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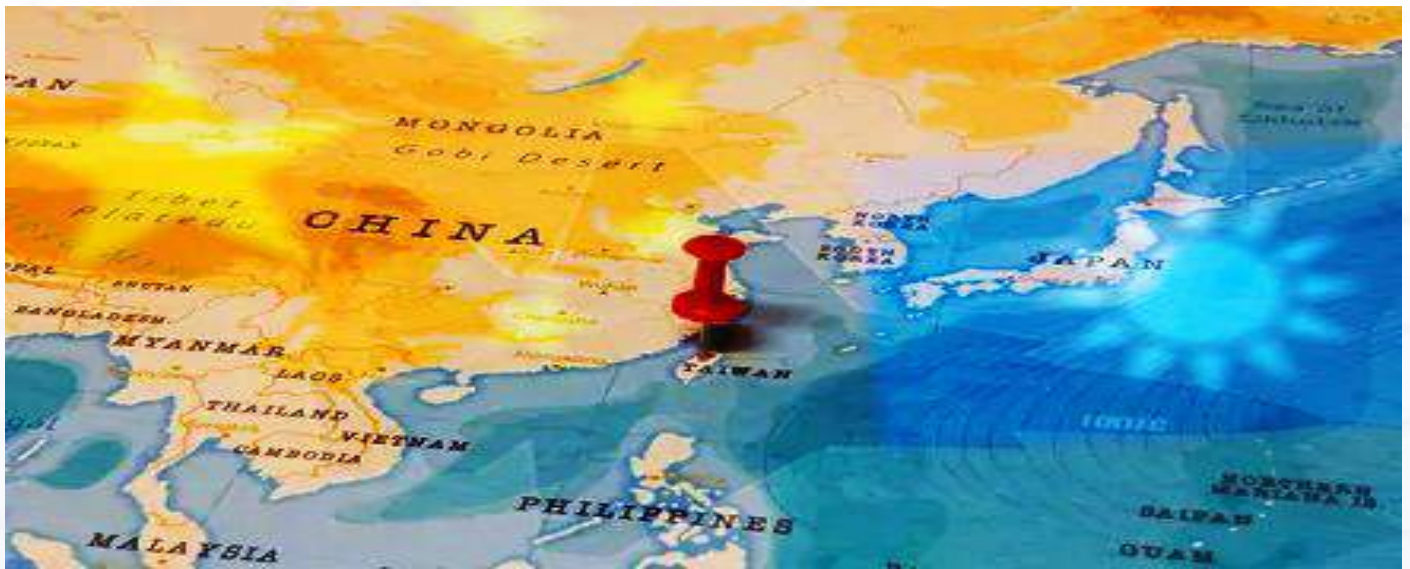
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Pingali Venkayya
Freedom Fighter who Designed
the Indian National Flag

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PRELIMS



POLITY & GOVERNANCE



Electoral bonds

In News: Donations to political parties through electoral bonds (EBs) have crossed the Rs 10,000-crore mark, with parties getting another Rs 389.5 crore through such bonds in the 21st sale of EBs conducted between July 1 and 10.

- With this, the total amount collected by parties has gone up to Rs 10,246 crore from various anonymous donors in 21 phases since 2018 when the EB scheme was introduced.
- Only the political parties registered under Section 29A of the Representation of the People Act, 1951 and have secured not less than 1 per cent of the votes polled in the last general election to the House of the People or the Legislative Assembly, as the case may be, are eligible to receive electoral bonds.

Electoral Bond

- It is a **financial instrument** for making donations to political parties.
- 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.
- The central idea behind the electoral bonds scheme was to bring about transparency in electoral funding in India.

The need for a distinction between blasphemy and hate speech

What is Blasphemy and Hate Speech?

- Blasphemy is the act of insulting or showing contempt or lack of reverence for God.
- Hate Speech is an abusive or threatening speech or writing that expresses prejudice against a particular group or an individual, especially on the basis of race, religion, or sexual orientation.

Laws in India

Section 295 (A) of IPC

- As far as laws in India go, **there isn’t formal legislation against blasphemy.**
- The **closest equivalent to a blasphemy law is Section 295(A)** of the Indian Penal Code (IPC), which **punishes** any speech, writings, or signs that with premeditated and malicious intent insult citizens’ religion or religious beliefs with a fine and imprisonment for up to three years.
- **Legality of Section 295(A)**, which had been challenged in **Ramji Lal Modi case (1957)**,

	<p>was affirmed by a five-judge Bench of the Supreme Court.</p> <ul style="list-style-type: none"> The apex court reasoned that while Article 19(2) allows reasonable limits on freedom of speech and expression for the sake of public order, the punishment under Section 295(A) deals with aggravated form of blasphemy which is committed with the malicious aim of offending the religious sensibilities of any class. <p>How has the legislation been interpreted?</p> <ul style="list-style-type: none"> In the case of Superintendent, Central Prison, Fatehgarh vs Ram Manohar Lohia the Supreme Court stated that the link between the speech spoken and any public disorder caused as a result of it should have a close relationship for retrieving Section 295(A) of IPC. By 2011, it concluded that only speech that amounts to "incitement to impending unlawful action" can be punished. <p>Should there be a difference between blasphemy laws and hate speech laws?</p> <ul style="list-style-type: none"> The wording of Section 295(A) is considerably too wide. Unfortunately, there is a huge disparity between this interpretation and the actual wording due to which the law is still being exploited at all levels of administration.
<p>No immunity from arrest in criminal cases for MPs during session</p>	<p>In News: Rajya Sabha Chairman M Venkaiah Naidu said in the Upper House that MPs did not have immunity from being arrested in criminal cases — when the House is in session or otherwise.</p> <ul style="list-style-type: none"> He said MPs could not avoid summons from law enforcement agencies. <p>Article 105 of the Constitution, it says:</p> <ul style="list-style-type: none"> Subject to provisions of Constitution and rules regulating the procedure of Parliament, there shall be freedom of speech in Parliament; No member shall be liable to any proceedings in any court in respect of any thing said or any vote given by him in Parliament or any committee thereof; The powers, privileges and immunities of each House of Parliament, and of the members and the committees of each House, may from time to time be defined. <p>Section 135A of Civil Procedure Code</p> <ul style="list-style-type: none"> It exempts from arrest and detention under civil process members of Parliament, Legislative Assemblies and Councils, those part of an ongoing meeting or committee of such a House, and during 40 days before and after such meeting, sitting or conference. It also says that no member shall be arrested in a civil case 40 days before and after the adjournment of the House and also when the House is in session. No member can be arrested within the precincts of Parliament without the permission of the House to which he/she belongs. <p>The Supreme Court view:</p> <ul style="list-style-type: none"> In July 2021, the SC rejected a plea by the Kerala government to withdraw criminal cases against its MLAs, who destroyed public property and disrupted a Budget speech in the Assembly in 2015. The state had claimed parliamentary privilege and immunity from criminal prosecution, arguing that the incident occurred inside the Assembly hall. They also said that prior sanction of the Speaker was necessary before the registration of an FIR by the police. But the SC held that legislators who indulge in vandalism and general mayhem cannot claim parliamentary privilege and immunity from criminal prosecution, and that this

	<p>could not be called “essential legislative action”.</p> <ul style="list-style-type: none"> • The Court also held that vandalism on the floor of the Assembly could not be equated with the right to protest by Opposition legislators.
Vice President of India	<p>In News: President of India administers the oath of office of Vice President of India to Shri Jagdeep Dhankhar.</p> <p>Vice-President (VP)</p> <ul style="list-style-type: none"> • He Vice-President occupies the second highest office in the country. • He is accorded a rank next to the President in the official warrant of precedence. <p>Election</p> <p>The Electoral College of VP is different from the Electoral College for the election of the President in the following two respects:</p> <ul style="list-style-type: none"> • It consists of both elected and nominated members of the Parliament (in the case of president, only elected members). • It does not include the members of the state legislative assemblies (in the case of President, the elected members of the state legislative assemblies are included). <p>Qualifications</p> <p>To be eligible for election as Vice-President, a person should fulfil the following qualifications:</p> <ul style="list-style-type: none"> • He should be a citizen of India. • He should have completed 35 years of age. • He should be qualified for election as a member of the Rajya Sabha. • He should not hold any office of profit under the Union government or any state government or any local authority or any other public authority. <p>The Constitution lays down the following two conditions of the Vice-President’s office:</p> <ul style="list-style-type: none"> • He should not be a member of either House of Parliament or a House of the state legislature. If any such person is elected Vice-President, he is deemed to have vacated his seat in that House on the date on which he enters upon his office as Vice-President. • He should not hold any other office of profit. <p>Term of Office</p> <ul style="list-style-type: none"> • The Vice-President holds office for a term of five years from the date on which he enters upon his office. • However, he can resign from his office at any time by addressing the resignation letter to the President. • He can also be removed from the office before completion of his term. • He can be removed by a resolution passed by a majority of all the then members of the Rajya Sabha and agreed to by the Lok Sabha. • This means that this resolution should be passed in the Rajya Sabha by an effective majority and in the Lok Sabha by a simple majority. • This resolution can be introduced only in Rajya Sabha and not in Lok Sabha. • But, no such resolution can be moved unless at least 14 days’ advance notice has been given. • No ground has been mentioned in the Constitution for his removal. • The VP can hold office beyond his term of five years until his successor assumes charge. He is also eligible for reelection to that office. • The Constitution has not fixed any emoluments for the VP in that capacity. • He draws his regular salary in his capacity as the ex-officio Chairman of the Rajya Sabha.

	<p>The functions of Vice-President are two-fold:</p> <ul style="list-style-type: none"> • He acts as the ex-officio Chairman of Rajya Sabha. • In this capacity, his powers and functions are similar to those of the Speaker of Lok Sabha. • He acts as President when a vacancy occurs in the office of the President due to his resignation, impeachment, death or otherwise. • He can act as President only for a maximum period of six months within which a new President has to be elected. • Further, when the sitting President is unable to discharge his functions due to absence, illness or any other cause, the Vice-President discharges his functions until the President resumes his office. • While acting as President or discharging the functions of President, the VP does not perform the duties of the office of the chairman of Rajya Sabha. • During this period, those duties are performed by the Deputy Chairman of Rajya Sabha.
<p>Common civil code of Goa</p>	<p>Context: The Portuguese Civil Code of 1867, the so-called “common civil code” of Goa, is in the news again.</p> <p>Pre-independence</p> <ul style="list-style-type: none"> • The Portuguese had occupied certain territories in the coastal regions of the country and established what they called Estado Portuguese da India (Portuguese State of India) with its capital in Cochin, later shifted to Goa. • They did not interfere with the local customs relating to family relations and framed, in the mid-19th century, three separate codes of religion-based customary laws of Goa, Daman and Diu. • The Portuguese Civil Code of 1867 was extended to Goa, Daman and Diu by a royal decree of November 18, 1869, declaring that the code would apply to the natives subject to the local usages and customs “so far as they are not inconsistent with morality or public order”. • The three local codes of customary law were accordingly revised in later years. • In 1910, the Portuguese parliament enacted two civil marriage and divorce decrees and, in 1946, a canonical marriage decree for Catholics. • All of these too were extended to Goa, Daman and Diu. • The family law applied by the Portuguese, both at home and in the occupied Indian territories, was thus not a uniform code but a loose conglomeration of civil and religious laws. <p>Post-independence</p> <ul style="list-style-type: none"> • 14 years after the advent of Independence, Goa and its affiliated territories were liberated and turned into a Union Territory (UT) under central rule. • The Goa, Daman and Diu Administration Act of 1962 declared that all laws in force in these territories before their liberation would continue to be in force “until amended or repealed by a competent legislature or other competent authority”. • None of the pre-liberation family laws was, however, amended or repealed. • Nor was any central law on family rights, including the four Hindu law Acts of 1955-56, extended to any of the three territories. <p>Outdated law</p> <ul style="list-style-type: none"> • The myth of an outdated law of foreign origin now serving all inhabitants of Goa as a

	<p>fully common civil code needs to be duly busted.</p> <ul style="list-style-type: none"> • Moreover, there is no justification for retaining over a century-old archaic law, 75 years after the independence of India. • It seems quite inexplicable that the other civil laws used in the rest of the country cannot be extended to the same communities in Goa, Daman and Diu. <p>Must Read: Uniform Civil Code</p>
<p>Essential Commodities Act</p>	<p>In News: With tur dal prices surging since mid-July and reports coming in of some traders creating artificial supply squeeze by restricting sales, the Centre has invoked the Essential Commodities Act of 1955 to ask States to monitor and verify the stocks available with such traders.</p> <p>Essential Commodities Act 1955:</p> <p>Background</p> <ul style="list-style-type: none"> • The ECA Act 1955 was legislated at a time when the country was facing a scarcity of foodstuffs due to persistent low levels of foodgrains production. • To prevent hoarding and black marketing of foodstuffs, the Essential Commodities Act was enacted in 1955. <p>Features</p> <ul style="list-style-type: none"> • Objective: The ECA 1955 is used to curb inflation by allowing the Centre to enable control by state governments of trade in a wide variety of commodities. • There is no specific definition of essential commodities in the Essential Commodities Act, 1955. • Section 2(A) States that an “essential commodity” means a commodity specified in the Schedule of the Act. • The Centre, if it is satisfied that it is necessary to do so in public interest, can notify an item as essential, in consultation with state governments. • Legal Jurisdiction: The Act gives powers to the central government to add or remove a commodity in the Schedule. • Implementing Agency: The Ministry of Consumer Affairs, Food and Public Distribution, implements the Act. • By declaring a commodity as essential, government can control production, supply, and distribution of that commodity, and impose a stock limit. <p>Issues Related to Essential Commodities Act 1955:</p> <ul style="list-style-type: none"> • The Economic Survey 2019-20 highlighted that government intervention under the ECA 1955 often distorted agricultural trade while being totally ineffective in curbing inflation. • Such intervention does enable opportunities for rent-seeking and harassment. Rent-seeking is a term used by economists to describe unproductive income, including from corruption. • Traders tend to buy far less than their usual capacity and farmers often suffer huge losses during surplus harvests of perishables. • This led to farmers being unable to get better prices due to lack of investment in cold storage, warehouses, processing and export. • Owing to these issues, the Parliament passed the Essential Commodities (Amendment) Bill, 2020. However, due to farmers’ protest the Government had to repeal this law.
<p>NIDAAN Portal - National</p>	<p>In News: India's first portal on arrested narco offenders gets operational.</p>

Integrated Database on Arrested Narco-offenders

- The portal — NIDAAN or the National Integrated Database on Arrested Narco-offenders — has been developed by the Narcotics Control Bureau (NCB).
- It is **part of the narcotics coordination mechanism (NCORD) portal** that was launched by Union Home Minister.
- The NIDAAN **platform sources its data from the ICJS (inter-operable criminal justice system) and the e-Prisons (a cloud-based application) repository** and it is planned to integrate it in the future with the crime and criminal tracking network system or CCTNS, a senior officer said.
- The **ICJS, an initiative of the Supreme Court e-committee**, was created to enable **seamless transfer of data and information among different pillars of the criminal justice system**, like courts, police, jails and forensic science laboratories, from one platform.
- ***NIDAAN is a one-stop solution for all narcotics offenders' related data and will help investigative agencies as an effective tool to connect the dots while probing narcotics cases.***
- NIDAAN **hosts data about those accused who have been arrested and jailed for drugs offences** and those who are directly or indirectly involved in the produce, manufacture, possession, selling, purchase, transport, warehousing, usage, consumption, inter-state import and export, import into India, export from India or transshipment of any narcotics or psychotropic substance
- Any agency can search for the crime history, personal details, fingerprints, court cases and appeals made etc. with regard to a drug offender from any part of the country.
- A **distinct feature called 'criminal network'** on the portal can also be accessed by agencies, as part of which specific links of an accused to other crimes, linked police FIRs and those who visited them in jail can also be accessed, the officer said.

Recife Political Declaration

In News: In line with the **World health Organisation's (WHO's) global strategy on "Human Resources for Health: Workforce 2030"**, the Ministry of Health and Family Welfare issued draft guidelines to improve the working conditions of all categories of nurses in all healthcare institutions across India.

The Global Strategy on Human Resources for Health: Workforce 2030

- In May 2014, the **67th World Health Assembly** adopted this resolution as a follow-up of the Recife Political Declaration on Human Resources for Health.
- Member States requested the Director-General of the World Health Organization (WHO) to develop and submit a new global strategy for human resources for health (HRH) for consideration by the 69th World Health Assembly.
- The Global Strategy on Human Resources for Health: Workforce 2030 is primarily aimed at planners and policy-makers of Member States.
- However, its contents are of value to all relevant stakeholders in the health workforce area.
- Which includes public and private sector employers, professional associations, education and training institutions, labour unions, bilateral and multilateral development partners, international organizations, and civil society
- This framework identifies the health worker competencies needed to provide quality, integrated, people-centred, health-promotive, preventive, curative, rehabilitative and palliative care services

	<ul style="list-style-type: none"> This provides key principles required for effective interprofessional collaborative practice, including recommendations for policy and governance structures, health system infrastructures, and education programmes and opportunities.
Sovereign Gold Bond Scheme 2022-23	<p>Sovereign Gold Bond Scheme 2022-23</p> <ul style="list-style-type: none"> Recently Government of India, in consultation with the Reserve Bank of India, decided to issue Sovereign Gold Bonds in tranches for 2022-23. The SGB scheme was launched in November 2015 with an objective to reduce the demand for physical gold and shift a part of the domestic savings - used for the purchase of gold - into financial savings. The Gold Bonds are issued as Government of India Stock under the Government Securities (GS) Act, 2006. These are issued by the Reserve Bank of India (RBI) on behalf of the Government of India. Bonds are sold through Commercial banks, Stock Holding Corporation of India Limited (SHCIL), designated post offices and recognised stock exchanges viz., National Stock Exchange of India Limited and Bombay Stock Exchange, either directly or through agents. The bonds are restricted for sale to resident individuals, Hindu Undivided Families (HUFs), trusts, universities and charitable institutions. Issue Price: Gold bond prices are linked to the price of gold of 999 purity (24 carats) published by India Bullion and Jewellers Association (IBJA), Mumbai. A fixed rate of 2.5% per annum is applicable on the scheme, payable semi-annually. The interest on Gold Bonds shall be taxable as per the provision of Income Tax Act, 1961. <p>Investment Limit:</p> <ul style="list-style-type: none"> Minimum permissible investment is 1 gram of gold. The upper limit for retail (individual) investors and HUFs is 4 kilograms (4,000 units) each per financial year. For trusts and similar entities, an upper limit of 20 kilograms per financial year is applicable. <p>Term</p> <ul style="list-style-type: none"> The gold bonds come with a maturity period of eight years, with an option to exit the investment after the first five years. Bonds can be used as collateral for loans. The capital gains tax arising on redemption of SGB to an individual has been exempted.
Armed Forces Tribunal (AFT)	<p>In News: Defence Minister said that the Government is committed to make the Armed Forces Tribunal (AFT) more empowered and responsive and implement measures that were required in this direction.</p> <p>Armed Forces Tribunal</p> <ul style="list-style-type: none"> It was established in August 2009 by the Armed Forces Tribunal Act 2007. It is a military tribunal with the power of adjudication or trial of disputes and complaints related to commission, appointments, enrolments and conditions of service. Besides the Principal Bench in New Delhi, AFT has 10 Regional Benches. <p>Composition</p> <ul style="list-style-type: none"> It is composed of Judicial Members as well as Administrative Members.

- The Judicial Members are **retired High Court Judges**.
- Administrative Members are **retired Members of**
 - the Armed Forces who have held rank of **Major General/ equivalent or above for a period of three years or more**; or
- The **Judge Advocate General (JAG)** who have experience in the post for at least one year.

Power/Jurisdiction

- Tribunal is **empowered to adjudicate appeals against** any order, decision, finding or sentence passed by a **court-martial or any related matter**.
- It is also empowered to **grant bail to an accused that is in military custody**.
- The Tribunal may have the powers to substitute for the findings of the court martial. It may:
 - **remit** the whole or any part of the sentence, with or without conditions;
 - **mitigate** the punishment awarded
 - **Commute** such punishment to any lesser punishment or enhance the sentence awarded by a court martial.
- Armed Forces Tribunal has both Original and Appellate Jurisdiction

Jurisdiction of other courts

- In January 2020, the Supreme Court made it clear that the verdicts of the Armed Forces Tribunals (AFT) can be challenged before the high courts.
- In March 2022, Delhi High Court held that the Armed Forces Tribunal Act, 2007 excludes the administrative supervision of the High Court under Article 227(4) of the Constitution.
- However, it does not exclude the judicial superintendence and jurisdiction under Article 226.

Must Read: [Pendency of Cases](#) + [Mediation Bill, 2021](#)

Arth Ganga

In News: The Arth Ganga model was mentioned by Indian delegates at Stockholm World Water Week 2022.

Arth Ganga Concept

- Prime Minister of India **first introduced the concept during the first National Ganga Council** meeting 2019, where he urged for a **shift from Namami Gange, to the model of Arth Ganga**.
- The **latter focuses on the sustainable development of the Ganga and its surrounding areas, by focusing on economic activities related to the river**.
- At its core, the Arth Ganga model seeks to use economics to bridge people with the river.

Features

Under Arth Ganga, the government is **working on six verticals**.

- The first is **Zero Budget Natural Farming**, which involves **chemical-free farming on 10 km** on either side of the river, and the promotion of cow dung as fertiliser through the **GOBARdhan scheme**.
- The **Monetization and Reuse of Sludge & Wastewater is the second**, which seeks to reuse treated water for irrigation, industries and revenue generation for Urban Local Bodies (ULBs).
- It involves **Livelihood Generation Opportunities**, by creating haats where people can sell local products, medicinal plants and ayurveda.

