutory body** without any statutory power.

○ It became autonomous and given statutory powers by SEBI Act 1992.

Sangeet Natak Akademi and Lalit Kala Akademi Awards

Why in News?

The Vice President bestowed the **Sangeet Natak Akademi Fellowship and Sangeet Natak Awards** for the year 2018 to **44 eminent artists** (4 Fellows and 40 awardees).

➤ He also presented Fellowships and National Awards of **Lalit Kala Akademi** for the year 2021 to **23 people** (3 Fellows and 20 National Awards).

What is Sangeet Natak Akademi Fellowship (Akademi Ratna) and Award?

➤ **Sangeet Natak Akademi Fellowship:**

○ The Sangeet Natak Akademi Fellowship is the **highest honour** conferred by Sangeet Natak Akademi **without distinction of nationality, race, caste, religion, creed, or sex.**

○ The Fellowship of the Akademi is th**e most prestigious and rare honour, which is restricted to 40 numbers at any given time**.

○ The honour of Akademi Fellow carries a purse money of Rs.3,00,000/- (Rupees three lakh) along with a **Tamrapatra and Angavastram.**

➤ **Sangeet Natak Akademi Awards:**

○ The awards are given to the artists from the field of **Music, Dance, Theatre, Traditional/Folk/Tribal Music/Dance/Theatre, Puppetry and Overall contribution/scholarship in the Performing Arts etc.**

○ Akademi Puraskar carries Rs 1,00,000/- (Rupees one lakh) along with Tamrapatra and Angavastram.

What is the Lalit Kala Akademi Award?

➤ The National Lalit Kala Akademi awards are c**onferred to recognize individuals for their outstanding work in the field of art.** The awardees are selected by an esteemed panel of judges, nominated by the Akademi.

What is Sangeet Natak Akademi?

➤ The Sangeet Natak Akademi is **India's national academy for music, dance and drama.**

➤ **It was created by a resolution of the (then) Ministry of Education, Government of India, in 1952** with Dr P.V. Rajamannar as its first Chairman.

➤ It is presently an **Autonomous Body of the Ministry of Culture,** Government of India and is fully funded by the Government for implementation of its schemes and programmes.

➤ The Akademi establishes and looks after institutions and projects of national importance in the field of the performing arts. Few important ones are:

○ **National School of Drama,** New Delhi was set up in **1959,**

○ **Jawaharlal Nehru Manipur Dance Academy** in Imphal- 1954,

○ **Kathak Kendra** (National Institute of Kathak Dance) in New Delhi- 1964.

○ National Projects of Support to **Kutiyattam (Sanskrit theatre of Kerala)**, Chhau dances of eastern India, **Sattriya** traditions of Assam, etc.

What is Lalit Kala Academy?

➤ The Akademi was inaugurated on 5th August, 1954, by the then Honourable Minister for Education, Maulana Abul Kalam Azad.

➤ The Akademi was given **statutory authority in 1957, under the Societies Registration Act 1860.**

➤ Since its establishment it has been serving the entire country by **promoting the creative endeavours of Indian artists and bringing their arts to bear upon a large number of people**, thereby playing an important role in defining and redefining the sensibility of an entire culture, falling under the visual arts spectrum.

➤ It is **headquartered in New Delhi**.

Nanar Refinery: Maharashtra

Why in News?

Recently, the Ministry of Petroleum & Natural Gas has indicated that the **Nanar oil refinery project in Konkan region may be revived** as the Maharashtra government was reconsidering its decision about stalling the project.

Note:

What is the Nanar oil Refinery Project?

➤ The project was mooted by the Centre and the Maharashtra government i**n 2014 and it was aimed at bringing development to the backward Konkan region.**

  ○ The project was **scrapped ahead of the 2019 Assembly and Lok Sabha elections.**

➤ It was supposed to be a **joint venture between Indian Oil, Bharat Petroleum and Hindustan Petroleum**, and Saudi Arabia-owned Aramco and United Arab Emirates' National Oil Company.

➤ It was estimated that the project would bring in investment to the tune of Rs 3 lakh crore and **generate employment for at least one lakh local residents.**

➤ It would also **create new job generating avenues by setting up ancillary units.**

Why was the Project Stopped?

➤ To start the project, the government required 14,000 hectares of land spread across 17 villages in the region.

➤ **Local leaders vehemently opposed the project,** saying the oil refinery would be detrimental for the environment of Konkan region.

➤ In 2019, 14 gram **panchayats** adopted a resolution **demanding scrapping of the project and local residents took to the streets to protest,** saying the project would be **hazardous to fishing and cultivation of paddy, mangoes and jackfruit**, which are traditionally grown by local residents.

INS Valsura

Why in News?

Recently, the President of India presented the **prestigious President's Colour to INS** (Indian Naval Ship) **Valsura**.

What does the President's Colour mean?

➤ It is the **highest award bestowed on a military unit** in India in recognition of its exceptional services to the nation.

  ○ Out of the three defence forces, the **Indian Navy** was the **first Indian Armed Force to** be awarded the President Colour by **Dr. Rajendra Prasad in 1951**.

➤ **The Tradition:** The origin of Colours in the military **is as old as the service itself**. In ancient India, the armies of various Kings carried the **'Dhwaj'** or the flag whenever it went into a battle.

  ○ The same is also true for the military traditions of ancient **Egypt or Rome** where the armies carried flags and the 'Roman Eagle' into battle.

  ○ In India, as well as many Commonwealth nations, the **tradition of Colours has been drawn from the British Army**.

  ○ Traditionally, there have been **four kinds of symbols associated with Colours** —Standards, Guidons, Colours and Banners.

  ○ The Infantry regiments, army establishments, and Naval and Air Force units are all awarded Colours by the President while the Armoured Regiments are awarded the Standards.