- The fourth is to **increase public participation by increasing synergies** between the stakeholders involved with the river.
- The model **promotes the cultural heritage and tourism of Ganga** and its surroundings, through boat tourism, adventure sports and by conducting yoga activities.
- Lastly, the model seeks to **promote institutional building by empowering local administration for improved water governance.**

Arth Ganga Initiatives

Jalaj initiative

- Jalaj is being **implemented in association with Wildlife Institute of India.**
- A trained cadre of Ganga Praharis have been created from among the local people by WII for biodiversity conservation and Ganga rejuvenation.
- Jalaj, innovative mobile livelihood centre, are aimed at aligning the skill enhancement activities with Ganga conservation.

MoU was signed between NMCG and Sahakar Bharati

- To achieve the vision of a **sustainable and viable economic development by public participation, creation and strengthening of local cooperatives** directing their cooperation towards realizing the mandate of Arth Ganga.

ImAvatar

- A tourism related portal **ImAvatar to promote livelihood opportunities along the Ganga basin by promoting Arth Ganga** initiative through tourism, marketing of local products, both agriculture and handicrafts.

New course 'River Champ' on CLAP:

- The continuous learning and activity portal (CLAP) is an online platform for raising awareness, actions and debates around river conservation in India.



INTERNATIONAL RELATIONS



Bringing Eurasia closer

In News: Recently, International North South Transport Corridor (INSTC) was launched.

- Last week, RailFreight.Com reported that two 40-ft containers of wood laminate sheets crossed the **Caspian Sea from Russia's Astrakhan port**, entered **Iran's Anzali port**, continued their southward journey towards the Arabian Sea, entered the waters at Bandar Abbas and eventually reach Nhava Shiva port in Mumbai.
- The journey signalled the **launch of the International North South Transport Corridor (INSTC), a 7,200-km multi-modal transport corridor** that combines road, rail and maritime routes **connecting Russia and India via central Asia and Iran.**

INSTC

- The legal framework for the INSTC is provided by a **trilateral agreement signed by India, Iran and Russia** at the Euro-Asian Conference on Transport in 2000.
- Since then **Kazakhstan, Belarus, Oman, Tajikistan, Azerbaijan, Armenia and Syria** have signed instruments of accession to become members of the INSTC.
- Once fully operational, the INSTC is **expected to reduce freight costs by 30% and journey time by 40% in comparison with the conventional deep sea route** via the Suez Canal.
- Indeed, the **need for an alternative route was deeply felt last year**, when the **EverGiven** container ship was stuck in the Suez, halting maritime traffic between the Mediterranean Sea and the Red Sea.
- India's investment in the INSTC is exemplified by its involvement in Iran's Chabahar port and the construction of a 500-km Chabahar-Zahedan railway line.
- Once completed, this infrastructure will allow **India access to Afghanistan and central Asia**, a prospect strengthened by the Taliban government's support for the project.
- A special economic zone around Chabahar will offer Indian companies the opportunity to set up a range of industries.
- Lines of credit will be extended to Iran by Exim Bank.
- The INSTC, thus, **provides an opportunity for the internationalisation of India's infrastructural state**, with state-run businesses taking the lead and paving the way for private companies.



As a transcontinental multi-modal corridor that aims to bring Eurasia closer together, the INSTC

	is a laudable initiative in its own right. That it helps India consolidate its multi-alignment strategy sweetens the deal.
UN Resolution 1267	<p>In News: China has blocked a proposal by India and the US at the United Nations Security Council (UNSC) to designate Abdul Rauf Azhar, brother of Jaish-e-Mohammed (JeM) chief Masood Azhar and deputy chief of the Pakistan-based proscribed terror group, as a “global terrorist”.</p> <ul style="list-style-type: none"> • Listing him as a global terrorist would subject him to assets freeze, travel ban and arms embargo. <p>What is UNSC 1267 committee?</p> <ul style="list-style-type: none"> • By resolution 1267 (1999) of 15 October 1999, the Security Council established a Committee to oversee the implementation of targeted sanctions measures against designated individuals, entities and aircraft that were owned, controlled, leased or operated by the Taliban. • The measures were subsequently modified, particularly by resolutions 1333 (2000) and 1390 (2002), to include an assets freeze, travel ban and an arms embargo affecting designated individuals and entities associated with Usama bin Laden, and the Taliban wherever they are located. • By resolution 2253 (2015) of 17 December 2015, the Security Council decided to expand the listing criteria to include individuals and entities supporting the Islamic State in Iraq and the Levant (ISIL). • It comprises all permanent and non-permanent members of the UNSC. • The 1267 list of terrorists is a global list, with a UNSC stamp.
UN High Seas Treaty	<p>In News: The recent negotiations involving 168 countries, to agree on a UN treaty for protecting oceans was unsuccessful.</p> <p>What is the proposed UN High Seas treaty?</p> <ul style="list-style-type: none"> • Also referred to as the ‘Paris Agreement for the Ocean’, the treaty to deal with Biodiversity beyond National Jurisdiction has been under discussion for several years. • It concerns the ocean existing beyond the Exclusive Economic Zones that lie from the coast of a country to about 200 nautical miles, till where it has special rights for exploration. Waters beyond that are known as open seas or high seas. • The treaty was to be negotiated under the United Nations Convention on Laws of the Sea (UNCLOS) of 1982 which governs the rights of countries regarding marine resources. • Negotiations included establishing marine protected areas to put limits on certain activities, environmental impact assessments or clearances for sustainability of works, financial support to countries and sharing other scientific knowledge. <p>How are the world’s oceans regulated as of now?</p> <ul style="list-style-type: none"> • Some treaties, along with the UNCLOS, regulate the conduct of actors on the high seas. • The UNCLOS led to the establishment of territorial sea boundaries 22 km offshore, deciding the region up to which countries could claim full sovereign territorial rights, as well as the 200 nautical miles EEZ limit. It also created the International Seabed Authority and other conflict-resolution mechanisms. • Conversely, every country has the right to access open seas, resulting in large-scale drilling and trawling operations for catching fish and other animals for commercial purposes.



ECONOMY



National Food Security Act

In News: The Union government has found that **70 lakh beneficiaries under the National Food Security Act are “suspect”** and has shared their data with states for “ground verification”
National Food Security Act (NFSA), 2013

Objective:

- To provide for **food and nutritional security** in the human life cycle approach, by ensuring access to adequate quantities of quality food at affordable prices to people to live a life with dignity.

Coverage:

- The Act provides coverage for nearly **2/3rd of the country’s total population**, based on Census 2011 population estimates.
- 75% of rural and 50% of urban population** is entitled to receive highly subsidized food grains under two categories i.e Antyodaya Anna Yojana (AAY) households and Priority Households (PHH).
- Act entitles 35 kg of food grains as per Antyodaya Anna Yojana Households per month, whereas 5kg of food grains per Priority Households per person.
- The **eldest woman** of the beneficiary household (18 years or above) is considered ‘Head of Family’ for the purpose of issuing ration cards.

National Food Security Act: Provisions

- NFSA assigns joint responsibilities to the federal and state governments.
- The NFSA mandates the **centre with the responsibility of allocating and transporting food grains** to designated depots in the states and UTs.
- The centre must provide central assistance to states/UTs for the distribution of food grains from authorized FCI godowns to the doorsteps of Fair Price Shops.
- States and union territories are responsible for identifying eligible households, issuing ration cards, distributing foodgrain entitlements** through fair price shops, licensing and monitoring Fair Price Shop (FPS) dealers, establishing an effective grievance redress mechanism, and strengthening the Targeted Public Distribution System (TPDS).
- The National Food Security Act (2013) also includes **provisions for Targeted Public Distribution System reforms, such as cash transfers for food entitlement provisioning.**
- Direct Benefit Transfer involves the cash equivalent of the subsidy being transferred directly into the bank accounts of eligible households.

Significance

- It is **beneficial to the agricultural sector.**
- It also helps the **government control food prices.**
- Creation of job opportunities: Because agriculture is a **labor-intensive industry**, a boost in the agricultural sector would result in more job opportunities.
- Health benefits:** Access to nutritious food would improve the public's overall health.
- Food security is also important for the **nation's global security and stability.**

The National Food Security Act of 2013 is an important step toward addressing the country's food insecurity and hunger, but it requires restructuring and the incorporation of new changes

	in various areas in order to achieve its goal.
Tax to GDP ratio	<p>What is tax to GDP ratio?</p> <ul style="list-style-type: none"> • The tax to GDP ratio measures the size of a country's tax revenue compared to its GDP. • The higher the tax to GDP ratio, the better the country's financial position. The ratio denotes the government's ability to fund its expenditures. • A greater tax to GDP ratio indicates that the government can cast a wider fiscal net. It helps a government become less reliant on borrowing. <p>Tax to GDP of India</p> <ul style="list-style-type: none"> • India consists of one direct taxpayer for every 16 voters present. Income tax is paid by only 1% of India's population. • India's Gross tax to GDP which was 11% in FY19, fell to 9.9% in FY20 and marginally improved to 10.2% in FY21 (partly due to decline in GDP) and is envisaged to be 10.8% in FY22, this is much lower than the emerging market economy average of 21 percent and OECD average of 34 percent. <p>Reasons for Low Tax to GDP Ratio in India</p> <ul style="list-style-type: none"> • There is the presence of a large informal/unorganized sector in India which makes it vulnerable, causing greater tax evasion. • There is greater dominance of the agriculture sector which is exempted from paying taxes. • There are a high number of disputes between tax authorities and taxpayers, with one of the lowest proportions of recovery of tax arrears. • The direct to indirect tax ratio in India is around 35:65, which is lower than most of the OECD economies where the ratio is 67:33 in favor of direct taxes. • There have been a number of generous government policies which benefited the richer private sector by providing various tax exemptions. • Another factor that contributes to the low tax to GDP ratio is low per capita income and high poverty. <p>Implications</p> <ul style="list-style-type: none"> • Due to a decrease in tax revenues, the Indian State becomes incapable of spending more on national security, welfare system, public goods, etc. • There is heavy borrowing due to the low tax revenue of the government; this causes a persistent deficit bias in fiscal policy. • Widespread tax evasion goes unchecked which hampers growth and most of the tax burden falls on the high-productivity sectors that need growth. • Lower tax collections decrease the capacity of the government to incur expenditure for welfare schemes. • There is an increase in social inequality due to the asymmetric distribution of economic resources in society. <p>Measures to be taken</p> <ul style="list-style-type: none"> • The individual taxpayer base should be widened to increase revenue collection. • Exemptions provided under various provisions such as transfer pricing, base erosion and profit shifting (BEPS), etc should be re-assessed. • Providing effective dispute settlement mechanisms. • Citizens' attitudes must be changed by instilling a feeling of national responsibility.

<p>Public Goods Vs Private Goods</p>	<p>In News: Government of India has clarified that there is no plan to levy any charges for UPI services.</p> <ul style="list-style-type: none"> Finance Ministry said, UPI is a digital public good with immense convenience for the public and productivity gains for the economy. <p>What are Public Goods?</p> <ul style="list-style-type: none"> Public goods are the commodities or services provided by the nature of the government of a country, free of cost or by taxing the few people to offer smass benefit to the public in general. <p>Characteristics of Public Goods</p> <ul style="list-style-type: none"> These commodities or services develop the infrastructure and living standard of a country. <p>Features of Public Goods</p> <ul style="list-style-type: none"> Non-Rival: The public goods are non-competitive, i.e. it can serve many people at the same time without hindering the usage of one another. Non-Excludable: These goods are usually free of cost and can be used by anyone without any restriction. Non-Rejectable: The consumption of such goods cannot be dismissed or unaccepted by the public since it is available collectively to all the people. Free-Riding: The goods categorized under public goods benefit even those who have not paid for it. Such people are termed as free-riders. <p>What are Private Goods?</p> <ul style="list-style-type: none"> Private goods are the products or services which are manufactured or produced by the companies owned by entrepreneurs who aim at meeting customer’s requirement to earn profits through the trading of such goods in the free market. <p>Following are the various characteristics of these goods:</p> <ul style="list-style-type: none"> Rival: Private products involve rivalry or competition among consumers for its usage since consumption by one person will restrict its use by another. Excludable: These goods involve cost, and therefore the non-payers are excluded from the consumption. Rejectable: Private goods can be unaccepted or rejected by the consumers since they have multiple alternatives and the right to select the product according to their preference. Traded in Free Market: Such goods can be freely bought and sold in the market at a given price. Opportunity Cost: These goods have an opportunity, i.e. the consumer has to let go of the benefit from a similar product while selecting a particular private commodity. <p>Digital Public Goods</p> <ul style="list-style-type: none"> Digital public goods are open-source software, open data, open AI models, open standards, and open content that adhere to privacy and other applicable laws and best practices, do no harm by design, and help attain the Sustainable Development Goals (SDGs).
<p>Over leveraged</p>	<p>In News: Bloomberg, quoting CreditSights, a unit of the credit ratings agency Fitch, reported that the Adani Group is “deeply over leveraged”, and may, “in the worst-case scenario”, spiral into a debt trap and possibly a default.</p> <ul style="list-style-type: none"> The report noted that the Group has been making aggressive investments that are

	<p>predominantly funded with debt, putting pressure on its credit metrics and cash flow.</p> <p>When is a company ‘over leveraged’?</p> <ul style="list-style-type: none"> • A company or business is said to be “over leveraged” if it has unsustainably high debt against its operating cash flows and equity. • Such a company would find it difficult to make interest and principal repayments to its creditors, and may struggle to meet its operating expenses. • In the latter case, the company may be forced to borrow even more just to keep going, and thus enter a vicious cycle. • This situation can ultimately lead to the company going bankrupt. <p>What happens when a company is over leveraged?</p> <ul style="list-style-type: none"> • Being over leveraged constraints companies’ growth plans. • If payments are not paid in time, it may lose assets, which may be taken over by creditors, who may also launch legal proceedings to recover their money. • The inability to repay existing debts puts limitations on future borrowing by the company. • Also, an over leveraged company will find it extremely difficult to get in new sets of investors, all of which will add up to further diminish its financial present and future.
<p>Moonlighting</p>	<p>In News: Food delivery start-up Swiggy recently announced an “industry-first” policy of allowing its employees to take up gigs or projects outside of their regular employment at the company, during the hours away from work.</p> <ul style="list-style-type: none"> • Swiggy calls these new norms the “moonlighting” policy. <p>What is moonlighting?</p> <ul style="list-style-type: none"> • Moonlighting is the act of working at an extra job beyond regular working hours, usually without the knowledge of the employer. • Since the side job was mostly at nighttime or on weekends, it was referred to as moonlighting. <p>Concerns</p> <ul style="list-style-type: none"> • Employers are suspicious of this practice because it can mean that a worker may not give their organisation the time it needs, and not give any extra time to either organisation. • Holidays and time-off are also meant to rest a worker and improve their efficiency, but taking on another job could make this difficult. <p>In India, private companies usually do not allow holding multiple jobs. Shops and Establishment Acts of various states restrict double employment.</p> <p>Has moonlighting increased recently?</p> <ul style="list-style-type: none"> • In the last two years, coronavirus-induced lockdowns increased the tendency to moonlight among workers in certain industries. • This was because apart from financial insecurity at the time, working from home allowed a few categories of workers to get more work done, freeing up time for a second job. • Also the gig economy concept has gained greater legitimacy in recent years, too.



HISTORY AND ART & CULTURE

Pingali Venkayya

In News: August 2nd marked the 146th birth anniversary celebrations of **Pingali Venkaiah**, the architect of the national flag.

- The present-day national flag is inspired by the design of Pingali Venkayya.

Early Life of Pingali Venkayya

- Pingali Venkayya was **born and brought up** in **Machilipatnam, Andhra Pradesh**.
- He was not only a freedom fighter but a **staunch Gandhian, educationist, agriculturist, geologist, linguist, and writer**, who is remembered for his contributions to India's freedom struggle.



Pingali Venkayya's design

- **Pingali Venkayya had designed a flag, known as the Swaraj Flag that now forms the basis of India's present-day national flag.**
- It consisted of **red and green bands** to symbolize the **two major communities** in the country- Hindus and Muslims.
- **On the advice of Mahatma Gandhi**, Pingali Venkayya **added a white band over red over green with a charkha design onto Khadi bunting.**
- The **white represented peace and the rest of the communities living in India**, and the **spinning wheel symbolized the progress of the country.**
- Though the first tricolor was **not officially accepted by the All India Congress Committee (AICC)**, it began to be hoisted on all Congress occasions.
- **Gandhiji's approval had made it sufficiently popular and it was in use till 1931.**
- The flag, however, had raised **communal concerns after which a Flag Committee was set up in 1931.**
- The **Congress Working Committee (CWC) came up with a new tricolor** which was called the **Purna Swaraj.**
- New flag **replaced red color with saffron; white band was shifted in middle**, from over white over **green emblazoned with a blue charkha in the centre.**
- It implied that the colors stood for qualities, not communities; the saffron for courage and sacrifice, white for truth and peace, and green for faith and strength.
- The charkha stood for the welfare of the masses.

Little known facts:

- Pingali Venkayya was an **avid flag enthusiast who also came up with a booklet titled 'A National Flag for India' in 1916**, wherein he **presented twenty-four flag designs.**

Aurobindo Ghose

In News: Prime Minister remembers Sri Aurobindo on his Jayanti.

About Sri Aurobindo

- He was a **yogi, seer, philosopher, poet, and Indian nationalist** who propounded a philosophy of divine life on earth through spiritual evolution.

**Education:**

- His education began in a Christian convent school in Darjeeling.
- He entered the University of Cambridge, where he became proficient in two classical and several modern European languages.
- **In 1892, he held various administrative posts in Baroda and Calcutta.**
- He began the **study of Yoga and Indian languages, including classical Sanskrit.**

Indian Revolutionary Movement:

- From 1902 to 1910 he took part in the **struggle to free India from the British.**
- He attended Congress sessions and at the same time, helped establish the Anushilan Samiti of Calcutta in 1902.
- As a result of his political activities, **he was imprisoned in 1908 (Alipore case).**
- Two years later he fled British India and **found refuge in the French colony of Puducherry**, where he devoted himself for the rest of his life to the development of his "integral" yoga with an aim of a fulfilled and spiritually transformed life on earth.

Spirituality:

- In Puducherry he founded a **community of spiritual seekers, which took shape as the Sri Aurobindo Ashram in 1926.**
- He believed that the basic principles of matter, life, and mind would be succeeded through terrestrial evolution by the **principle of supermind as an intermediate power between the two spheres of the infinite and the finite.**

Teachings:

- He propounded a philosophy of divine life on earth through spiritual evolution.

Literary Works:

- He was also a **journalist, editing newspapers such as Bande Mataram.**
- He was also a journalist and his **first philosophical magazine called Arya** was published in 1914.
- His many writings include **The Life Divine, The Synthesis of Yoga and Savitri.**

Women heroes of India's freedom struggle

In News: In Independence Day address to the nation from the ramparts of the Red Fort, Prime Minister hailed "**nari shakti**", and urged people to pledge to not do anything that lowers the dignity of women.

Rani Laxmibai

- The queen of the princely state of Jhansi, Rani Laxmibai is **known for her role in the First War of India's Independence in 1857.**
- Born Manikarnika Tambe in 1835, she married the king of Jhansi.
- The couple adopted a son before the king's death, which the British East India Company refused to accept as the legal heir and decided to annex Jhansi.
- Refusing to cede her territory, the queen decided to rule on behalf of the heir, and later joined the uprising against the British in 1857.

- Sir Hugh Rose, who was commanding the British army, is known to have described her as “personable, clever and one of the most dangerous Indian leaders”.

Jhalkari Bai

- A soldier in Rani Laxmibai’s women’s army, Durga Dal, she rose to become one of the queen’s most trusted advisers.
- Till date, the story of her valour is recalled by the people of Bundelkhand, and she is often presented as a representative of Bundeli identity.
- According to Ministry of Culture, “Many Dalit communities of the region look up to her as an incarnation of God and also celebrate Jhalkaribai Jayanti every year in her honour.”

Durga Bhabhi

- Durgawati Devi, who was popularly known as Durga Bhabhi, was a revolutionary who joined the armed struggle against colonial rule.
- A member of the Naujawan Bharat Sabha, she helped Bhagat Singh escape in disguise from Lahore after the 1928 killing of British police officer John P Saunders.

Rani Gaidinliu

- Born in 1915 in present-day Manipur, Rani Gaidinliu was a Naga spiritual and political leader who fought the British.
- She joined the **Heraka religious movement** which later became a movement to drive out the British.
- She rebelled against the Empire, and refused to pay taxes, asking people to do the same.
- Gaidinliu was finally arrested in 1932 when she was just 16, and later sentenced for life. She was released in 1947.
- Prime Minister Jawaharlal Nehru, described Gaidinliu as the “daughter of the hills”, and gave her the title of ‘Rani’ for her courage.

Rani Chennamma


- The **queen of Kittur, Rani Chennamma**, was among the first rulers to lead an armed rebellion against British rule.
- Kittur was a princely state in present-day Karnataka.
- She fought back against the attempt to control her dominion in 1824 after the death of her young son.
- Rani Chennamma defeated the British in her first revolt, but was captured and imprisoned during the second assault by the East India Company.

Begum Hazrat Mahal

- After her husband, Nawab of Awadh Wajid Ali Shah, was exiled after the 1857 revolt, Begum Hazrat Mahal, along with her supporters, took on the British and wrested control of Lucknow.

Velu Nachiyar

- Many years before the revolt of 1857, **Velu Nachiyar waged a war against the British and emerged victorious.**
- Born in Ramanathapuram in 1780, **she was married to the king of Sivagangai.**
- After her husband was killed in battle with the East India Company, she entered the conflict, and won with support of neighbouring kings.
- She went on to produce the **first human bomb as well as establish the first army of**

<p>Mandala Art</p>	<p>trained women soldiers in the late 1700s.</p> <p>What is mandala and its origins:</p> <ul style="list-style-type: none"> • Literally meaning “circle” or “centre” in Sanskrit, mandala is defined by a geometric configuration that usually incorporates circular shape in some form. • It is believed to be rooted in Buddhism, appearing in the first century BC. • In Hinduism, the mandala imagery first appeared in Rig Veda (1500 – 500 BCE). <p>The meaning of the motif:</p> <ul style="list-style-type: none"> • It is believed that by entering the mandala and moving towards its centre, one is guided through the cosmic process of transforming the universe from one of suffering to that of joy. • The eight spokes of the wheel (the dharma chakra) represent the eightfold path of Buddhism (practices that lead to liberation from rebirth), the lotus flower depicts balance, and the sun represents the universe. • In Hinduism, a mandala or yantra is in the shape of a square with a circle at its centre.  <p>Mandala in modern Indian art:</p> <ul style="list-style-type: none"> • While it continues to appear in thangka paintings, it has a central place in the practice of mainstream artists associated with the tantric and neo-tantric spiritual movements. • In 1960s Sohan Qadri and Prafulla Mohanty gained widespread recognition for their works that were imbued with tantric symbolism, such as mandalas that are also used in the rituals of tantric initiation. • Geometric compositions also dominated works of artists such as Biren De, GR Santosh, Shobha Broota, and famously SH Raza, who visualised the Bindu as the centre of his universe and the source of energy and life.
<p>Manusmriti</p>	<p>In News: The Vice Chancellor of Jawaharlal Nehru University recently criticised the Manusmriti, the ancient Sanskrit text, over its gender bias.</p> <p>What is Manusmriti?</p> <ul style="list-style-type: none"> • The Mānavadharmasāstra, also known as Manusmriti or the Laws of Manu, is a Sanskrit text belonging to the Dharmaśāstra literary tradition of Hinduism. • Composed between the 2nd century BCE and 3rd century CE, the Manusmriti is written in sloka verses, containing two non-rhyming lines of 16 syllables each. • The text is attributed to the mythical figure of Manu, considered to be ancestor of the human race in Hinduism. <p>What is the text about?</p> <ul style="list-style-type: none"> • It covers the subjects such as the social obligations and duties of the various castes and of individuals in different stages of life, the suitable social and sexual relations of men and women of different castes, on taxes, the rules for kingship, on maintaining marital harmony and the procedures for settling everyday disputes.

- The text is about dharma, which means duty, religion, law and practice.
- It also discusses aspects of the Arthashastra, such as issues relating to statecraft and legal procedures.

What is its significance?

- By the **early centuries of the Common Era**, Manu had become, and remained, the standard **source of authority in the orthodox tradition** for that **centrepiece of Hinduism, varṇāśrama-dharma**.
- It was a **very significant text for Brahmin scholars** — it attracted 9 commentaries by other writers of the tradition, and was cited by other ancient Indian texts far more frequently than other dharmasāstra.
- It was the **first Sanskrit text to be translated into a European language**, by the British philologist **Sir William Jones in 1794**.
- Subsequently, it was translated into French, German, Portuguese and Russian, before being included in Max Muller's edited volume, Sacred Books of the East in 1886.

Why is it controversial?

The ancient text has 4 major divisions:

1. Creation of the world.
 2. Sources of dharma.
 3. The dharma of the four social classes.
 4. Law of karma, rebirth, and final liberation.
- The text is **deeply concerned with maintaining the hierarchy of the four-fold Varna system** and the rules that each caste has to follow.
 - According to it the Brahmin is assumed to be the **perfect representative of the human race**, while **Sudras**, who are relegated to the bottom of the order, are given the sole duty of serving the 'upper' castes.
 - Some verses also contain **highly prejudicial sentiments against women** on the basis of their birth.

On December 25, 1927, **Dr B R Ambedkar had famously burned the Manusmṛiti**, which he saw as a source of gender and caste oppression.



GEOGRAPHY



Taiwan Strait, Yellow Sea and Bohai sea

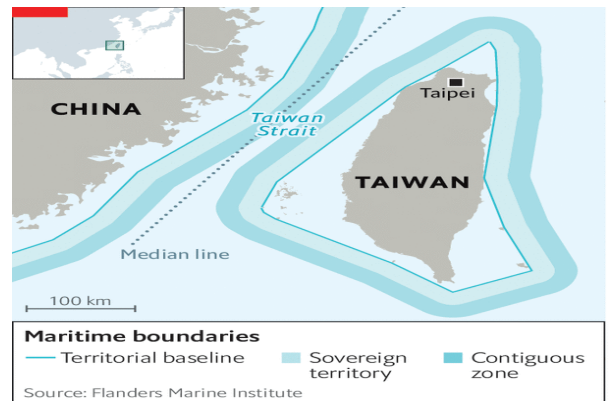
Taiwan Strait, Yellow Sea and Bohai sea

In News: China continued its **live-fire military exercises in waters near Taiwan** for the fourth day, while also announcing new exercises in the Yellow Sea, between China and the Korean peninsula.

- Chinese authorities announced it will also **conduct live-fire military exercises on the Yellow and Bohai seas**, between China and the Korean peninsula.

Taiwan Strait

- The Taiwan Strait, also known as the **Formosa Strait**, is a 180 km wide **strait separating Taiwan and mainland China**.
- The strait is currently **part of the South China Sea and connects to the East China Sea to the north**. The narrowest part is 130 km wide.



The Economist

Yellow Sea

- The Yellow Sea is a **marginal sea of the Western Pacific Ocean** located **between mainland China and the Korean Peninsula**, and can be considered the northwestern part of the East China Sea.
- Its name is **descriptive of the golden-yellow colour of the silt-laden water** discharged from major rivers.



Bohai Sea

- The **innermost bay of northwestern Yellow Sea is called the Bohai Sea** into which flow some of the most important rivers of northern China, such as the Yellow River, the Hai River and the Liao River.
- The **northeastern extension of the Yellow Sea is called the Korea Bay**, into which flow the **Yalu River, the Chongchon River and the Taedong River**.

Anang Tal lake

In News: Anang Tal lake declared **monument of national importance** through a gazette notification by the Ministry of Culture.

- In exercise of the powers conferred by section 4 of the **Ancient Monuments and Archaeological Sites and Remains Act, 1958**, the central government declared ancient site and remains to be of national importance.

Anang Tal lake

- The lake is situated in Mehrauli, Delhi and is claimed to be created by Tomar King, Anangpal II, in 1,060 AD.
- He is known to have established and populated Delhi in the 11th century.
- The millennium old Anang Tal signifies the beginning of Delhi.
- Anang Tal has a strong Rajasthan connection as Maharaja Anangpal is known as nana (maternal grandfather) of Prithviraj Chauhan.

**Who was Anangpal II?**

- Anangpal II, popularly known as Anangpal Tomar, belonged to the Tomar dynasty.
- He was the founder of Dhillika Puri, which eventually became Delhi.
- Multiple inscriptions and coins suggest Anangpal Tomar was the ruler of present-day Delhi and Haryana in between the 8th-12th centuries.
- He had built the city from ruins and under his super vision; Anang Tal Baoli and Lal Kot were constructed.
- Anangpal Tomar II was succeeded by his grandson Prithviraj Chauhan.
- Delhi Sultanate was established in 1192 after Prithviraj Chauhan's defeat in the Battle of Tarain (present-day Haryana) by the Ghurid forces.

About the Tomar Dynasty

- Tomara dynasty is one of the minor early medieval ruling houses of northern India.
- Puranic evidence gives its early location in the Himalayan region; the dynasty was one of the 36 Rajput tribes.
- The history of the family spans the period between the reign of Anangpal, and the incorporation of Delhi within the Chauhan (Chahamana) kingdom in 1164.
- Although Delhi subsequently became decisively a part of the Chauhan kingdom, numismatic and late literary evidence indicates that Tomara kings such as Anangpal and Madanpal continued to rule as feudatories, presumably until the final conquest of Delhi by the Muslims in 1192–93.

Malvinas Island

In News: India reiterates support to Argentina for resumption of talks on the Malvinas issue.

- Falkland Islands, also called Malvinas Islands or Spanish *Islas Malvinas*, internally self-governing overseas territory of the United Kingdom in the South Atlantic Ocean.

History of the Falkland Islands

- In 1820 the Argentina Government, which had declared its independence from Spain in 1816, proclaimed its sovereignty over the Falklands.

- In early 1833, a **British force expelled the few remaining Argentine** officials from the island without firing a shot. In 1841, a British civilian lieutenant governor was appointed for the Falklands, and by 1885 a British community of some 1,800 people on the islands was self-supporting.
- **Argentina regularly protested Britain's occupation of the islands.**
- **After World War II (1939-45) the issue of sovereignty over the Falkland Islands shifted to the United Nations (UN)** when, in 1964, the islands' status was debated by the UN committee on decolonization.
- In 1965, the **UN General Assembly** approved a resolution inviting Britain and Argentina to hold discussions to find a peaceful solution to the dispute.
- These protracted discussions were still proceeding in February 1982, but in April **Argentina's military government invaded the Falklands.**
- This act started the **Falkland Islands War**, which ended 10 weeks later with the surrender of the Argentine forces at Stanley to British troops who had forcibly reoccupied the islands.
- Although Britain and Argentina reestablished full diplomatic relations in 1990, the issue of sovereignty remained a point of contention.
- In the early 21st century Britain continued to maintain some 2,000 troops on the islands.
- In a referendum held in March 2013, islanders voted nearly unanimously to remain a British overseas territory.



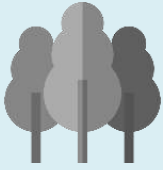
Zombie ice

Context

- The recent study has showed that **melting of the Greenland ice sheet will unavoidably raise the global sea levels** by at least 10.6 inches or 27 centimetres, no matter what climate action the world decides to take right now.
- This is because of **'zombie ice'**, which is certain to melt away from the ice cap and blend into the ocean.

What is 'zombie ice'?

- Also referred to as **dead or doomed ice**, **zombie ice is one that is not accumulating fresh snow** even while continuing to be part of the parent ice sheet.
- Such ice is "committed" to melting away and increasing sea levels.



ENVIRONMENT



Leading people-powered climate action: “Lifestyle for the Environment” (LiFE)

Context: In November 2021, at the CoP 26 in Glasgow, Prime Minister Narendra Modi, in addition to announcing the panchamrit, also articulated the concept of “Lifestyle for the Environment” (LiFE) — advocating for “mindful and deliberate utilisation” by people worldwide, instead of “mindful and wasteful consumption”.

Lifestyle for the Environment (LiFE)

- **Launched on** June 5, 2022, World Environment Day
- **Vision:** To harness the power of individual and collective action across the world to address the climate crisis.
- **The objective** of the movement is to nudge individuals and communities to adopt simple and specific climate-friendly behaviours in their daily lifestyles.

Precedents of pro-planet initiatives around the world

- Denmark promotes the use of bicycles by limiting parking within the city centre and providing exclusive bike lanes.
- Japan has its unique “walk-to-school” mandate, which has been in practice since the early 1950s.

LiFE, however, is planned as a first-of-its-kind global movement, led by India in partnership with other countries that will provide the world with a unique people-powered platform to relentlessly focus on bringing individual and collective actions to the core of the climate action narrative.

- **Consume responsibly:** LiFE plans to nudge the world to consume responsibly, rather than consuming less. Building on the unique insights from India’s recent Jan andolans such as the Swachh Bharat Mission (SBM), LiFE will deploy a range of tested behavioural techniques, including nudges, social and behaviour change communication and norm influencing to make mindful consumption a mass movement.
- **Produce responsibly:** By nudging the consumption patterns of the society at scale, LiFE can also trigger a huge boost for the sustainability market. Several green industries and a large number of jobs are likely to be initiated as a positive externality of LiFE.
- **Live responsibly:** Through its multi-dimensional, multi-cultural and global approach, the LiFE movement can play a pivotal role in not merely reversing the effects of climate change but, at a broader level, mainstream a harmonious and mindful way of living — a staple of Indian culture and tradition, practised by its people over centuries.

Conclusion

As the world moves in fits and starts towards its shared commitment to achieve ambitious climate goals, the time is ripe for India to lead the LiFE movement and mainstream it into the climate narrative. LiFE could arguably become the very heart of that model.

India adds 10 more wetlands designated as Ramsar sites

In News: India adds 10 more wetlands designated as Ramsar sites to make total 64 sites covering an area of 12,50,361 ha in the country.

Ramsar Sites

Ramsar sites are wetlands (swamps, marshes, lakes, floodplains and other water bodies that are filled with static or flowing water) that are considered to be of international importance.

- Under the Ramsar Convention, an intergovernmental treaty that aims to conserve and

use wetlands and their resources sustainably, signatory countries can declare wetlands as 'Ramsar sites' provided they meet one of nine criteria.

- These include if the wetland is representative of a rare or unique wetland type, or if it regularly supports 20,000 or more waterbirds.
- India is one of the Contracting Parties to Ramsar Convention, signed in Ramsar, Iran, in 1971. India signed it on 1st Feb 1982.
- 64 wetlands covering an area of 12,50,361 Hectares have been designated.

S.No	Name of wetland	State
1.	Koonthankulam Bird Sanctuary	Tamil Nadu
2.	Satkosia Gorge	Odisha
3.	Nanda Lake	Goa
4.	Gulf of Mannar Marine Biosphere Reserve	Tamil Nadu
5.	Ranganathituu BS	Karnataka
6.	Vembannur Wetland Complex	Tamil Nadu
7.	Vellore Bird Sanctuary	Tamil Nadu
8.	Sirpur wetland	Madhya Pradesh
9.	Vedanthangal Bird Sanctuary	Tamil Nadu
10.	Udhayamarthandapuram Bird Sanctuary	Tamil Nadu

India adds 11 more wetlands to the list of Ramsar Sites

In News: India adds **11 more wetlands to the list of Ramsar sites to make total 75 Ramsar sites** covering an area of 13,26,677 ha in the country in the 75th year of Independence.

- The 11 new sites include: **Four sites in Tamil Nadu, Three in Odisha, Two in Jammu & Kashmir and One each in Madhya Pradesh and Maharashtra.**
- Designation of these sites would help in conservation and management of wetlands and wise use of their resources.

- Tamil Nadu has maximum no. of Ramsar sites (14 nos), followed by UP which has 10



nos. of Ramsar sites.

New Ramsar Sites

- Odisha - Tampara Lake and Hirakud Reservoir, Ansupa Lake
- Madhya Pradesh - Yashwant Sagar
- Tamil Nadu - Chitrangudi Bird Sanctuary, Suchindram Theroor Wetland Complex, Vaduvur Bird Sanctuary and Kanjirankulam Bird Sanctuary
- Maharashtra - Thane Creek
- Jammu and Kashmir - Hygam Wetland Conservation Reserve and Shallbugh Wetland Conservation Reserve

Must Read: [India Designates 5 New Ramsar Sites](#) + [Four more Ramsar Sites](#)

Battery Waste Management Rules, 2022

In News: Ministry of Environment, Forest and Climate Change, Government of India published the **Battery Waste Management Rules, 2022** to ensure **environmentally sound management of waste batteries**. These rules will replace **Batteries (Management and Handling) Rules, 2001**.

- The rules **cover all types of batteries**, viz. **Electric Vehicle batteries, portable batteries, automotive batteries and industrial batterie**.
- The rules' function based on the concept of **Extended Producer Responsibility (EPR)** where the **producers (including importers) of batteries** are responsible for **collection and recycling/refurbishment of waste batteries and use of recovered materials** from wastes into **new batteries**.
- The rules will enable setting up a **mechanism and centralized online portal for exchange of EPR certificates** between **producers and recyclers/refurbishers** to fulfil the obligations of producers.
- Mandating the minimum percentage of recovery of materials** from waste batteries under the rules will bring **new technologies and investment** in recycling and refurbishment industry and create **new business opportunities**.
- Prescribing the **use of certain number of recycled materials** in making of new batteries

will reduce the **dependency on new raw materials** and **save natural resources**.

- **Online registration & reporting, auditing, and committee** for monitoring the implementation of rules and to take measures required for removal of difficulties are **salient features of rules for ensuring effective implementation and compliance**
- On the principle of **Polluter Pays Principle**, **environmental compensation** will be imposed for **non-fulfilment of EPR** targets, responsibilities and obligations set out in the rules. The **funds collected under environmental compensation** shall be **utilised in collection and refurbishing or recycling of uncollected and non-recycled waste batteries**.

Notification of these rules is a **transformative step towards promotion of Circular Economy in full earnest**.



SOCIETY & SOCIAL ISSUES



National Action Plan for Mechanised Sanitation Ecosystem (NAMASTE)

In News: The **Ministry of Social Justice and Empowerment (MoSJ&E)** is now **preparing to undertake a nationwide survey to enumerate all people engaged in hazardous cleaning of sewers and septic tanks**, an activity that has led to at least 351 deaths since 2017.

- **Drawing a distinction between this work and manual scavenging**, the Ministry insisted that the **practice of manual scavenging no longer takes place in the country** as all manual scavengers had been accounted for and enrolled into the rehabilitation scheme.
- The enumeration exercise, soon to be conducted across **500 AMRUT (Atal Mission for Rejuvenation and Urban Transformation)** cities, is part of the Union government's **National Action Plan for Mechanised Sanitation Ecosystem (NAMASTE)**, which will streamline the process of rehabilitating sanitation workers and eventually merge with and replace the **Self-Employment Scheme for the Rehabilitation of Manual Scavengers (SRMS)**, which was started in 2007.
- Eventually, the idea is to also **link these sanitation workers to the Swachhta Udyami Yojana**, through which the workers will be able to own sanitation machines themselves and the government will ensure that at the municipality level, the work keeps coming in.

National Action Plan for Mechanised Sanitation Ecosystem (NAMASTE)

- The government has developed the NAMASTE scheme—to **clean septic tanks and sewers**.
- The NAMASTE project is a joint project of **Ministry of Social Justice and Empowerment and the Ministry of Housing and Urban Affairs**.

The project aims to achieve the following outcomes:

- **Zero fatalities in sanitation work** in India.
- All sanitation work to be **performed by skilled workers**.
- **No sanitation workers should come in direct contact with human faecal matter**.
- Sanitation workers are to be **collectivized into SHGs and are empowered to run sanitation enterprises**.
- All Sewer and Septic tank sanitation workers (SSWs) **have access to alternative livelihoods**.
- **Strengthened supervisory and monitoring systems** at national, state and ULB levels to ensure enforcement and monitoring of safe sanitation work.
- Increased **awareness amongst sanitation services seekers** (individuals and institutions) to seek services from registered and skilled sanitation workers.

Swachhta Udyami Yojana

- The **Ministry of Social Justice and Empowerment launched the Swachhta Udyami Yojana (SUY) on 02nd October 2014**.
- This Scheme has twin objective of cleanliness and providing livelihood to Safai Karamcharis and liberated Manual Scavengers to achieve the overall goal of "Swachh Bharat Abhiyan"
- The Swachhta Udyami Yojana extends financial assistance for Construction, Operation

	<p>and Maintenance of Pay and Use Community Toilets in Public Private Partnership (PPP) Mode and Procurement and Operation of Sanitation related Vehicles.</p> <ul style="list-style-type: none"> • The scheme also provides for training the workers in the use of these machines, during which time a stipend of up to ₹3,000 per month will be provided. • The scheme will also provide for sanitation workers to train for and go into any of the approved list of alternative occupations in sectors like agriculture, services, electronics assembling, and handicrafts and so on.
<p>The Scheme for Economic Empowerment of Denotified/Semi-Nomadic (SEED)</p>	<p>In News: The Union Social Justice Ministry has so far received 402 online applications from across the country to avail benefits under SEED, a scheme meant for the upliftment of Denotified, Nomadic and Semi-Nomadic Tribes (DNTs/NTs/SNTs).</p> <p>Who are Denotified Nomadic Tribes (DNTs):</p> <ul style="list-style-type: none"> • DNTs are the tribes which were notified as criminal tribes under Criminal Tribes Act, 1871, by the British colonial government. • Under this Act, millions of nomadic and semi-nomadic communities were declared criminals and put under continuous surveillance. • After decades of facing horrors of this racial Act, they were denotified by the Government of independent India on August 31, 1952. • 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. • The DNTs are a heterogenous group engaged in various occupations such as transport, key-making, salt trading, entertaining — acrobats, dancers, snake charmers, jugglers — and pastoralists. <p>Difference between Nomadic, Semi-nomadic and DNTs:</p> <ul style="list-style-type: none"> • The nomadic tribes maintain constant geographical mobility while semi-nomads are those who are on the move but return to fixed habitations once a year, mainly for occupational reasons. • All nomadic tribes are not DNTs, but all DNTs are nomadic tribes. • There are nearly 1,500 nomadic and semi-nomadic tribes and 198 denotified tribes, comprising 15 crore Indians, according to Renke Commission (2008). <p>What is the Scheme for Economic Empowerment of DNTs (SEED)?</p> <ul style="list-style-type: none"> • The four components of the SEED scheme are – <ul style="list-style-type: none"> ○ Educational Empowerment – Free coaching to students from these communities for Civil Services, entry to professional courses like medicine, engineering, MBA, etc. ○ Health Insurance – Through Pradhan Mantri Jan Arogya Yojana of National Health Authority ○ Livelihoods – To support income generation, ○ Housing – Through Pradhan Mantri Awas Yojana • Expenditure of Rs 200 crore to be spent over five years 2021-22 to 2025-26. • One important feature of this scheme is the online portal which has been developed by the Department. This portal will ensure seamless registration and will also act as a repository of the data on these communities. <p>Many commissions and committees constituted since Independence have referred to the problems of these communities.</p>

- 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** (called first OBC Commission) constituted in 1953.
- **The B P Mandal Commission** constituted in 1980.
- **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 National Idate Commission** was constituted in 2015 under the **chairmanship of Shri Bhiku Ramji Idate.**
 - Based on the recommendation of this commission, the **Government of India set up the Development and Welfare Board for DNTs, SNTs & NTs (DWBDNCs) in 2019.**



SECURITY



Vertical Launch Short Range Surface to Air Missile

In News: Recently, **Vertical Launch Short Range Surface to Air Missile (VL-SRSAM)** was successfully flight-tested by **Defence Research & Development Organization (DRDO)** and the **Indian Navy** from an Indian Naval Ship at **Integrated Test Range (ITR), Chandipur** off the coast of Odisha.