  ○ The battle honours of the regiments are displayed on the Colours and therefore **serve as a link to the regiment's past**.

  ○ The only exception is the **Regiment of Artillery**. In Artillery, the **guns are considered to be the Colours** and losing a gun in battle is similar to losing the Colour of the entire regiment.

What is INS Valsura?

➤ **History:** The name "Valsura" **was derived from the combination of two Tamil words**, **'Vaal'** (meaning sword) and **'Sorrah'** (shark). It was considered appropriate due to the variety of **swordfish** found off the **coast of Saurashtra**.

Note:

○ Swordfish was also the name of the famous Second World War **torpedo-carrying aircraft**.

○ The unit was commissioned as a **torpedo training school during World War II to enhance the capability of the Indian Royal Navy.**

○ The establishment was commissioned on 15th December, 1942 by then **Maharani Gulab Kunverba Sahiba of Nawanagar**. After Independence, HMIS Valsura was **renamed as INS Valsura** on 1st July, 1950.

➤ **Remarkable Outreach Activity:** In the aftermath of the **devastating earthquake in Gujarat**, Valsura performed a remarkable 'Outreach' activity.

○ It played an important role in the restoration of the earthquake-ravaged Moda village and the **construction of a new Navy Moda village** in record time.

○ This achievement was recognised by the Navy when the **Special Unit Citation** was bestowed on the unit in December 2001, an honour **normally reserved for operational units**.

➤ **Current Status of INS Valsura:** The unit imparts **quality training on contemporary and niche technologies** through progressive augmentation of training infrastructure.

○ The setting up of **Artificial Intelligence**, Big Data, and Medium Voltage labs in recent years exemplify its quest for technological excellence in contemporary technology and also in training officers and sailors.

○ INS Valsura has **also emerged as the preferred training destination for Friendly Foreign Navies.**

○ INS Valsura has also **helped India strengthen bilateral ties with countries in the Indian Ocean region**.

Freedom Fighter: Prahlad Patel

Why in News?

Recently, the Prime Minister recalled the '**Nation First**' spirit of freedom fighter **Prahlad Patel** on his 115th birth anniversary.

➤ He noted Shri Prahladji Patel's generosity in social service and his sacrifice. And **requested universities in Gujarat should carry out research and bring to light such forgotten freedom fighters** and underscore their contribution in the independence movement.

Who was Prahlad Patel?

➤ Prahlad Patel hailed from Becharaji in Gujarat and fought for India's independence from British rule, and later joined the '**Bhoodan' movement** of social reformer **Vinoba Bhave**.

○ He **donated 200 bighas** of land that he owned.

➤ The freedom fighter joined the freedom struggle on the call of **Mahatma Gandhi** and underwent imprisonment in Sabarmati and Yerawada .

➤ Shri Patel's father passed away when he was incarcerated but Shri Prahladji Patel **did not accept the conditions of apology** that were put forward by the colonial rulers for allowing him to perform the last rites.

○ He also **supported many freedom fighters who were fighting underground.**

➤ Prahlad Patel also helped **Sardar Patel** in the **merger of princely states after independence.**

➤ When Gujarat was formed in 1960, he even **contested elections from the Chanasma seat in Patan district** and took the entire region on the path of development.

Small Savings Schemes

Why in News?

Recently, the **government has kept interest rates unchanged** on Small savings Schemes, including NSC (National Savings Certificate) and PPF (Public Provident Fund) for the first quarter of 2022-23 (April-June) **due to an elevated level of inflation.**

What are the Small Saving Schemes/Instruments?

➤ **About:**

○ They are the **major source of household savings in India** and **comprise 12 instruments.**

○ The depositors get **an assured interest on their money.**

○ Collections from all small savings instruments are credited to the **National Small Savings Fund (NSSF).**

○ Small savings have emerged as **a key source of financing the government deficit, especially after the Covid-19 pandemic** led to a ballooning of the government deficit, necessitating higher need for borrowings.

Note:

drishti

➢ **Classification:** Small savings instruments can be classified under three heads:
  ○ **Postal Deposits** (comprising savings account, recurring deposits, time deposits of varying maturities and monthly income scheme).
  ○ **Savings Certificates:** National Small Savings Certificate (NSC) and Kisan Vikas Patra (KVP).
  ○ **Social Security Schemes:** Sukanya Samriddhi Scheme, Public Provident Fund (PPF) and Senior Citizens' Savings Scheme (SCSS).
➢ **Determination of Rates:**
  ○ Interest rates on small savings schemes **are reset on a quarterly basis, in line with the movement in benchmark government bonds** of similar maturity. The rates are **reviewed periodically by the Ministry of Finance.**
  ○ The **Shyamala Gopinath panel (2010)** constituted on the Small Saving Scheme had suggested a market-linked interest rate system for small savings schemes.

VARUNA 2022

Why in News ?

The **20th edition of the Indian and French Navy bilateral exercise 'VARUNA-2022'** is being conducted in the Arabian Sea.

➢ It has become **a vital part of the India-France strategic bilateral relationship.**

What are the Key Points?

➢ **About:**
  ○ The Indian and French Navies **have been conducting bilateral maritime exercises since 1993.** Since 2001, these exercises have been called 'VARUNA'. This is **an annual event.**
  ○ These interactions further underscore the shared values as partner navies, in ensuring freedom of seas and commitment to an open, inclusive **Indo-Pacific** and a rules-based international order.
➢ **Other Indo-French Joint Exercises:**
  ○ Desert Knight-21 and Garuda (Air exercise)
  ○ Shakti (Army exercise)

∎∎∎

Key Points

Details

Summary

Key Points

Details

Summary