- It is a quick reaction **surface-to-air-missile** indigenously designed and developed by **DRDO** for the Indian Navy, is meant for **neutralizing various aerial threats at close ranges**, including **sea-skimming targets**.
- **Sea skimming** is a technique many anti-ship missiles and some fighter or strike aircraft use to **avoid radar and infrared detection**.
- The missile has been **designed to strike high-speed airborne targets** at the range of **40 to 50 km** and at an altitude of around **15 km**.
- Its **design is based on Astra missile** which is a **Beyond Visual Range Air to Air missile**.

Features:

- **Cruciform wings:** They are four small wings arranged like a cross on four sides and give the projective a stable aerodynamic posture.
- **Thrust Vectoring:** It is the ability to change the direction of the thrust from its engine, control the angular velocity and the attitude of the missile.
- **VL-SRSAM is a canisterised system**, which means it is stored and operated from specially designed compartments. In the canister, the inside environment is controlled thus making its transport and storage easier and improving the shelf life of weapons.

INS Vikrant

In News: The nation's first Indigenous Aircraft Carrier (IAC-1) is set to be commissioned in the presence of Prime Minister of India.

What is the aircraft carrier INS Vikrant?

- The INS Vikrant – the 44,000-tonne **indigenous aircraft carrier (IAC)** – is the first to be designed and constructed in India.
- After its induction, the warship will be a key component of the Indian Navy's push to establish itself as a **"blue water" force**, one with the ability to project its power on distant seas.



EXPRESS explained.



POWER

THE SHIP IS POWERED BY FOUR GAS TURBINES

TOTALING 88MW POWER



PERFORMANCE

TOP SPEED

28 KNOTS

CRUISING SPEED

18 KNOTS

ENDURANCE 7,500 NAUTICAL MILES



SPACE

OVER 2,400 COMPARTMENTS DESIGNED FOR

a crew of around 1,600 including 200 officers, the 18-floor vessel has special cabins for women Naval officers and sailors.



STOBAR

Using an aircraft-operation mode known as Short Take Off But Arrested Recovery (STOBAR), INS Vikrant is equipped with a ski-jump for launching aircraft, and a set of three 'arrestor wires' for their recovery on board.



3,000 ROTIS/HOUR

A well equipped kitchen on board can serve a diverse menu to the crew. It has a unit that can make 3,000 rotis an hour — important given the ship's crew is 1,600-strong.



16-BED HOSPITAL

Medical complex on board has a 16 bed hospital along with a modular emergency operation theatre, physiotherapy clinic, Intensive Care Unit, pathology setup, radiology wing with a CT scanner and X Ray machines, a dental complex, isolation ward, and telemedicine facilities.



HUGE AVIATION HANGAR

The aviation hangar is as big as two Olympic sized pools that can accommodate around 20 aircraft.

WHEN FULLY OPERATIONAL, INS VIKRANT WILL BE CAPABLE OF OPERATING AN AIR WING CONSISTING OF 30 AIRCRAFT



MIG-29K FIGHTERS

Russian-origin multirole carrier-capable warjets

KAMOV-31 HELICOPTER

Russian-origin chopper in early warning control role

MH-60R

US-origin MH-60R multi-role helicopters

ALH

Indigenous Advanced Light Helicopters

LCA

Naval version of the Light Combat Aircraft

Features:

- The Vikrant stretches **262 metres in length**, exceeding that of **two football fields** and is 62 metre wide. Around **20 aircraft can be parked in the hangar**.
- It has a top speed of around **28 knots (more than 50 kmph)** and a **crising speed of 18 knots with an endurance of about 7,500 nautical miles**.
- Over **76 per cent of the material and equipment on board the carrier is indigenous**, including 21,500 tonnes of special grade steel developed indigenously and used in Indian naval ships for the first time.
- This is first time in the country that a ship of the size of an aircraft carrier is completely modelled in 3D and production drawings extracted from 3D model.
- The **Made-in-India warship** is a feather in the country's cap, as only five or six nations have the capacity of building an aircraft carrier.

Why is it named Vikrant?

- **INS Vikrant was India's first aircraft carrier**, which it acquired from the **United Kingdom in 1961**.
- It played a key role in the **1971 war with Pakistan** which led to the creation of

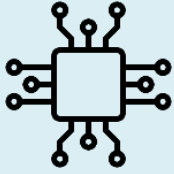
Bangladesh. It was decommissioned in 1997.

- Now **India's first homemade aircraft carrier** will carry the name of her illustrious predecessor.

Other aircraft carriers:

- The Indian Navy has **only one operational aircraft carrier** at present – **the INS Vikramaditya**.
- The **country's two earlier carriers, INS Vikrant and INS Viraat**, were originally the British-built **HMS Hercules and HMS Hermes** before being commissioned into the Navy in 1961 and 1987 respectively.

The commissioning of the warship, which will be **christened 'Vikrant'**, will mark a **"historical milestone of realisation of Nation's commitment towards AatmaNirbharta"** (self-reliance).



SCIENCE & TECHNOLOGY



ISRO to undertake maiden flight of SSLV

In News: ISRO will undertake the **maiden flight of its newly developed Small Satellite Launch Vehicle (SSLV)** on August 7.

- On its first flight, the SSLV will **carry one of India's Earth Observation Satellites – EOS-2** – that will have applications in mapping and developing various GIS applications.
- It will also carry the **AzadiSat**, a satellite developed by **750 rural students from across the country** coordinated by SpaceKidz India.
 - **SpaceKidz India is a space start-up creating "Young scientists" for the "Country" and spreading awareness among children for a "borderless world".**

Small Satellite Launch Vehicle (SSLV)

- SSLV is a rocket that is designed to **orbit satellites weighing less than 500kg in Low Earth Orbit and 300 kg to Sun Synchronous Orbit (SSO).**
- It is a 3 stage Launch Vehicle configured with 3 Solid Propulsion Stages and liquid propulsion-based Velocity Trimming Module (VTM) as a terminal stage.

Key Features

- SSLV is the **smallest vehicle** at 110-ton mass at ISRO.
- It will take only **72 hours to integrate**, unlike the 70 days taken now for a launch vehicle. Only six people will be required to do the job, instead of 60 people.
- The other features include: **flexibility in accommodating multiple satellites, Launch on demand feasibility, minimal launch infrastructure requirements**, etc.

Significance

Seamless launch of small satellites

- The SSLV is intended to **cater to a market for the launch of small satellites into low earth orbits with a quick turn-around time.**
- Suited for launching multiple **microsatellites & supports multiple orbital drop-offs.**
- Shift the burden of commercial launches from PSLV
- The SSLV is likely to **cost a fourth of the current PSLV.**

AlphaFold

In News: DeepMind, a company based in London and owned by Google, announced that it had **predicted the three-dimensional structures of more than 200 million proteins using AlphaFold.**

What is AlphaFold?

- AlphaFold is an **AI-based protein structure prediction tool.**
- It is based on a **computer system called deep neural network.**
- Inspired by the human brain, neural networks use a large amount of input data and provides the desired output exactly like how a human brain would.
- The real work is done by the **black box between the input and the output layers, called the hidden networks.**
- **AlphaFold is fed with protein sequences as input.**
- When protein sequences enter through one end, the predicted three-dimensional structures come out through the other.

How does AlphaFold work?

	<ul style="list-style-type: none"> • It uses processes based on “training, learning, retraining and relearning.” • The first step uses the available structures of 1,70,000 proteins in the Protein Data Bank (PDB) to train the computer model. • Then, it uses the results of that training to learn the structural predictions of proteins not in the PDB. • Then, it uses the high-accuracy predictions from the first step to retrain and relearn to gain higher accuracy of the earlier predictions. • By using this method, AlphaFold has now predicted the structures of the entire 214 million unique protein sequences deposited in the Universal Protein Resource (UniProt) database. <p>What are the implications of this development?</p> <ul style="list-style-type: none"> • Proteins are the business ends of biology, meaning proteins carry out all the functions inside a living cell. • Therefore, knowing protein structure and function is essential to understanding human diseases. • The development of AlphaFold is a watershed movement in science and structural biology in particular. • AlphaFold has already helped hundreds of scientists accelerate their discoveries in vaccine and drug development since the first public release of the database nearly a year back.
<p>Cotton leaf curl disease (CLCuD)</p>	<p>In News: The whitefly attacks have led to the spread of cotton leaf curl disease (CLCuD) across the cotton belt of Punjab, Haryana and Rajasthan.</p> <p>Cotton leaf curl disease (CLCuD)</p> <ul style="list-style-type: none"> • CLCuD is a viral disease that affects the overall growth of the cotton plant and hits its yield. • Leaves of infected cotton curl both upward and downward. • When whiteflies attack the crop, the CLCuD is expected because they transmit the virus further. • During the survey, cotton farmers informed that they have done two or three sprays to control the white flies. • Farmers also indicated that they have sown CLCuD-resistant hybrids and even after that the attack of the virus is prevalent.
<p>Hellfire R9X missile</p>	<p>In News: Ayman al-Zawahiri was killed in a US strike last weekend.</p> <ul style="list-style-type: none"> • The US military used its 'secret weapon', the Hellfire R9X missile, to kill Al Qaeda chief Ayman al-Zawahiri. <p>What is the Hellfire R9X missile?</p> <ul style="list-style-type: none"> • Better known in military circles as the AGM-114 R9X, the Hellfire R9X is a US-origin missile known to cause minimum collateral damage while engaging individual targets. • Also known as ‘Ninja Missile’, this weapon does not carry a warhead and instead deploys razor-sharp blades at terminal stage of its attack trajectory. • This helps it to break through even thick steel sheets and cut down the target using kinetic energy of its propulsion without causing any damage to the persons in the general vicinity or to the structure of the building.

- The **blades pop out of the missile and cut down the intended target without causing the massive damage to the surroundings** which would be the case with a missile carrying an explosive warhead.

When did the Hellfire missile enter active service?

- The Hellfire 9RX missile is known to have been in active service since 2017. However, its existence became public knowledge two years later in 2019.

What is known about the other Hellfire missile variants?

- Hellfire is actually an acronym for Heliborne, Laser, Fire and Forget Missile and it was developed in the US initially to target tanks from the Apache AH-64 attack helicopters.
- Developed by Lockheed Martin and Northrop Grumman, the Hellfire missile has other variants such as **'Longbow' and 'Romeo' apart from the 'Ninja'**.



Lumpy Skin Disease

In News: Over the last few weeks, nearly **3,000 cattle have died in Rajasthan and Gujarat due to a viral infection called the Lumpy Skin Disease (LSD)** that has spread across the states.

What is the Lumpy Skin Disease?

- According to a report by GAVI, the Global Alliance for Vaccines and Immunisation, the Lumpy Skin Disease (LSD) disease is **caused by a virus called the Capripoxvirus** and is an emerging threat to livestock worldwide.



- It is **genetically related to the goatpox and sheeppox virus family**.
- LSD **infects cattle and water buffalo** mainly through **vectors such as blood-feeding insects**.
- Signs of infection include the **appearance of circular, firm nodes on the animal's hide or skin that look similar to lumps**.
- Infected animals immediately start **losing weight and may have fever and lesions** in the mouth, along with a **reduced milk yield**.
- Other symptoms include **excessive nasal and salivary secretion**.
- Pregnant cows and buffaloes often suffer miscarriage and in some cases, diseased animals can die due to it as well.

Have such outbreaks occurred earlier; and are humans at risk?

- This is not the first time LSD has been detected in India.
- The disease has been **endemic in most African countries**, and since 2012 it has spread rapidly through the Middle East, Southeast Europe and West and Central Asia.
- Since 2019, several outbreaks of LSD have been reported in Asia.

- According to the World Organisation for Animal Health (WOAH), of which India is a member, **mortality rates of 1 to 5 per cent** are considered usual.
- The **disease is not zoonotic**, meaning it does not spread from animals to humans, and humans cannot get infected with it.
- While the **virus does not spread to humans**, “milk produced by an infected animal will be fit for human consumption after boiling or pasteurisation as these processes will kill the viruses, if any, in the milk.

Successful control and eradication of LSD relies on “**early detection** followed by a **rapid and widespread vaccination campaign**”, as per the WOAH. Once an animal has recovered, it is well protected and cannot be the source of infection for other animals.


AGM-88 HARM

In News: United States confirmed that it has supplied some “**anti-radiation missiles**” to Ukraine.

- The supply has put meat on **Russian allegations that an American anti-radar missile, AGM-88 HARM**, which is part of NATO’s inventory, has been used in the theatre of conflict.

What is the AGM-88 HARM missile?

- The acronym ‘**HARM**’ in the **AGM-88 HARM air-to-surface missile** stands for **High-Speed Anti-Radiation Missile**.
- It is a **tactical weapon fired from fighter aircraft**, and has the **capability to detect and home into radiation emitted by hostile radar stations that have surface-to-air detection capabilities**.
- The AGM-88 HARM is **14 metres in length**, but only **10 inches in diameter**.
- It weighs around **360 kg** and carries a **fragmentation type warhead** that is optimised for radar targets.
- It also has an **anti-radar homing seeker broadband RF antenna and receiver, and a solid state digital processor**.
- The missile has a **range of more than 100 km**.



Do the Ukrainians have a platform to use these missiles?

- It would appear that only Western military groups have the required fighter aircraft to use these missiles and that the AGM-88 HARM cannot be fitted and used on the Russian-origin aircraft that Ukraine has in its fleet.
- Several NATO aircraft in Europe — including the Tornado ECR, F-16CM Block 50, and F/A-18-EA-18G — can fire the AGM-88 HARM missiles.
- There is **speculation that the missiles may have been fired by NATO aircraft secretly supporting the Ukraine military in combat roles**.

Langya

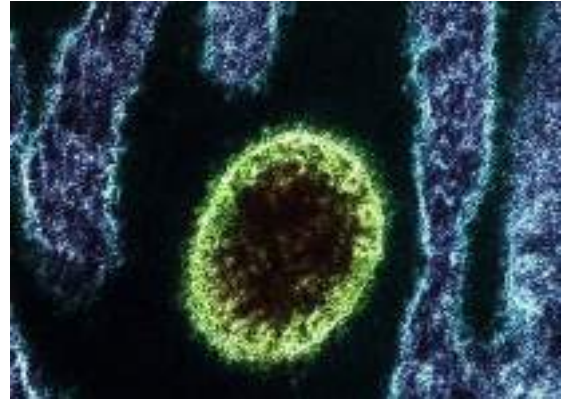
In News: A new **zoonotic virus** that has infected 35 people in China.

- **Langya Henipavirus:** A new zoonotic virus has **been discovered in the country’s two eastern provinces with 35 infections identified so far**.
- This new type of Henipavirus is also called Langya Henipavirus or LayV.

- **Henipaviruses are classified as biosafety level 4 (BSL4) pathogens.**
- They can cause **severe illness** in animals and humans, and as of now **there are no licensed drugs or vaccines meant for humans.**

What is Langya virus?

- The newly discovered virus is a “**phylogenetically distinct Henipavirus**”
- The **types of Henipaviruses** that had been identified prior to this included **Hendra, Nipah, Cedar, Mojiang and the Ghanaian bat virus.**
- According to the US CDC, the **Cedar virus, Ghanaian bat virus, and Mojiang virus are not known to cause human disease.**
- But **Hendra and Nipah infect humans and can cause fatal illness.**
- **Langya, meanwhile, is known to cause fever.**



What are the symptoms of Langya virus?

- While all 26 had fever, **54% reported fatigue, 50% had cough, 38% complained of nausea.**
- Also, 35% of the total 26, complained of headache and vomiting.
- The study found that **35% had impaired liver function, while 8% had their kidney function impacted.**
- The patients were accompanied by abnormalities of “thrombocytopenia (35%), leukopenia (54%), impaired liver (35%) and kidney (8%) function”, the study noted.
- Thrombocytopenia is low platelet count, while leukopenia means a fall in the white blood cell count, in turn reducing the body’s disease-fighting capability.

Where has Langya virus come from?

- In all likelihood, the new virus has jumped from an animal to humans.
- **The LayV virus RNA has been predominantly found in shrews, which may be its natural hosts.**
- The study zeroed in on shrews after conducting a serosurvey of domestic and wild animals. Among domestic animals, seropositivity was detected in goats and dogs.

What about human-to-human transmission?

- There are no clear answers yet.
- The authors of the study have underlined that the sample size of their investigation is too small to determine human-to-human transmission.
- However, they point out that among the 35 patients infected by LayV, there was “no close contact or common exposure history”, which suggests that the “infection in the human population may be sporadic”.

The new defence systems handed over to Army

In News: Defence Minister handed over **two new weapons – the Nipun mines, the Landing Craft Assault (LCA) and the F-INSAS system – to the Army.**

What is the F-INSAS system?

- F-INSAS stands for Future Infantry Soldier as a System, a programme for infantry modernisation aimed at increasing the operational capability of the soldier.
- As part of the project, **soldiers are being equipped with modern systems that are lightweight, all-weather-all-terrain, cost-effective and low maintenance.**
- The full-gear of the F-INSAS system **includes an AK-203 assault rifle**, a multi-mode hand grenade, which can be used in defensive and offensive modes.
- The weapon kit also has a multi-purpose knife for close quarters combat.
- Apart from this, the **F-INSAS provides soldiers with ballistic helmets and ballistic goggles for protection against small projectiles and fragments, along with a bullet-proof vest.**
- The F-INSAS also comes with hands-free, secured advanced communications set for real-time exchange of information with the command post and fellow soldiers for enhanced situational awareness.



What are Nipun mines?

- Nipun mines are **indigenously designed and developed anti-personnel mines**, termed by the **DRDO** as **'soft target blast munition'**.
- These mines are meant to **act as the first line of defence against infiltrators and enemy infantry.**
- They have been developed with the efforts of Armament Research and Development Establishment, a Pune-based DRDO facility, and Indian industry.
- **Anti-personnel mines are meant to be used against humans as against anti-tank mines that are aimed at heavy vehicles.**
- They are smaller in size and can be deployed in large numbers.
- The Army has said that the mine will provide protection to the troops on the borders and is more potent and effective than the existing anti-personnel mine in its arsenal.

What is the Landing Craft Assault?

- The **Landing Craft Assault (LCA)** is meant to serve as a **replacement for the boats with limited capabilities currently in use in the Pangong Tso lake.**
- The LCA, which has been **indigenously developed by Goa-based Aquarius ShipYard Limited**, is said to have better launch, speed and capacity to operate across water obstacles in eastern Ladakh.



Some other defence systems

- Other than these systems and equipment, the Defence Minister also **formally handed**

	<p>over to the Army a thermal imaging sight for T-90 tanks; hand held thermal imager; and frequency-hopping radio relay for tactical communication across much longer ranges.</p> <ul style="list-style-type: none"> • Further, Downlink Equipment with Recording Facility to help helicopters in surveillance missions was also handed over. Using this system, reconnaissance data is recorded and can be accessed only when the helicopter returns to the base. • Some other defence systems included Infantry Protected Mobility Vehicles; Quick Reaction Fighting Vehicles and Mini Remotely Piloted Aerial System surveillance, detection and reconnaissance at the infantry battalion and mechanised units' level.
BioSentinel	<p>In News: NASA's Artemis I mission will send yeast to deep space with BioSentinel.</p> <ul style="list-style-type: none"> • NASA's BioSentinel will carry microorganisms to deep space to help scientists better understand the effects of deep space radiation on biological lifeforms. <p>Objective:</p> <ul style="list-style-type: none"> • Primary objective of BioSentinel is to monitor vital signs of yeast to see how microorganism fares when exposed to the radiation of deep space. • Yeast cells have biological mechanisms that are like human cells, including DNA damage and repair. • Due to this, scrutinising yeast in space will help us better understand the risks of space radiation to humans as the space agency plans missions to the Moon and beyond. • For this, BioSentinel will study yeast cell growth and metabolic activity after exposure to a high-radiation environment. • A key component of BioSentinel's mission is a novel biosensor. NASA refers to it as a "miniature biotechnology laboratory" that is designed to measure how living yeast cells respond to long-term space radiation exposure. • BioSentinel is just one of the Artemis I mission's ten secondary payloads that will hitch a ride to deep space. • All these satellites are mounted in the Orion stage adapter on the Space Launch System (SLS) rocket. <p>Must Read: Artemis I mission</p>
Per- and polyfluoroalkyl substances	<p>In News: A recent study published in Environment Science and Technology has found that rainwater from many places across the globe is contaminated with "per- and polyfluoroalkyl substances," (PFAs).</p> <p>What are PFAs?</p> <ul style="list-style-type: none"> • According to the US Centre for Disease Control and Prevention (CDC), PFAs are man-made chemicals used to make nonstick cookware, water-repellent clothing, stain-resistant fabrics, cosmetics, firefighting forms and many other products that resist grease, water and oil. • PFAs can migrate to the soil, water and air during their production and use. • They are called as "forever chemicals" because of their tendency to stick around in the atmosphere, rainwater and soil for long periods of time. • PFAs can migrate to the soil, water and air during their production and use. • Since most PFAs do not break down, they remain in the environment for long periods of time. • Some of these PFAs can build up in people and animals if they are repeatedly exposed to the chemicals.

	<p>What harm do PFAs cause?</p> <ul style="list-style-type: none"> • A variety of health risks that are attributed to PFA exposure, include decreased fertility, developmental effects in children, interference with body hormones, increased cholesterol levels and increased risk of some cancers. • Recent research has also revealed that long-term low-level exposure to certain PFAs can make it difficult for humans to build antibodies after being vaccinated against various diseases.
<p>National Automated Fingerprint Identification System (NAFIS)</p>	<p>In News: Union Home Minister inaugurated the National Automated Fingerprint Identification System (NAFIS).</p> <ul style="list-style-type: none"> • According to the Ministry of Home Affairs, NAFIS, which was developed by the National Crime Records Bureau (NCRB), would help in the quick and easy disposal of cases with the help of a centralised fingerprint database • In April this year, Madhya Pradesh became the first state in the country to identify a deceased person through NAFIS. <p>What is NAFIS?</p> <p>NAFIS project is a country-wide searchable database of crime- and criminal-related fingerprints.</p> <ul style="list-style-type: none"> • The web-based application functions as a central information repository by consolidating fingerprint data from all states and Union Territories. • According to a 2020 report by the NCRB, it enables law enforcement agencies to upload, trace, and retrieve data from the database in real time on a 24x7 basis. • NAFIS assigns a unique 10-digit National Fingerprint Number (NFN) to each person arrested for a crime. • This unique ID will be used for the person's lifetime, and different crimes registered under different FIRs will be linked to the same NFN. • By automating the collection, storage, and matching of fingerprints, along with digitizing records of fingerprint data, NAFIS will "provide much-needed unique identifier for every arrested person in CCTNS (Crime and Criminal Tracking Network & Systems) database as both are connected at backend.
<p>Facial recognition technology</p>	<p>Context: Right to Information (RTI) responses received by the Internet Freedom Foundation, a New-Delhi based digital rights organisation, reveal that the Delhi Police treats matches of above 80% similarity generated by its facial recognition technology (FRT) system as positive results.</p> <p>What is facial recognition?</p> <ul style="list-style-type: none"> • Facial recognition is an algorithm-based technology which creates a digital map of the face by identifying and mapping an individual's facial features, which it then matches against the database to which it has access. • It can be used for two purposes: firstly, 1:1 verification of identity wherein the facial map is obtained for the purpose of matching it against the person's photograph on a database to authenticate their identity. • For example, 1:1 verification is used to unlock phones. However, increasingly it is being used to provide access to any benefits or government schemes. • Secondly, there is the 1:n identification of identity wherein the facial map is obtained from a photograph or video and then matched against the entire database to identify the person in the photograph or video. • Law enforcement agencies such as the Delhi Police usually procure FRT for 1:n identification.

	<ul style="list-style-type: none"> • For 1:n identification, FRT generates a probability or a match score between the suspect who is to be identified and the available database of identified criminals. • A list of possible matches is generated on the basis of their likelihood to be the correct match with corresponding match scores. • However, ultimately it is a human analyst who selects the final probable match from the list of matches generated by FRT. • According to Internet Freedom Foundation’s Project Panoptic, which tracks the spread of FRT in India, there are at least 124 government authorised FRT projects in the country.
<p>Spectrographic Investigation of Nebular Gas (SING) Project</p>	<p>In News: India-China dispute casts gloom over space project.</p> <ul style="list-style-type: none"> • Tension between India and China since May 2020 is worrying Indian astrophysicists involved in an ambitious project to install an India-made spectroscope aboard the developing Chinese space station, Tiangong. • Scientists at the Indian Institute of Astrophysics (IIA), Bengaluru, were among nine groups selected from 42 applicants in 2019 as part of a United Nations-led initiative that invites research teams from all over the world to compete for an opportunity to design payloads that will be shuttled to Tiangong aboard rockets of the Chinese Manned Space Agency. • The project, called Spectrographic Investigation of Nebular Gas (SING), also involves collaboration with the Institute of Astronomy, Russian Academy of Sciences, and has been designed and developed by research students at the IIA. • The SING project would be the first space-collaboration involving India and China, and primarily deals with sending and positioning a spectrograph, an instrument that splits light into constituent frequencies and wavelengths, to study ultraviolet radiation. • This will help analyse the make-up and sources of interstellar gas in the region that swept by the space station as it orbits around the earth. • The Chinese T-shaped Tiangong space station, when complete, is expected to be around 20% as massive as the International Space Station, or about 460 tonnes on Earth. • The space station consists of three modules, two of which have already been launched in April 2021 and July this year, respectively. • The third is expected to be launched this October. It will be only the second such station after the International Space Station in orbit. <p>India and China have been collaborators in the past on research projects such as the Giant Metre Wave Radio Telescope, a Pune-based observatory that’s employed by astrophysicists across the world to study radiation at metre-scale resolutions to observe and analyse stars and galaxies.</p> <p>Must Read: China’s space station</p>
<p>Jupiter through the Webb telescope</p>	<p>In News: The James Webb Space Telescope, NASA’s latest and most powerful telescope has captured new images of our solar system’s largest planet, Jupiter, presenting it in a never-before-seen light.</p> <p>Unprecedented view</p>



- While most of us are familiar with the **yellow and reddish-brown gas giant**, the **telescope's Near-Infrared Camera**, with its specialized infrared filters, has shown **Jupiter encompassed in blue, green, white, yellow, and orange hues**.
- Since **infrared light is not visible to the human eye**, the **images were artificially colored to match those on the visible spectrum**, so that the planet's distinctive features could stand out.
- The **brightness here indicates high altitude** — so the **Great Red Spot has high-altitude hazes**, as does the **equatorial regio**.
- The numerous **bright white 'spots' and 'streaks'** are likely very high-altitude cloud tops of **condensed convective storms**.



The Webb Telescope

- **NASA's \$10 billion James Webb Telescope** was developed with the assistance of the **European Space Agency and the Canadian Space Agency**.
- It was launched to space in **December 2021** and is currently observing from **Lagrange point 2, approximately 1.5 million km beyond Earth's orbit around the Sun**.

Zorawar tank

In News: Army accelerates procurement of light tank 'Zorawar' for LAC.

- Realising the protracted threat along the northern borders with China and the induction of the enemy's technologically "state-of-art" tanks, the Indian Army is pushing for "Project Zorawar".
- **Zorawar will be the name of the Light Tanks** which have been envisaged to be **manufactured indigenously**.
- Zorawar will be designed to **operate from High Altitude Area**, the **marginal terrain** to the **Island territories** and will be **highly transportable for rapid deployment** to meet any operational situation.
- Zorawar will have niche technologies to include Artificial Intelligence, Drone integration, Active Protection System, High Degree of Situational Awareness.
- Zorawar Singh Kahluria was the famed military general of Dogra King Gulab Singh and was adept at mountain warfare. New tanks will be named after him.
- **Missile-firing capability, counter-drone apparatus, warning system and a power-to-weight ratio** will make the tanks "very agile".
- The light tanks will help the Army **overcome the limitations of medium battle tanks** and equip the force for all contingencies in high altitude area, marginal terrain and island territories besides its utilisation in the plains, semi-deserts and deserts.

Army inducts indigenous swarm drone systems

- Indian Army has **inducted indigenously produced Swarm Drones Systems** aiming to **employ them in both offensive and defensive operations.**
- The force believes that it will be **providing a decisive edge to the tactical commanders** employing them.
- A swarm drone system consists of a number of **small drones which are AI enabled and capable of communicating with the control station as well as among them and provide asymmetric capabilities** for taking out frontline assets of the adversary.



India poised to become next global SaaS capital

In News: According to a study by Ernst & Young Global Limited (EY) and Confederation of Indian Industry (CII) titled "**India: The next global SaaS capital**", India is poised to become the next SaaS capital over the next few years.

- The Indian **software-as-a-services (SaaS)** market is **expected to grow multi-fold by 2025**, accounting for almost **7 to 10 per cent of the global market** from 2 to 4 per cent currently, said a report.
- Compared to **only 1 SaaS unicorn in 2018, India now has a total of 18**, taking the third spot among the largest SaaS ecosystems in the world.

Software-as-a-services (SaaS)

- SaaS is also known as "**On-Demand Software**". It is a **software distribution model** in which **services are hosted by a cloud service provider.**
- These services are **available to end-users over internet** so, **end-users do not need to install any software on their devices** to access these services.
- Outlook, Hotmail or Yahoo! Mail are forms of SaaS.

There are the following services provided by SaaS providers:

- **Business Services** - SaaS Provider provides various business services to start-up. The SaaS business services include ERP (Enterprise Resource Planning), CRM (Customer Relationship Management), billing, and sales.
- **Document Management** - SaaS document management is a software application offered by a third party (SaaS providers) to create, manage, and track electronic documents.
- **Social Networks** - Social networking service providers use SaaS for their convenience and handle the general public's information.
- **Mail Services** - To handle the unpredictable number of users and load on e-mail services, many e-mail providers offering their services using SaaS.

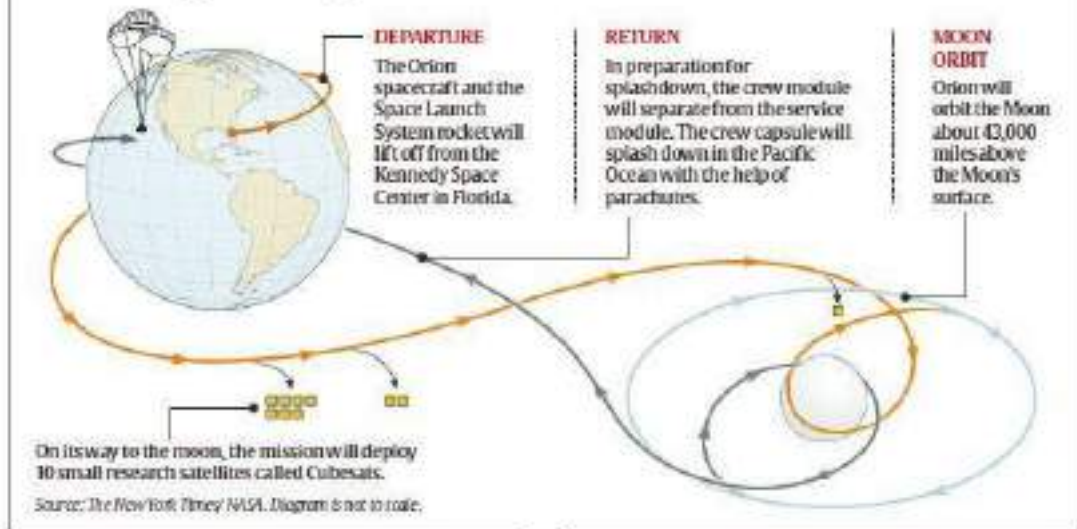
Advantages of SaaS cloud computing layer

SaaS is easy to buy

- SaaS pricing is based on a **monthly fee or annual fee subscription**, so it allows organizations to **access business functionality at a low cost**, which is less than licensed applications.

	<p>One to Many</p> <ul style="list-style-type: none"> SaaS services are offered as a one-to-many model means a single instance of the application is shared by multiple users. <p>Less hardware required for SaaS</p> <ul style="list-style-type: none"> The software is hosted remotely, so organizations do not need to invest in additional hardware. All users will have the same version of the software and typically access it through the web browser. SaaS reduces IT support costs by outsourcing hardware and software maintenance and support to the SaaS provider. <p>Low maintenance required for SaaS</p> <ul style="list-style-type: none"> Software as a service removes the need for installation, set-up, and daily maintenance for the organizations. <p>Multidevice support</p> <ul style="list-style-type: none"> SaaS services can be accessed from any device such as desktops, laptops, tablets, phones, and thin clients. <p>Disadvantages of SaaS cloud computing layer</p> <p>Security</p> <ul style="list-style-type: none"> Data is stored in the cloud, so security may be an issue for users. <p>Latency issue</p> <ul style="list-style-type: none"> Since data and applications are stored in the cloud at a variable distance from the end-user, there is a possibility that there may be greater latency when interacting with the application compared to local deployment. Therefore, the SaaS model is not suitable for applications whose demand response time is in milliseconds. <p>Total Dependency on Internet</p> <ul style="list-style-type: none"> Without an internet connection, most SaaS applications are not usable. <p>Switching between SaaS vendors is difficult</p> <ul style="list-style-type: none"> Switching SaaS vendors involves the difficult and slow task of transferring the very large data files over the internet and then converting and importing them into another SaaS also.
Artemis 1	<p>In News: The launch of a keenly awaited space mission that is being seen as the start of a new age in space exploration had to be put off due to some problems.</p> <ul style="list-style-type: none"> NASA's Artemis 1 mission is aimed at exploring the Moon with the specific objective of getting human beings back on the lunar surface and possibly beyond — to Mars and elsewhere.

The Flight of Spacecraft Orion



Artemis 1

- Artemis 1 is all about laying the foundations for more complex and ambitious missions.
- It is **carrying several payloads in the form of small satellites called CubeSats**, each of which is equipped with instruments meant for **specific investigations and experiments**.
- Then there are **biology experiments, investigating the behaviour of small organisms like fungi and algae in outer space**, and the effect of radiation, especially the reaction on their genes.
- **Orion spacecraft, which is specifically designed to carry astronauts into deep space on future missions, will have 3 dummy 'passengers' — mannequins made of material that mimic human bones, skin, and soft tissue.**
- These would be equipped with a host of sensors to record the various impacts of deep space atmosphere on the human body.
- **The rocket** that is being used for the Artemis missions, called **Space Launch System**, or SLS, is the most powerful ever built.
- The giant, 98-metre-tall rocket, weighing 2,500 tonnes, can help the Orion spacecraft achieve speeds of over 36,000 km per hour, and take it directly to the Moon.

Must Read: [CAPSTONE](#)

Dark matter

Recently, **NASA's James Webb Space Telescope** has captured the first-ever evidence of the presence of **carbon dioxide in an exoplanet's WASP-39b atmosphere**.

About exoplanet's WASP-39b:

- **WASP-39 is a hot gas giant** that was found orbiting a star around **700 light years away**.
- The exoplanet orbits its **star once every four Earth days** and is **one-fourth the size of Jupiter** but has a **diameter that is 1.3 times bigger**.

It is expected that JWST over its **lifetime would provide us with a space data** which help in resolving some of the **many mysteries of the cosmos** which are not directly detected such as dark matter and dark energy.

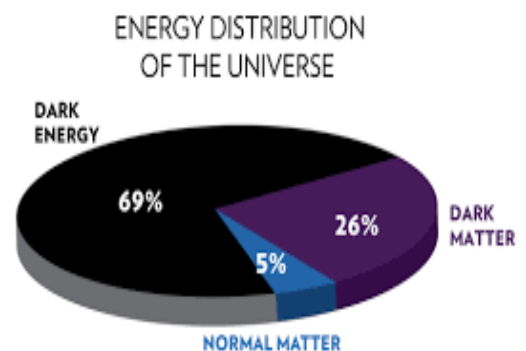
What is dark matter?

- All interactions in the **universe are a result of four fundamental forces** acting on particles — **strong nuclear force, weak nuclear force, electromagnetic force and gravitation**.

- **Dark matter is made up of particles that do not have a charge** — which means they do not interact through electromagnetic interactions.
- So, **these are particles that are “dark”**, namely because **they do not emit light**, which is an electromagnetic phenomenon, and **“matter”** because they possess mass like normal matter and hence interact through gravity.
- Gravitational force, besides not being fully integrated and understood by particle physicists, is extremely weak.
- For one thing, a particle that interacts so weakly becomes rather elusive to detect.
- This is because **interactions from other known particles could drown out signals of dark matter particles.**

What is Dark energy?

- Dark energy is an **unknown form of energy** that affects the universe on the largest scales.
- The first observational evidence for its existence came from **measurements of supernovae**, which showed that the universe does not expand at a constant rate and rather, the expansion of the universe is accelerating.



Are Both Dark matter and Dark energy the same?

- About 27% of the universe is dark matter and 68% is dark energy.
- While dark matter attracts and holds galaxies together, dark energy repels and causes the expansion of the universe.
- Despite both components being invisible, we know a lot more about dark matter, since its existence was suggested as early as the 1920s, while dark energy wasn't discovered until 1998.

African swine fever

In News: The **whole state of Punjab** had already been declared as **“controlled area”** and a ban on **inter-district and inter-state movement of any pig or its belongings has been imposed.**

- Earlier **African swine fever** has been confirmed for the **first time, at a private pig farm in Kerala**, after more than 15 pigs on the farm had died due to the disease in the last ten days.

About African Swine Fever (ASF):

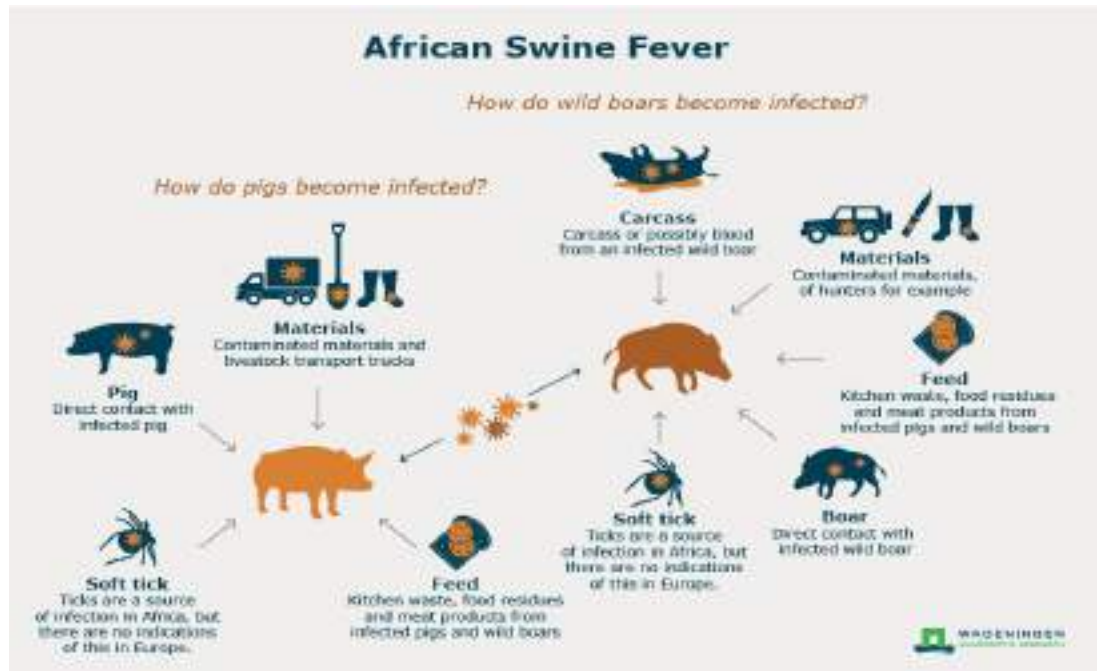
- **Cause:** Large **DNA virus of the Asfarviridae family. Only virus with a double-stranded DNA genome known to be transmitted by arthropods.**
- **Affects domestic & wild pigs.**
- **Symptoms:** Includes **weight loss, intermittent fever, respiratory signs, chronic skin ulcers & arthritis.** Acute forms are characterised by anorexia, loss of appetite & haemorrhages in the skin.
- **Transmission:** Through **natural hosts (warthogs, bushpigs & ticks)** acting as vectors & by **direct/indirect contact with infected pigs**, their faeces & body fluids.
- **Vaccination: No approved vaccine yet.**
- **Geographical Distribution:** First detected in **Kenya in 1909** & currently found in **Asia,**

Europe & Africa.

- Public Health Risk: Not risky for humans.

Preventive Steps:

- For the prevention of the disease in these areas, **restrictions** under the provisions of **The Prevention and Control of Infectious and Contagious Diseases in Animals Act, 2009** and the **National Action Plan for Control, Containment and Eradication of African Swine Fever (June 2020)** have been imposed.
- Application of classic sanitary measures, early detection & humane killing of animals.
- Thorough disinfection, stricter biosecurity norms & restricted supply from affected



areas.



MISCELLANEOUS



Tomato Flu

In News: Recently the **tomato flu** was first identified in the Kollam district of Kerala, with more than 82 children younger than 5 years with the infection have reported by the local government hospitals.

What is Tomato Flu?

- Tomato flue/fever is a **rare contagious disease of viral nature** in humans whose **origins are not yet known**.
- 'Tomato flu' is caused by **Coxsackie virus A 16**. It belongs to **Enterovirus family**.
- It gets its name from the **tomato-shaped red rashes that it causes on the body of infected individuals**.
- The flu is said to **affect children below five years of age**.

**Symptoms:**

- The **primary symptoms observed in children** with tomato flu are like those of chikungunya, which include high fever, rashes, and intense pain in joints.
- Further symptoms **include fatigue, nausea, vomiting, diarrhoea, dehydration, swelling of joints, body aches, and common influenza-like symptoms**, which are like those manifested in dengue.

Treatment:

- Because **tomato flu is like chikungunya and dengue** as well as **hand, foot, and mouth disease**, the treatment is also similar — **isolation, rest, plenty of fluids, and hot water sponge for the relief of irritation and rashes**.
- Supportive **therapy of paracetamol** for fever and body ache and other symptomatic treatments are required.

Preventive Measures:

- **Utensils, clothes, and other items used by the infected persons must be sanitized** to prevent the flu from spreading.
- **Fluid intake** should be increased to counter dehydration.
- Proper screening by the health authorities.

Southern Rice Black-Streaked Dwarf Virus

In News: Scientists at Punjab Agricultural University (PAU) decoded the mystery disease **blaming it on 'Southern Rice Black-Streaked Dwarf Virus' (SRBSDV)**, named after Southern China where it was first reported in 2001.

- This is the first time that SRBSDV has been found in Punjab.
- The SRBSDV is **transmitted by white-backed plant hopper (WBPH) in a persistent circulative and propagative manner**.
- In addition to rice, SRBSDV **also infects different weed species** as nymphs of WBPH can transmit the virus more efficiently as compared to adults.
- Long-distance transmission of this virus may occur through WBPH migrating with the

typhoons and strong convection winds.

- There was **no corrective measure for the viral disease**; farmers should regularly monitor the crop for the presence of WBPH.
- Height of the stunted plants showed a reduction from 1/2 to 1/3rd of the normal plants. These plants had shallow roots and could be easily uprooted.



Must Read: [Mystery 'dwarfing' disease](#)

GI Tag for Mithila Makhana

In News: The government has awarded **Geographical Indication (GI) tag to Mithila Makhana**, a move which is expected to help growers get the maximum price for their premium produce.

- Mithila Makhana or Makhan is a special variety of **aquatic fox nut cultivated in Mithila region of Bihar and Nepal.**



Aranmula Kannadi

- Aranmula Kannadi literally means the **mirror of Aranmula**, a small town in **Pathanamthitta district, Kerala.** It was the first craft item from the state to receive a geographical indication tag in 2005.
- These **special and rare mirrors** are created by a handful of highly skilled traditional artisan families belonging to town's Vishwakarma community.
- The alloy formula they use is a secret passed down through generations.
- Made on demand, every piece, irrespective of its size, takes significant time and effort to finish.
- The **uniqueness of this mirror is its front reflection, unlike the back reflection in normal glass mirrors.** This means the reflective surface is placed on a back support, as opposed to regular mirrors where the reflective surface is behind glass.
- These mirrors also have a **cultural significance in Kerala:** It is regarded as one of the eight auspicious objects (ashtamangalya) displayed during religious festivals or auspicious occasions and ceremonies.
- It is believed to bring **prosperity, luck and wealth** into the life of its custodian.



Geographical Indication Tag

- A GI is primarily given to an **agricultural, natural or a manufactured product** (handicrafts and industrial goods) originating from a definite geographical territory.
- Typically, such a name conveys an **assurance of quality and distinctiveness**, which is essentially attributable to the place of its origin.
- GI tag in India is **governed by Geographical Indications of Goods (Registration & Protection) Act, 1999.** It is issued by the Geographical Indications Registry (Chennai).
- This tag is **valid for a period of 10 years** following which it can be renewed.

Benefits of GI Tag

- It provides **legal protection to Indian Geographical Indications** thus preventing unauthorized use of the registered GIs by others.
- It promotes **economic prosperity of producers** of goods produced in a geographical territory.
- The GI protection in India leads to **recognition of the product in other countries thus boosting exports.**

Must Read: [Narasinghapettai nagaswaram](#)

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POLITY & GOVERNANCE



Reaping the demographic dividend

In News: The UN report, World Population Prospects 2022, forecasts that the world's population will touch 8 billion this year and rise to 9.8 billion in 2050.

- India's population will surpass China's by 2023 and continue to surge.
- India is getting a demographic dividend that will last nearly 30 years.

What is Demographic Dividend?

- The economic growth potential that can result from shifts in a population's age structure, mainly when the share of the working-age population (15 to 64) is larger than the non-working-age share of the population (14 and younger, and 65 and older)
- With more people in the labor force and fewer children to support, a country has a window of opportunity for economic growth if the right social and economic investments and policies are made in health, education, governance, and the economy.

Where exactly does India lie?

- India has the largest youth population in the world; around 66 per cent of the total population (more than 808 million) is below the age of 35.
- In 2020, the median age of the population in India was 28, compared to 37 in the US and China, and 49 in Japan. The bulge in working-age population is going to last till 2055.
- This transition happens largely because of a decrease in the total fertility rate (TFR, which is the number of births per woman) after the increase in life expectancy gets stabilised.
- A study on demographic dividend in India by United Nations Population Fund (UNFPA) throws up two interesting facts.
 - The window of demographic dividend opportunity in India is available for five decades from 2005-06 to 2055-56, longer than any other country in the world.
 - This demographic dividend window is available at different times in different states because of differential behaviour of the population parameters.
- With falling fertility (currently 2.0), rising median age (expected to be 36 years by 2036), a falling dependency ratio (expected to decrease from 65% to 54% in the coming decade taking 15-59 years as the working age population), India is in the middle of a demographic transition.

What measures are required to reap the best of Demographic Dividend?

India needs to invest massively in quality school and higher education as well as healthcare — sectors it has neglected for decades — across India on an unprecedented scale -

- **Invest more in children and adolescents:** A greater focus needs to be on transitioning from secondary education to universal skilling and entrepreneurship, as done in South Korea.
- **Make health investments:** The public spending on health has remained flat at around 1.5% of GDP. Evidence suggests that better health facilitates improved economic production.
- **Rights-based approach to make reproductive healthcare services accessible:** The unmet need for family planning in India at 9.4% as per the latest National Family Health Survey-5 (2019-21) is high as compared to 3.3% in China and 6.6% in South Korea, which needs to be bridged.
- **Bridge Gender Inequality in Education:** In India, boys are more likely to be enrolled in secondary and tertiary school than girls. In the Philippines, China and Thailand, it is the reverse. In Japan, South Korea, and Indonesia, the gender differences are rather minimal. This needs to be reversed.

- **Address the diversity between States:** While India is a young country; the status and pace of population ageing vary among States. Southern States already have a higher percentage of older people whereas north-central region can act as the reservoir of India's workforce.
- **Federal approach to governance reforms:** A new framework need to be put in place for policy coordination between States on various emerging population issues such as migration, ageing, [skilling](#), female workforce participation and urbanisation.
- **Increase female workforce participation:** As of 2019, 20.3% of women were working or looking for work, down from 34.1% in 2003-04. New skills and opportunities for women and girls befitting their participation in economy are urgently needed.

Must Read: [Mindmap](#)

Ensuring Efficacy of RTI Act

Context: Amidst renewed concern over its functioning across states, the Right to Information Act (RTI) is set to complete 17 years this October.

Current issues with the State Information Commissions

Sarthak Nagrik Sangathan (SNS) 2021 Report states - The various Information Commissions are — “acting as a major bottleneck in effective implementation of the RTI Law”.

- A huge backlog of second appeals, lengthy wait time for hearings, hesitancy in posting penalties and increasing opacity in the working of the commissions
- The commissions have been plagued with vacancies, poor choice of commissioners, untrained staff and a non-cooperative set of public information officers (PIOs).
- The threat to some RTI activists who seek information to expose corruption.
 - According to the Commonwealth Human Rights Initiative (CHRI), across India, 99 RTI activists have lost their lives, 180 assaulted and 187 were threatened since 2006.
 - While RTI is lauded in public, it faces fierce opposition from many within the bureaucracy and the lawmakers, the two key stakeholders of the RTI regime.

As on June 2021, 2.56 lakh appeals were pending with 26 information commissions in the country. It will take 6.5 years to dispose of a matter in Odisha, as per the going rate, according to the SNS report.

A. Bad conduct of Public Information Officer

- Any serious RTI query or one which concerns more than one government department requires intervention by higher officials, but it is the PIOs from junior ranks who attend hearings and are often clueless.

B. Several RTI cases are embroiled in judicial procedures.

- High courts are quick to give stay orders on CICs' decisions. The Act clearly states that the final appeal lies with the information commissions, so the appeals are masked as writs to obtain relief from high courts.

The Way Forward

The [RTI Act](#) is a sunshine legislation aimed at eradicating corruption and promoting transparency.

- A code of conduct must be evolved for the central and state information commissioners. It is imperative for the commissioners to keep a strict distance from government heads and officialdom.
- The Indian information law, rated as one of the strongest in the world, needs to be bolstered by raising awareness amongst the people and organising rigorous training of government officials.
- A strong political system is a must for the [RTI regime](#) to flourish. It is imperative to ensure freedom of the press and democratic institutions, punish errant officials and maintain complete autonomy of the information commissions, in the interest of the people and the nation at large.

Withdrawal of Personal Data Protection Bill

Context: After nearly four years of being in the works, the Personal Data Protection Bill was withdrawn from Parliament by the government, after stating that the government will come out with a “set of fresh legislations” that will fit into the comprehensive legal framework for the digital economy.

Genesis of the Bill

- The genesis of this Bill lies in the report prepared by a Committee of Experts headed by **Justice B.N. Srikrishna**.
- The committee was constituted by the government in the course of hearings before the Supreme Court in the right to privacy case (**Justice K.S. Puttaswamy v. Union of India**).

Personal Data Protection Bill, 2019 proposed

- The Bill had proposed restrictions on use of personal data without the explicit consent of citizens.
- It had also sought to provide the government with powers to give exemptions to its probe agencies from the provisions of the Act, a move that was strongly opposed by the opposition MPs who had filed their dissent notes.
- It also proposed to specify the flow and usage of personal data and protect the rights of individuals whose personal data are processed, as it works out the framework for the cross-border transfer, accountability of entities processing data, and moots remedies for unauthorised and harmful processing.
- The Bill sets out certain rights of the individual (or data principal). These include the right to:
 - Obtain confirmation from the fiduciary on whether their personal data has been processed
 - Seek correction of inaccurate, incomplete, or out-of-date personal data
 - Have personal data transferred to any other data fiduciary in certain circumstance
 - Restrict continuing disclosure of their personal data by a fiduciary, if it is no longer necessary or consent is withdrawn.

The original Bill, which was first tabled in 2019, included exemptions for processing data without an individual’s consent for “reasonable purposes”, including security of the state, detection of any unlawful activity or fraud, whistle-blowing, medical emergencies, credit scoring, operation of search engines and processing of publicly available data.

Contentious Section 35 & Article 12(a)

- **According to Article 35**, the central government could exempt any government agency from the law’s provisions “in the interest of India’s sovereignty and integrity, the state’s security, friendly relations with foreign states, public order, and if it is satisfied that it is necessary or expedient to do so, subject to procedures, safeguards, and oversight mechanisms to be prescribed by the Government.”
- **Article 12(a)**, meanwhile, eliminated the need for the data principal’s informed consent for the processing of their data when it is required “for the performance of any function of the state authorised by law for I the provision of any service or benefit to the data principal from the state; or (ii) the issuance of any certification, licence, or permit by the state for any action or activity of the data principal by the state.”

Conclusion

Members of the erstwhile Joint Committee on Personal Data Protection Bill as well as industry leaders have welcomed the government’s move to withdraw the legislation, saying it was better to bring a new legislation after more than 80 amendments suggested by the panel.

The workings of the Supreme Court collegium

Context: The Chief Justice of India (CJI) N.V. Ramana’s tenure is drawing to an end in a few days.

- The collegium, as a united front, was able to recommend numerous judicial appointments and scripted

history by getting nine Supreme Court judges appointed in one go.

- Of the nine, Justice B.V. Nagarathna, is in line to be the first woman CJI in 2027.

How are the judges of Supreme Court appointed?

- **Article 124(2)** of the Indian Constitution provides that the Judges of the SC are appointed by the President after consultation with such a number of the Judges of the SC and of the High Courts in the States as the President may deem necessary for the purpose.
- **Article 217** of the Indian Constitution states that the Judge of a High Court shall be appointed by the President consultation with the Chief Justice of India, the Governor of the State, and, in the case of appointment of a Judge other than the Chief Justice, the Chief Justice of the High Court.
- The Supreme Court has offered **diverse meanings of the phrase “consultation”**
- **For appointment of Chief Justice of India (CJI):** In practice, it has been strictly by seniority ever since the supersession controversy of the 1970s. President appoints CJI.
- In the case of appointment of a judge other than Chief justice, consultation with the Chief Justice is obligatory.
- The interpretation of the word consultation has evolved over the years which can be summarised as follows:

First Judges Case, 1982	<ul style="list-style-type: none"> • Supreme Court held that consultation does not mean concurrence and it only implies exchange of views.
Second Judges case, 1993	<ul style="list-style-type: none"> • SC reversed its earlier ruling and changed the meaning of the word consultation to concurrence. • Hence, it ruled that the advice tendered by the Chief Justice of India is binding on the President in the matters of appointment of the judges of the Supreme Court. • But, the Chief Justice would tender his advice on the matter after consulting two of his senior most colleagues (this was considered as Collegium) • The collegium can veto the government if the names are sent back by the latter for reconsideration. • The opinions of each member of the Collegium and other judges consulted should be made in writing and form part of the file on the candidate sent to the government. • If the CJI had consulted non-judges, he should make a memorandum containing the substance of consultation, which would also be part of the file. After the receipt of the Collegium recommendation, the Law Minister would forward it to the Prime Minister, who would advise the President in the matter of appointment.
Third Judges case, 1998	<ul style="list-style-type: none"> • SC opined that the consultation process to be adopted by the CJI requires ‘consultation of plurality judges’. • The sole opinion of CJI does not constitute the consultation process. • He should consult a collegium of four senior most judges of the SC and even if two judges give an adverse opinion, he should not send the recommendation to the government. • The court held that the recommendation made by the CJI without complying with the norms and requirements of the consultation process are not binding on the government.

	<ul style="list-style-type: none"> • Judges of the higher judiciary are appointed only through the collegium system and the government has a role only after names have been decided by the collegium. • The government's role is limited to getting an inquiry conducted by the Intelligence Bureau (IB) if a lawyer is to be elevated as a judge in a High Court or the Supreme Court.
National Judicial Appointments Commission (NJAC)	<ul style="list-style-type: none"> • The 99th Constitutional Amendment Act of 2014 and the NJAC Act of 2014 have replaced the collegium system of appointing judges to SC and HCs with a new body called the National Judicial Appointments Commission (NJAC) <p>NJAC was to consist of the following members:</p> <ul style="list-style-type: none"> • Chief Justice of India (Chairperson, ex officio) • Two other senior judges of the Supreme Court next to the Chief Justice of India – ex officio • Union Minister of Law – ex-officio • Two eminent persons (to be nominated by a committee consisting of CJI, PM and the Leader of Opposition or leader of single largest opposition party in the Lok Sabha) • However, 99th CAA and NJAC Act as unconstitutional and void on the grounds that it violated Independence of Judiciary • Consequently, the earlier collegium system became operative again.

However, over time, the collegium system has attracted criticisms.

What are the concerns with Collegium system?

- Collegium system finds **no mention in the actual text** of the Constitution.
- Long-standing criticism about the collegium's operation remain unaddressed i.e its **opacity and a lack of independent scrutiny** of its decisions.
- Our constitutional scheme envisages no power of administrative superintendence in the Supreme Court over the High Courts. But when transfers are made routine, when the process of appointing Chief Justices to High Courts is shrouded in secrecy, **a de facto system of oversight on High Courts** is put in place.
- The procedure to be followed by the collegium system is contained in a "Memorandum of Procedure" (MoP). However, there is no actual guidance on how judges are to be selected.
- But when the Court struck down the NJAC in 2015, it also promised to **reform the existing system**. Six years down the line those promises have been all but forgotten.
- A new "Memorandum of Procedure" (MoP), for instance, has not moved forward.

Has the increase in judicial appointments lowered pendency in the Supreme Court?

- The increase in the number of judges has not guaranteed lower pendency of cases in the apex court over the years.
- The number of pending cases has risen to 71,411 as on August 1, 2022 from a little over 55,000 in 2017. This is despite the fact that the sanctioned judicial strength of the court was increased to 34 judges in August 2019.
- A steady rise in arrears regardless of the periodic increase in judicial strength has been a constant phenomenon since 1950.
- In 2020 and 2021, the pandemic added to the pendency rate in the apex court. The year 2020 ended with a backlog of 64,426 cases and 2021 with 69,855 cases.

Ordinance

In News: Kerala Governor objects to repromulgation of ordinances.

- Governor took exception to the State government's move to reissue ordinances instead of getting the executive orders ratified by the Assembly.
- The Supreme Court had ruled (in 2017) that re-promulgation of ordinances tantamount to subversion of the democratic legislative process.

Ordinance

- An ordinance is any **law promulgated by the President** when the **parliament is not in session**.
- These ordinances have the **same legal force and effect as an Act of Parliament**, but they are only temporary in nature.

Ordinance Making Power of President

- **Article 123** grants the President certain law-making powers, including the **authority to issue ordinances** during **Parliament's recess** and hence it is not possible to enact laws in the Parliament.

Following limitations exist with regards to the president's ordinance making powers:

- When one or either of the two Houses of Parliament is not in session, the President may promulgate an Ordinance.
- The President cannot issue an Ordinance unless he is satisfied that the situation necessitates 'immediate action.'
- The President's authority to issue **ordinances is justiciable** if intentions are proved mala fide.

Ordinance Making Power of Governor

- **Article 213** states that the Governor of the state may issue ordinances when the state legislative assembly (or either of the two Houses in states with bicameral legislatures) **is not in session**.

Properties of the Ordinance

- An **ordinance can be retrospective**, which means that it can be enacted prior to its approval.
- An ordinance passed while Parliament is in session is deemed null and void.
- To stay a law, the **Ordinance must be approved by Parliament within six weeks of its reassembly**. Its existence is terminated if the parliament does not act within six weeks of its reassembly.
- Acts, laws, and events that occurred as a result of the ordinance remain in effect until it expires.
- **Ordinance promulgation cannot be regarded as a substitute for the President's legislative authority.**
- Ordinances can only be passed on subjects where the Parliament has the authority to pass laws.
- Ordinances cannot be used to revoke the fundamental rights of the citizens guaranteed by the Indian Constitution.
- The ordinance would also be declared null and void if both houses passed a resolution opposing it.

Misuse of the Ordinance making power

Deliberate bypassing of the legislature:

- At times there are instances that legislature is being deliberately bypassed to avoid debate and deliberations on contentious legislative proposals. This is against the ethos and spirit of democracy.

Repromulgation of ordinances:

- As observed by the Supreme Court, **re-promulgation of ordinances is a "fraud" on the Constitution and a subversion of democratic legislative processes**, especially when the government persistently avoids placing the ordinances before the legislature.

Undermining the Doctrine of Separation of Powers:

- In the **Kesavananda Bharati vs. State of Kerala case 1973**, the Supreme Court listed the **separation of powers as a "basic feature" of the Constitution**.
- The **repromulgation undermines the separation of powers**, as it effectively allows the executive to make

permanent legislation without legislative input or approval.

The satisfaction of President:

- Ordinance can be promulgated **only when the President is satisfied that circumstances exist for the same** thus providing the scope of misuse of the power.

SC judgments

- It was argued in **DC Wadhwa vs. the State of Bihar (1987)** that the legislative power of the executive to promulgate ordinances is to be used in exceptional circumstances and not as a substitute for the law-making power of the legislature.
- Supreme Court in **Krishna Kumar Singh v. the State of Bihar** held that the authority to issue ordinances is **not an absolute entrustment, but is “conditional upon satisfaction that circumstances exist rendering it necessary to take immediate action”**.
- Even after tough judgments on the use of ordinances, **both the Centre and state governments have ignored the Supreme Court’s observations**.
- For example, in 2013 and 2014, the Securities Laws (Amendment) Ordinance was promulgated three times.

Our Constitution has provided for the separation of powers among the legislature, executive and judiciary where enacting laws is the function of the legislature. The executive must show self-restraint and should use ordinance making power only in unforeseen or urgent matters and not to evade legislative scrutiny and debates.

Minorities at district level

In News: The Supreme Court ruled that **to recognise minorities at district level is contrary to law.**

- The Court was hearing a **petition**, claiming that Hindus do not get minority status in States where they are “socially-, economically-, politically non-dominant and numerically inferior”.
- The petition **had also sought a declaration from the Court to identify minorities’ district wise.**
- The Supreme Court **referred to 11-judge Bench judgment** which holds that **recognition of minorities should be done at the State level.**
- The judge was referring to the majority verdict given by the 11-judge Bench in the T. M. A Pai versus State of Karnataka case in 2002.

Judgements related to determination on minority status:

TMA Pai Case:

- The SC had said that for the **purposes of Article 30** that deals with the rights of minorities to establish and administer educational institutions, religious and linguistic **minorities have to be considered state-wise.**

Bal Patil Case:

- In 2005, the SC in its judgement in ‘Bal Patil’ referred to the TMA Pai ruling.
- The legal position clarifies that henceforth the unit for determining status of both linguistic and religious minorities would be ‘state’.

Constitutional Provisions for Minorities

Article 29

- It provides that **any section of the citizens residing in any part of India having a distinct language, script or culture of its own, shall have the right to conserve the same.**
- It grants protection to **both religious minorities as well as linguistic minorities**

Article 30:

- All minorities shall have the **right to establish and administer educational institutions of their choice.**
- The protection under Article 30 is **confined only to minorities (religious or linguistic) and does not extend to any section of citizens** (as under Article 29).

Article 350-B:

- The **7th Constitutional (Amendment) Act 1956** inserted this article which provides for a **Special Officer for Linguistic Minorities appointed by the President of India**.
- It would be the duty of the Special Officer to investigate all matters relating to the safeguards provided for linguistic minorities under the Constitution.

Must Read: [Minority Status in India](#)

On guardianship and adoption of minors

In News: A **Parliamentary panel** has tabled its report, in both Houses of Parliament on the 'Review of Guardianship and Adoption Laws'.

Current Legislative framework

- Indian laws accord superiority to the father in case of guardianship of a minor.
- Under the **HMGA, 1956**, the natural guardian of a **Hindu minor in respect of the minor's person or property is the father**, and after him, the mother.
- The **Muslim Personal Law (Shariat) Application Act, 1937** says that the Shariat or the religious law will apply in case of guardianship according to which **the father is the natural guardian**, but custody vests with the mother until the son reaches the age of seven and the daughter reaches puberty though the father's right to general supervision and control exists.

SC Judgments

- **Githa Hariharan vs RBI** in 1999 challenged the HMGA for violating the guarantee of equality of sexes **under Article 14**.
- The court held that the term "after" should not be taken to mean **"after the lifetime of the father", but rather in the absence of the father**.
- But the **judgment failed to recognise both parents as equal guardians**, subordinating a mother's role to that of the father.
- Though the judgment sets a precedent for courts, it has not led to an amendment to the HMGA.

Recommendations of the Parliamentary panel on guardianship and child custody

- The report said that there is an **urgent need to amend the HMGA (Hindu Minority and Guardianship Act, 1956)**.
- The existing law treats mothers as subordinates to their husband.
- Hence, the law violated the right to equality and right against discrimination envisaged under Articles 14 and 15 of the Constitution.
- It recommended to accord equal treatment to both mother and father as natural guardians.

Joint custody of children during marital disputes.

- In cases of marital dispute, the panel says there is a need to relook at child custody which is typically restricted to just one parent. In such cases, mothers tend to get preference.
- The panel recommended that **courts should be empowered** to:
 - **grant joint custody to both parents** when such a decision is conducive for the welfare of the child, or
 - **Award sole custody to one parent with visitation rights to the other.**

On adoption

- The Committee has said that there is a **need for a new legislation that harmonises the Juvenile Justice (Care and Protection of Children) Act, 2015 and the Hindu Adoptions and Maintenance Act (HAMA), 1956**.
- It also said that such a law should **cover the LGBTQI community as well**.

Note:

Can queer and transgender people adopt children in India?

- The Adoption Regulations 2017 is silent on adoption by LGBTQI people. It neither bans nor allows them to adopt a child.
- Its eligibility criteria for prospective adoptive parents says that they should be physically, mentally and emotionally stable, financially capable and should not have any life-threatening medical condition.
- Single men can only adopt a boy while a woman can adopt a child of any gender.
- A child can be given for adoption to a couple only if they have been in a marital relationship for at least two years.

Criminal Procedure (Identification) Act, 2022

Context: The Criminal Procedure (Identification) Act, 2022, which was passed by the Parliament in April this year, came into force recently.

What are the problems with India's Criminal Justice System?

- **Slow disposal of cases** leading to huge backlogs. There are more than 4.4 crore cases pending before the judiciary. The tendency to over-criminalise conduct being one of the reasons for high number of cases.
- Justice mechanisms are mostly **inaccessible to marginalised classes of citizens**. This is because the focus has been upon institution building rather than capacity building.
- **Abuse of power by the police** due to continuation of Colonial mindset in certain circles.
- Crime prevention has remained utopian goal of our criminal justice system. This is due to **ineffective community policing mechanisms** and situational crime prevention
- **Rehabilitative** form of justice has not been focused. Custodial punishments are seen by the governments as a more effective measure than non-custodial punishments (recommended by various Law Commission)
- Dearth of reliable state-sponsored **data collection**, maintenance and analysis mechanisms.
- Criminal justice system is yet to catch up with the **Changing nature of crimes**.
- **Low Conviction rate** due to inefficiencies in police & judicial system – which is being addressed by the new proposed bill.

What is the proposed law?

- **Objective of the bill:** The bill provides legal sanction for taking appropriate body measurements of persons who are required to give such measurements and will make the investigation of crime more efficient and expeditious and will also help in increasing the conviction rate.
- **Details about convicts and other persons:** Earlier act permitted collection of only finger impressions and footprint impressions. The new act expands the list to include iris and retina scans, palm-print impression, signature and handwriting, biological samples such as blood, semen, hair samples, and swabs, and their analysis.
- **Coverage** - It proposes that the law apply to three categories of individuals.
 - All Convicted persons (earlier it was only for certain cases)
 - Arrested Persons
 - Suspected Criminals
 - Persons held under any preventive detention law
- **Retention of details:** The law also empowers the National Crime Records Bureau (NCRB) to store, preserve, share with any law enforcement agency and destroy the record of measurements at national level. The records can be stored up to a period of 75 years.
- **Removal of details:** The record may be destroyed in case of persons who: (i) have not been previously convicted, and (ii) are released without trial, discharged, or acquitted by the court, after exhausting all legal remedies. Police personnel up to the rank of Head Constable have been authorised to record the measurements.
- **Resistance to giving details:** As per the Bill, resistance or refusal to give details will be considered an offence

under the Indian Penal Code, 1860.

- **Role of the National Crime Records Bureau (NCRB):** Functions of NCRB under the Bill include:
 - Collect the details about the persons covered under the Bill from state/UT governments, or other law enforcement agencies
 - storing and destroying the details about specified persons at the national level
 - processing the details with relevant criminal records, and
 - Disseminating the details to law enforcement agencies.
- **Rule-making power:** The Act vested rule-making power only in the state government. The Bill extends this power to the central government as well. The central or state government may make rules on various matters like the manner of collection, storage, preservation, destruction, dissemination, and disposal of details by NCRB.

How is the new law different from the old 1920 act?

	1920 Act	Changes in the 2022 Bill
Data permitted to be collected	<ul style="list-style-type: none"> ▪ Fingerprints, foot-print impressions, photographs 	<ul style="list-style-type: none"> ▪ Adds: (i) biological samples, and their analysis, (ii) behavioural attributes including signatures, handwriting, and (iii) examinations under sections 53 and 53A of CrPC (includes blood, semen, hair samples, and swabs, and analyses such as DNA profiling)
Persons whose data may be collected	<ul style="list-style-type: none"> ▪ Convicted or arrested for offences punishable with rigorous imprisonment of one year or more ▪ Persons ordered to give security for good behaviour or maintaining peace ▪ Magistrate may order in other cases collection from any arrested person to aid criminal investigation 	<ul style="list-style-type: none"> ▪ Convicted or arrested for any offence. However, biological samples may be taken forcibly only from persons arrested for offences against a woman or a child, or if the offence carries a minimum of seven years imprisonment ▪ Persons detained under any preventive detention law ▪ On the order of Magistrate, from any person (not just an arrested person) to aid investigation
Persons who may require/ direct collection of data	<ul style="list-style-type: none"> ▪ Investigating officer, officer in charge of a police station, or of rank Sub-Inspector or above ▪ Magistrate 	<ul style="list-style-type: none"> ▪ Officer in charge of a police station, or of rank Head Constable or above. In addition, a Head Warder of a prison ▪ Metropolitan Magistrate or Judicial Magistrate of first class. In case of persons required to maintain good behaviour or peace, the Executive Magistrate

What are the concerns expressed against the bill?

- **Lack of Clarity:** the statement of objects says it provides for collection of measurements for “convicts and other persons” but the expression “other persons” is not defined.
- **Conflict with Fundamental Rights:** The bill implied use of force in collection of biological information, that could lead to narco analysis and brain mapping, which is considered as violative of Article 20 (3) (right against self-incrimination). There are also concerns that it violates the right to privacy under Article 21.

- **Possibility of Judicial Scrutiny:** The Bill also states “increasing conviction rate” as one of its aims. The court may have to look into whether this can be a legitimate aim and if it can outweigh rights of citizens.
- **Federal Challenges:** Given that policing is still a state subject, it remains to be seen if any states refuse to share this information.
- **Fear of Mass surveillance:** The proposed Bill brings a legal framework for police surveillance using technology, experts fear that it could be expanded or misused. For ex: The bill empowers to collect samples even from protestors engaged in political protests.

What should be the way ahead?

- **Need for exercising restraint:** The sensitive personal information collected, stored, preserved and shared under the Bill must be relevant and limited to the purpose for which such information is collected and stored.
- **Need for Data Protection law:** Provisions such as these that rely upon the collection, storage, preservation, sharing, and dissemination of sensitive personal information must be introduced only after a data protection law is in place to deal with potential breaches. It is the responsibility of each organ of the government to protect the autonomy of every individual.

Euthanasia

In News: A 49-year-old woman from Bengaluru wants the court to stop her friend, a Noida-based 48-year-old man with a debilitating health condition, from travelling to Europe allegedly to **undergo assisted suicide or euthanasia** — **an option not available in India to a person who is not terminally ill.**

- In 2018, the **Supreme Court had delivered a landmark ruling in Aruna Shanbaug case** that made passive **euthanasia legal for terminally ill individuals**, allowing them to decline the use of life support measures, and letting families of those in incurable coma to withdraw such measures.
- While **Section 309 of IPC criminalises attempted suicide**, the Mental Healthcare Act Section 115(1) states that “any person who attempts to commit suicide shall be presumed, unless proved otherwise, to have severe stress and shall not be tried and punished under the said Code.”

Euthanasia

- **Mercy Killing** also known as Euthanasia is an **act of providing painless death to a suffering individual** who wouldn't survive if medical facilities are removed from their help.
- **Two types:** Euthanasia can be also divided into two types according to means of death.
- **Active Euthanasia:** It is also known as **‘Positive Euthanasia’ or ‘Aggressive Euthanasia’**.
 - It refers to **causing intentional death of a human being by direct intervention**.
 - Active euthanasia is usually a quicker means of causing death and all forms of active euthanasia are illegal.
 - For example, by **giving lethal doses of a drug or by giving a lethal injection**.
- **Passive Euthanasia:** It is also known as **‘Negative Euthanasia’ or ‘Non-Aggressive Euthanasia’**.
 - It is intentionally causing death by not providing essential, necessary and ordinary care or food and water.
 - It implies discontinuing, withdrawing or removing artificial life support systems.

Indian Scenario

- As of now, **only passive Euthanasia is allowed in India by the Supreme Court.**

Issues with Euthanasia:

Medical Ethics:

- Medical ethics call for **nursing, caregiving and healing and not ending the life** of the patient.

- In the present time, medical science is advancing at a great pace making even the most incurable diseases curable today.
- Thus, instead of encouraging a patient to end his life, the medical practitioners have to encourage the patients to lead their painful life with strength.

Morally Wrong:

- Taking a life is **morally and ethically wrong**. The value of life can never be undermined.

Vulnerable will become more prone to it:

- Groups that represent disabled people are against the legalisation of euthanasia on the ground that such **groups of vulnerable people would feel obliged to opt for euthanasia** as they may see themselves as a burden to society.

Suicide v/s Euthanasia:

- When suicide is not allowed then euthanasia should also not be allowed.
- Such a tendency can be lessened by proper care of such patients and showing hope in them.

Significance Euthanasia:**End of Pain:**

- Euthanasia provides a way to relieve the **intolerably extreme pain and suffering** of an individual.
- It relieves the terminally ill people from a lingering death.

Respecting Person's Choice:

- The **essence of human life is to live a dignified life** and to force the person to live in an undignified way is against the person's choice.
- Thus, it expresses the choice of a person which is a fundamental principle.

Treatment for others:

- The energy of doctors and hospital beds can be used for those people whose life can be saved instead of continuing the life of those who want to die.

Dignified Death:

- Article 21 of the Indian Constitution clearly provides for living with dignity.
- A person has a right to live a life with at least minimum dignity and if that standard is falling below that minimum level then a person should be given a right to end his life.

Addressing Mental Agony:

- The motive behind this is to help rather than harm. It not only relieves the unbearable pain of a patient but also **relieves the relatives of a patient from the mental agony**.

Way Forward

- **Palliative care** - Control over the manner and timing of a person's death has not been and should not be a goal of medicine.
 - India needs improved access to high-quality healthcare for the terminally ill so that they go in peace, whenever they do.
 - This is referred to as palliative care right from the time an illness is diagnosed till the end of life.
- Moral Support from family and friends makes the patient confident to fight the illness.
- Passage of Medical Treatment of Terminally-ill Patients Bill, 2016 to regulate passive euthanasia.

Asymmetrical federalism

Context: In a system of asymmetrical federalism, India as a country must remain strong.

- As India completes 75 years of Independence, the time is apt for us to look at the **constitutional, institutional, political and fiscal arrangements that take into account the plurality of our country**.
- It is a nation where **four major religions of the world find abode**; its **Muslim population** is the **third largest**

in the world; and Indians speak languages belonging to five different families.

- Such diversity and plurality call for an arrangement that can pave the way for accommodation and integration reflected in the existing system of asymmetrical federalism.
- The capacity to accommodate various social groups and their interests makes India a thriving federal democracy as it displays enormous asymmetric characteristics.

Asymmetric Federalism

- Asymmetric federalism means federalism **based on unequal powers and relationships in political, administrative, and fiscal arrangements between the units constituting a federation.**
- Asymmetry in the arrangements in a federation can be viewed in both vertical (between Centre and states) and horizontal (among the states) senses.

Political and Constitutional Asymmetry

- Recognising the distinctive cultural differences in the country and permitting self-rule within the scheme of a shared rule to territorially concentrated minorities is how asymmetrical federalism works in India.
- Furthermore, such an arrangement only proves that an asymmetrical constitutional setup is indisputably necessary for a multicultural and multinational country such as India to protect the rights of the community and the minorities.
- This setup facilitates the accommodation of multiple yet complementary identities.
- So when we find **representation of States in the Rajya Sabha based on their population, it is a political asymmetry.** That is why States such as Uttar Pradesh have 31 seats in the Rajya Sabha, whereas Meghalaya and Mizoram have just one each.
- **Constitutional Asymmetry - Self-rule within shared rule**
 - We find **constitutional asymmetry in Article 370** and in the **special provisions and powers extended to Nagaland, Mizoram and others in the omnibus Article 371.**
 - The **parliamentary statute cannot be implemented in the northeast States mentioned above without the consent of the legislatures of these States.**
 - In addition, creation of the **Autonomous District Council** as per the **Sixth Schedule** also acknowledges the **socio-cultural, political and historical rights** of the tribes of the Northeast, thereby facilitating the provisions of self-rule within the scheme of shared rule.
- **Union Territories**
 - Furthermore, the Indian asymmetrical setup has evolved to **include another type of asymmetry, i.e. Union Territories (UTs).**
 - Delhi's case is in itself a remarkable example of asymmetrical federalism where we witness the appointment of the Chief Minister of Delhi by the President of India on the recommendation of the Lieutenant Governor (LG).

On fiscal arrangements

- Another significant asymmetry is the **fiscal arrangements enshrined in the Constitution.**
- When transferring funds from the Centre to States, **statutory transfers are made based on the recommendations of the Finance Commission.**
- The **cost of implementing centrally sponsored schemes** to bring about welfare is co-shared by both the Centre and sub-national units. In the NITI Aayog era, the Centre has considerably **reduced the share of its revenue to implement the centrally sponsored schemes.**

These provisions in our Constitution and administration are special arrangements reflective of asymmetrical features.

We must remember that the idea and arrangement of asymmetrical power-sharing can be unsettling if not utilised properly. Such features in our Constitution are neither marginal nor merely provisional. These features touch upon a

considerably large number of States. And without these features and provisions, it would not have been possible to undermine the secessionist tendencies of a highly diverse society.

Asymmetrical federalism will continue to have its relevance in the future because to pave the way for cooperative federalism we must be able to accommodate various groups and provide them with a share in the governance of the country at the same time.

Lok Adalat

In News: Over 75 lakh pending and pre-litigation cases, many of them part of the huge backlog created by the pandemic, were settled across the country in the **third National Lok Adalat**.

- The legal services authorities under Justice U.U. Lalit, who is the **executive chairman of the National Legal Services Authority (NALSA)**, used **technological platforms to conduct 'digital lok adalat'** in Maharashtra and Rajasthan.
- Of the more than 74 lakh disposed cases, 16.45 lakh disputes were pending ones and another 58.33 lakh were in pre-litigation stages.

Lok Adalat

- The Lok Adalat is a forum where the cases which are **pending in a court or which are at pre-litigation stage** are **compromised or settled in an amicable manner**.
- The word '**Lok Adalat**' means '**People's Court**'. This system is **based on Gandhian principles**.
- It is one of the **components of ADR (Alternative Dispute Resolution) system**.
- The Lok Adalat provides alternative resolution or devise for expeditious and inexpensive justice.

Statutory Status

- The **institution of Lok Adalat has been given statutory status under the Legal Services Authorities Act, 1987**.

Organisation and functioning of the Lok Adalats:

- The State Legal Services Authority or the District Legal Services Authority or the Supreme Court Legal Services Committee or the High Court Legal Services Committee or the Taluk Legal Services Committee **may organise Lok Adalats** at such intervals and places and for exercising such jurisdiction and for such areas as it thinks fit.
- **Every Lok Adalat organised** for an area shall consist of **such number of serving or retired judicial officers and other persons of the area** as may be specified by the agency organizing such Lok Adalat.
- Generally, a **Lok Adalat consists of a judicial officer as the chairman and a lawyer (advocate) and a social worker as members**.
- The **Lok Adalat shall have no jurisdiction in respect of any case or matter relating to an offence not compoundable under any law**.
- Any case **pending before the court can be referred to the Lok Adalat for settlement if**:
 - the parties thereof agree to settle the dispute in the Lok Adalat
 - one of the parties thereof makes an application to the court referring the case to the Lok Adalat; or
 - The court is satisfied that the matter is an appropriate one to taken cognizance of by the Lok Adalat.
- In the case of a pre-litigation dispute, the matter can be referred to the Lok Adalat for settlement by the agency organizing the Lok Adalat, on receipt of an application from any one of the parties to the dispute.
- The Lok Adalat shall have the same powers as are vested in a Civil Court under the Code of Civil Procedure (1908), while trying a suit in respect of the following matters:
 - the summoning and enforcing the attendance of any witness examining him on oath;
 - the discovery and production of any document;
 - the reception of evidence on affidavits;

- The requisitioning of any public record or document from any court or office; and such other matters as may be prescribed.
- Further, a Lok Adalat shall have the requisite powers to specify its own procedure for the determination of any dispute coming before it.
- Also, all proceedings before a Lok Adalat shall be **deemed to be judicial proceedings** within the meaning of the Indian Penal Code (1860) and every Lok Adalat shall be deemed to be a Civil Court for the purpose of the Code of Criminal Procedure (1973).
- **An award of a Lok Adalat shall be deemed to be a decree of a Civil Court or an order of any other court.**
- Every award made by a Lok Adalat shall be final and binding on all the parties to the dispute. **No appeal shall lie to any court** against the award of the Lok Adalat.

Significance

- There is **no court fee** and if court fee is already paid the amount will be refunded if the dispute is settled at Lok Adalat.
- The basic features of Lok Adalat are the **procedural flexibility and speedy trial of the disputes**.
- There is **no strict application of procedural laws** like the Civil Procedure Code and the Evidence Act while assessing the claim by Lok Adalat.
- The **parties to the dispute can directly interact with the judge** through their counsel which is not possible in regular courts of law.
- The award by the Lok Adalat is binding on the parties and it has the status of a decree of a civil court and it is non-appealable, which **does not cause the delay in the settlement of disputes**.

In view of above facilities provided by the Act, Lok Adalats are boon to the litigating public as they can get their disputes settled fast and free of cost amicably.

Remission

In News: The Gujarat government released **11 convicts in the Bilkis Bano murder and gangrape case of 2002 under its remission and premature release policy** after one of the convicts moved the Supreme Court.

The law on remissions

- Under **Articles 72 and 161 of the Constitution**, the **President and Governors** have the power to **pardon, and to suspend, remit, or commute a sentence passed by the courts**.
- Also, since **prisons are state subject**, state governments have powers under **Section 432 of the Code of Criminal Procedure (CrPC) to remit sentences**.
- However, **Section 433A of the CrPC puts certain restrictions on these powers of remission:**
 - Where a sentence of imprisonment for life or where a sentence of death imposed on a person has been commuted under Section 433 into one of imprisonment for life, such person shall not be released from prison unless he had served at least fourteen years of imprisonment.

Grounds for remission

- The Supreme Court has held that states cannot exercise the power of remission arbitrarily, and must follow due process.
- While the policy varies from state to state, **broadly the grounds for remission considered by the Board are the same**.
- Seriousness of the crime, the status of the co-accused and conduct in jail are the factors considered for granting remission.

In 'Laxman Naskar v. Union of India' (2000) the **SC laid down five grounds** on which remission is considered:

- a) Whether the offence is an individual act of crime that does not affect the society;
- b) Whether there is a chance of the crime being repeated in future;

- c) Whether the convict has lost the potentiality to commit crime;
- d) Whether any purpose is being served in keeping the convict in prison; and
- e) Socio-economic conditions of the convict's family.

- However, **convicts serving life sentences are entitled to seek remission only after serving a minimum of 14 years.**
- Data from Prison Statistics, **2020 show that 61% of convicts in jail are serving life sentences.**

Must Read: [Article 72](#) + [Pardoning Powers](#) (in depth)

Freebies

What are freebies and how did freebies culture originate?

The literal meaning of freebie is something that is given free of charge or cost.

In India, this usually happens during the times of Elections. Freebies have been known to be provided to attract voters to cast their vote in a particular election. They create limited private benefit for the receiver and do not contribute towards strengthening public goods/facilities.

- The culture of freebies in Tamil Nadu was started during the 1967 Assembly elections. The then DMK chief C.N. Annadurai offered three measures of rice for ₹1.
- The practice of providing freebies was followed by subsequent Chief Ministers who promised free TV sets, free laptops to students, free rides for women in buses, free gas cylinders and stoves, a goat and a cow for poor farmers, and so on.
- Political leaders have justified freebies citing social justice as it aids those at the bottom of the pyramid.

What are the benefits of freebies?

- **Welfare Schemes:** Freebies not only include unviable pre-election promises but also a number of services that the **government provides to meet its constitutional obligations** (DPSPs) towards citizens like PDS, Free Covid Vaccine and MGNREGA.
- The 'Mid-day Meal Scheme, Rythu Bandhu of Telangana and Kalia of Odisha.
- **Upliftment of Lower Class:** As the states with comparatively lower levels of development have a greater percentage of their population living in poverty, such freebies become **more useful for upliftment of lower strata in these states.**

What are the criticisms of Freebie Culture?

- **Creates Private Benefits:** Freebies violate the constitutional mandate of extending benefits for public purpose and instead create private benefits. The main beneficiaries of the freebies provided by government were the ruling party's core supporters and swing voters who could be influenced easily.
- **Depoliticises Poor:** Freebies will not only depoliticise the poor and marginalised communities but also indirectly deny them their due share of state resources.
- **Erases Rational Thinking:** Freebie encourages personality cults in a democratic polity. Populism encourages mediocre political critics and erases critical and rational thinking, which are important to raise questions to people in power.
- **Patron-Client Syndrome:** Unsolicited freebies cultivate a patron-client syndrome. Providing freebies is to treat people like subjects, whereas citizens are entitled to constitutional guarantees.
- **Against Welfare Politics:** Welfare initiatives are an embodiment of civil rights, whereas unsolicited freebies show benevolence at best and apathy at worst towards the poor by the ruling parties.
- **Doesn't enhance Productivity:** It was observed that distributing free laptops does not serve the purpose of increasing the quality of education. Also, free electricity, free water, farm loan waivers, etc. have not contributed to increased productivity.
- **Fiscal Burden:** Freebies imposes burden on the state's financial status contributing to huge fiscal debt.

- **Vulnerable to Corruption:** Freebies culture paves way to corrupt practice because of the involvement of middle man.
- **Not Sustainable in Long Run:** The social, political and economic consequences of freebies are very short-lived in nature. Also, they cannot be provided free forever, at some point these goods have to be rationalised.

What has been the judiciary's view on the freebie culture?

View on Freebies: The Supreme Court gave a ruling in favour of offering of freebies stating that freebies are not corrupt practice as it is mentioned in election manifesto.

But to ensure checks: The Supreme Court has taken a decision to **form a body of stakeholders to examine 'the distribution or promise of 'freebies' ahead of elections' issue.** But this move raises the question of whether the legislature can be bypassed on such a far-reaching exercise.

Should India regulate freebies?

A June RBI paper said that the provision of free electricity, free water, free public transportation, waiver of pending utility bills and farm loan waivers are often regarded as freebies, which potentially undermine credit culture, distort prices through cross-subsidisation. This erodes incentives for private investment and disincentivises work at the current wage rate leading to a drop in labour force participation.

The Way Forward

Drawing a Line Between Welfare and Freebie:

- Freebies must be understood from an economic perspective and connected to taxpayers' money.

Clear Rationale and Indication of Funds:

- Programs must provide a clear rationale for investing more in basic amenities and have a clear indication of the funds to sustain the state's economic health.

Voter Awareness:

- In a democracy, the **power to block or allow the march of freebies rests with the voters.**

Amendment of FRBM Act

- Under the current FRBM provisions, governments are mandated to disclose their contingent liabilities, but that disclosure is restricted to liabilities for which they have extended an explicit guarantee.
- The provision should be expanded to cover all liabilities whose servicing obligation falls on the Budget, or could potentially fall on the Budget, regardless of any guarantee.

Focus on Skill Development Rather than Freebies:

- It is always better to provide useful skills to the people than to give them freebies.

Labour Reforms

What is the Framework Regarding Labours in India?

- In India, **labour is a subject in the Concurrent List**, so **both the Parliament and the state legislatures** can enact laws on it.
- Before the new labour codes were passed, there were more than **40 central laws and more than 100 state laws on labour and related matters.**
- **The Second National Commission on Labour (2002)** recommended that the central labour laws should be integrated into groups like: **Industrial relations, Wages, Social security, Safety, Welfare and working conditions.**

What are the new labour codes?

In 2019-20, the Parliament enacted 4 labour codes to consolidate these multiple laws:

A. Code on Wages, 2019

- **Universal minimum wage** across employments in organized and unorganized sector.
- **Mandates the Central Government to fix floor wage** and that the minimum rates of wages fixed by the

appropriate Governments shall not be less than the floor wage.

- **The Code prohibits gender discrimination** in matters related to wages and recruitment of employees for the same work or work of similar nature done by an employee. Every employee, drawing wages not exceeding a monthly amount as notified by the Central or State Government, and having put in at least 30 days of work in an accounting year, will be entitled to an annual bonus at the rate of 8.33% of wages earned or Rs. 100, whichever is higher.

B. Industrial Relations Code, 2020

- **New conditions for legal strike** – no person employed in an industrial establishment shall go on strike without a 60-day notice and during pendency of proceedings before a Tribunal and sixty days after conclusion of such proceedings. Earlier such restrictions applied only to public utility services.
- **Raised the threshold for requirement of a standing order** — rules of conduct for workmen employed in industrial establishments — from the existing 100 to 300 workers
- **Reskilling Fund** – To set up a re-skilling fund for training of retrenched workers with contribution of the employer of an amount equal to 15 days last drawn by the worker.

C. Social Security Code, 2020

- **National Social Security Board** which shall recommend to the central government for formulating suitable schemes for different sections of unorganised workers, gig workers and platform workers
- **No more ambiguities:** The bill has defined various terms like “career centre”, “aggregator”, “gig worker”, “platform worker”, “wage ceiling” etc.
- **Social security for gig workers:** Also, aggregators employing gig workers will have to contribute 1-2 per cent of their annual turnover for social security of workers.

D. Occupational Safety, Health, and Working Conditions Code, 2020

- **To employ women in all establishments** for all types of work. They can also work at night, that is, beyond 7 PM and before 6 AM subject to the conditions relating to safety, holiday, working hours and their consent
- **To Promote Formalisation:** Issuing of appointment letter mandatorily by the employer of an establishment to promote formalisation in employment
- **Inclusion of inter-state migrant workers** in the definition of worker: Inter-state migrant workers are defined as the worker who has come on his own from one state and obtained employment in another state, earning up to Rs 18,000 a month.
- **The proposed definition** makes a distinction from the present definition of only contractual employment.
- **Portability Benefits:** An Inter-State Migrant Worker has been provided with the portability to avail benefits in the Destination State in respect of ration and availing benefits of building and other construction worker cess. However, the Code has dropped the earlier provision for temporary accommodation for workers near worksites.
- **It has though proposed a journey allowance** — a lump sum amount of fare to be paid by the employer for to and fro journey of the worker to his/her native place from the place of his/her employment

What are the Benefits of Labour Codes?

- **Eases Procedures:** The Codes are for simplification, and rationalisation. Provision of one licence/one registration and one return will save time, resources and efforts of the establishment.
- **Reduction in cost of compliance:** Web-based electronic labour inspectors/facilitators shall, before initiation of prosecution proceedings, give an opportunity to the employer to comply with the provisions of the Codes.
- **Legitimisation of fixed-term employment enables transparency:** Clear role definitions in contract labour, clear criteria of eligibility of contractors, national licensing of contractors help create a win-win tripartite employment relationship.
- **Benefits for incumbent job seekers:** Some of the overarching benefits include the attempt to encompass a

large cross-section of workforce, beyond those in the organised sector, and provide them with protection under the labour laws through outreach schemes, specifically for the informal and unorganised sectors.

- **Benefits for Gig workers:** Acknowledgement of gig work and gig platforms and the provisions to safeguard those who pick up gig assignments shall encourage many workers and aspirants to consider it as an alternate option for livelihood given the uncertainty around us.
- **Safeguards Contractual Job:** The change in the provision of contract labour where contract labourers need to be paid on a par with anyone doing the same job in a regular role makes it a win-win proposition for anyone opting for a contractual job.
- **Boosts Investor Sentiment:** All these simplification of rules facilitates improvement in the ease of doing business, which further helps in attracting foreign investment

What are the concerns Related to the Current Labour Reforms?

- **Dilutes rights of Workers:** Workers in small establishments (with up to 300 workers) will have their rights watered down with no protection of trade unions, labour laws.
- **Workers safety safeguards diluted:** The new rules will enable companies to introduce arbitrary service conditions for workers.
- **Corporate Friendly:** The new rules provides more flexibility to employers for hiring and firing workers without government permission
- **Restricts Freedom of Speech:** Restrictions on strikes and demonstrations is akin to assault on the freedom of industrial actions.
- **Ambiguity about reskilling Fund:** The Code lacks clarity on the substantive and procedural aspects of reskilling Fund which will fizzle out like the National Renewal Fund in the 1990s
- **Women's Safety:** Allowing women to work during night time inspite of various safeguards imposed may increase their vulnerability to sexual abuse.

The question the report leaves unanswered is whether the reforms have benefited workers. After all, the primary purpose of labour laws is to protect the rights of workers, not promote the interests of investors.

Disqualification of MLAs

Context: Recently, **Election Commission (EC)** recommended the **disqualification of Jharkhand Chief Minister Hemant Soren** as MLA under the [Representation of the People Act, 1951](#).

Constitutional provisions:

Disqualifications under the Constitution, a person shall be disqualified for being chosen as and for being a member of the legislative assembly or legislative council of a state:

- If he/she **holds any office of profit** under the Union or state government (**except that of a minister or any other office exempted by state legislature**),
- If he/she is of **unsound mind** and stands so **declared by a court**,
- If he/she is an **undischarged insolvent**,
- If he/she is **not a citizen of India** or has **voluntarily acquired the citizenship of a foreign state** or is under any acknowledgement of allegiance to a foreign state, and
- If he/she is so **disqualified under any law made by Parliament**.

Article 327 and 328 of the Constitution confers the power on parliament and state legislature respectively to make **rules for election to Parliament and state legislature**.

Apart from these, the Parliament has prescribed several additional disqualifications in the Representation of People Act (1951). These include,

- He/she must not have been **found guilty of certain election offences** or **corrupt practices** in the elections.
- He/she must not have been convicted for any offence resulting in **imprisonment for two or more years**.

But, the **detention of a person** under a **preventive detention law** is **not a disqualification**.

- He/she must **not have failed to lodge an account of his election expenses** within the time.
- He/she must not have any **interest in government contracts, works, or services**.
- He/she must not have been **dismissed from government service for corruption or disloyalty to the state**.

In such case of Disqualification, it is **decided by the President/ governor for MP and MLA respectively and his decision is final**. However, he/she should obtain the **opinion of the Election Commission and act accordingly**.

Anti – Defection Law - [Disqualification on Ground of Defection](#)

India's 'wheat waiver' WTO demand is risk-fraught

Context: One of the **cardinal demands of India in the World Trade Organization (WTO)** — and rightly so — has been to find a **permanent solution to the issue of public stockholding (PSH) of food to protect India's food security (PSH policy)**.

What it is all about?

- India's PSH policy is **based on procuring food from farmers at an administered price (MSP), which is generally higher than the market price**.

The PSH policy serves the **twin objectives** of

- Offering remunerative prices to farmers and
- Providing subsidised food to the underprivileged.

WTO law

- Such **price support-based procurement** from farmers is counted as a **trade-distorting subsidy**, and if given beyond the permissible limit, **breaches WTO law**.
- Currently, **India has temporary relief due to a 'peace clause'** which bars countries from bringing legal challenges against price support-based procurement for food security purposes.
- However, a permanent solution to this issue is still not in the offing.

New dimension

- India's demand for a permanent solution to the PSH policy has acquired a new dimension.
- India **insists that it should also be allowed to export food**, most **notably wheat**, from the pool of the **foodgrain procured under the MSP**.
- However, **WTO law proscribes countries from exporting foodgrain procured at subsidised prices**.
- Allowing a country to export foodgrain procured at subsidised prices **would give that country an unfair advantage in global agricultural trade**.
- As per the **WTO Agreement, waivers can be adopted only in "exceptional circumstances"**.
- Thus, the possibility of it recognising an ongoing war between two nations as an "exceptional circumstance" to adopt a waiver for permitting wheat exports from public stocks is profoundly remote.

Peace Clause

- Peace clause refers to **article 13 of the [Agreement on Agriculture](#) of the World Trade Organisation**.
- According to this clause, **export subsidies and support measures, given by a WTO member to its producers**, that are **considered legal under the Agreement on Agriculture** cannot be challenged as being illegal under other WTO agreements.
- The original peace clause expired in 2004. In the **2013 Bali Conference**, another temporary clause of this kind was put in place.

Integration of North East

“India will be successful when the North East develops at par with the other developed states of India” – Narendra Modi.

Integration of North East

India’s North Eastern region includes 8 states covering 8% of the country’s landmass and 4% of the national population representing one of the diverse cultures in the country.

How did the States of Northeast India come into existence?

The **Sixth Schedule** was independent India’s first administrative instrument for undivided Assam’s tribal belt. The Schedules mandated the formation of Autonomous District Councils in which, among others, tribal customary laws were given legitimacy.



- The Sixth Schedule of the Constitution introduced in 1949: [Applies](#) to the administration of tribal areas in the North-eastern states of Assam, Meghalaya, Mizoram (three Councils each), and Tripura (one Council) in accordance with **Article 244** of the Indian Constitution.

Picture

Source:

https://en.wikipedia.org/wiki/Northeast_India

How did the Union Government accommodate the Northeast States in India?

As India gained confidence and shed its insecurities of further balkanization after its traumatic Partition experience, the outlook towards national identity and nationalism underwent moderations, inclining towards a **constitutional definition of these understandings** rather than it being cultural. National integration also came to be more about the mainstream broadening to accommodate all other streams within the national territory.

North Eastern Council (NEC)

- Founded in 1971 as an advisory body. In 2002, the act that brought NEC to life was amended. From an advisory role, it became an infrastructure planning body for the region.
- Sikkim was also brought into its fold.
- Significantly, its executive structure expanded to include Chief Ministers of these States, linking it to the aspirations of local electorates.

DoNER

- Created in the Union Government in 2001, and in 2004 it was upgraded to a full-fledged Ministry.
- In 1991, India’s Look East Policy was born with the stated objective of linking the Northeast with the vibrant economies of South East Asia.
- In 2010, a protected area regime that had restricted visits to Nagaland, Manipur and Mizoram by foreigners was relaxed.

Repeal of AFSPA

- There was even a judicial commission constituted in 2004 to recommend a way to repeal or else “humanise” [AFSPA](#).

Why Northeast India’s integration has still been an issue?

The northeast has several constraints which are acting as a hindrance to the regional development and

mainstreaming of the society. They are:

- **Historical reason:**
 - British policy of northeastern states virtually disconnecting them from the mainland.
 - Partition blow to the northeast: the creation of East Pakistan resulted in virtual disconnection of the Northeastern region from the rest of India.
- **Geographical challenges:**
 - About 99% of the region has international border along Bangladesh, Myanmar, China and Bhutan which create complications in international diplomacy.
 - Over 70% of the region is forest area which makes the economic development difficult. Further, the region is host to an overwhelming tribal population ranging from 19% in Assam to 94% in Mizoram.
 - The region is predominantly hilly in all the states except Assam. This creates difficulty in utilization of natural resources.
- **Cultural/societal challenges:**
 - The region has over 160 scheduled tribes and over other tribal and sub-tribal communities and groups. The varied culture creates alienation from the mainland and hinders development.
 - The presence of different ethnicities has made it difficult to cater the demands clamoring for recognition of their distinctive identity.
 - Though the literacy rate is high, the employability is low. High dependency on agriculture has also resulted in low per capita income.
 - Different ethnic groups have caused conflicts and insurgency due to tribal rivalry, migration, and control over local resources and so on. E.g. inter-tribal conflict between Kukis and Nagas, insurgent groups like NSCN etc.,
- **Resentment to the central government:** The economy depends on the patronage of the central government resulting in a lack of economic activities. Also, the deployment of the armed forces had caused psychological resentment in society.

What does the future hold – The Way Forward?

'Look East' to 'Act East'

- A deal with Bangladesh was also signed to develop a rail link between Tripura and Chittagong, which would speed up the flow of products, especially grains, to the region.

Repeal of AFSPA

- The recent decision to withdraw AFSPA from major areas of Assam, Nagaland and Manipur is revolutionary.
- When AFSPA is withdrawn, it means that peace has returned to that area.
- The protection of the culture and unique identity of the tribal group has been given Constitutional as well statutory recognition.

Aadhaar-Voter ID linkage

Context: Instances have been reported where block level officers have asked individuals to link their Aadhaar with their Voter IDs, failing which their Voter IDs could be cancelled.

Why does the government want this?

- The EC conducts regular exercises to maintain an updated and accurate record of the voter base.
- A part of this exercise is to **weed out duplication of voters**, such as migrant workers who may have been registered more than once on the electoral rolls in different constituencies or for persons registered multiple times within the same constituency.
- As per the government, linkage of Aadhaar with voter IDs will assist in ensuring that only one Voter ID is

issued per citizen of India.

Is the linking of Aadhaar with one's Voter ID mandatory?

- In December 2021, **Parliament passed the Election Laws (Amendment) Act, 2021** to amend the **Representation of the People Act, 1950**, inter alia. **Section 23(4)** was inserted in the RPA, 1950.
- It states that the **electoral registration officer** may “for the purpose of establishing the identity of any person” or “for the purposes of authentication of entries in electoral roll of more than one constituency or more than once in the same constituency” for citizens already enrolled, **require them to furnish their Aadhaar numbers.**
- **Rule 26B** was added to provide that “every person whose name is listed in the roll may intimate his Aadhaar number to the registration officer”.

The **preference to use Aadhaar for verification and authentication**, both by the state and private sector, **stems from two reasons.**

- First, at the **end of 2021, 99.7% of the adult Indian population had an Aadhaar card.**
- Second, since Aadhaar allows for **biometric authentication**, Aadhaar based authentication and verification is considered **more reliable, quicker and cost efficient** when compared to other IDs.

Puttaswamy judgment

- In Puttaswamy, one of the questions that the **Supreme Court explored was whether the mandatory linking of Aadhaar with bank accounts was constitutional or not.**
- The Court held that **depriving a person of their right to property for non-linkage fell foul of the test of proportionality.**
- It needs to be considered **whether requiring an Aadhaar holder to mandatorily provide Aadhaar for authentication or verification would not be considered violative of their informational autonomy (right to privacy)** which would allow them to decide which official document they want to use for verification and authentication.

Concerns

- The preference to Aadhaar for the purposes of determining voters is puzzling as **Aadhaar is only a proof of residence and not a proof of citizenship** thus **linkage will not remove voters who are not citizens** of India from the electoral rolls.
- The estimate of **error rates in biometric based authentication differ widely.** As per the UIDAI in 2018, **Aadhaar based biometric authentication had a 12% error rate.**
- Lastly, civil society has highlighted that linking of the two databases of electoral rolls and Aadhaar could lead to the linkage of Aadhaar's “**demographic**” information with voter ID information, and lead to **violation of the right to privacy and surveillance measures by the state.**

Way forward

It is important that the government clarifies through correction in Form 6B that the linking is not mandatory and expedites the enactment of a data protection legislation that allays concerns of unauthorised processing of personal data held by the government.

Must Read: [Representation of the People Act](#)



ECONOMY



Hybrid Electric Vehicles (HEV)

Context: In recent months, automakers Maruti Suzuki, Toyota and Honda have launched hybrid electric vehicles in India, offering car buyers more choices in the nascent electric vehicle market.

What is an electric car?

- Electric cars run on electricity instead of gasoline, and are also known as "electric vehicles" (EVs). That means they emit no tailpipe pollution or greenhouse gas emissions and tend to be quieter and smoother than other vehicles.

What are the different types of electric vehicle?

There are four types of electric vehicles available:

- **Battery Electric Vehicle (BEV):** Fully powered by electricity. These are more efficient compared to hybrid and plug-in hybrids.
- **Hybrid Electric Vehicle:**
 - **Hybrid Electric Vehicle (HEV):** The vehicle uses both the internal combustion (usually petrol) engine and the battery-powered motor powertrain.
 - **Plug-in Hybrid Electric Vehicle (PHEV):** Uses both an internal combustion engine and a battery charged from an external socket (they have a plug).
- **Fuel Cell Electric Vehicle (FCEV):** Electric energy is produced from chemical energy. For example, a hydrogen FCEV.

What is a hybrid electric vehicle and how do they work?

- Hybrid electric vehicles are powered by an internal combustion engine and one or more electric motors, which uses energy stored in batteries.
- A hybrid electric vehicle cannot be plugged in to charge the battery. Instead, the battery is charged through regenerative braking and by the internal combustion engine. The extra power provided by the electric motor can potentially allow for a smaller engine.

How does regenerative braking work?

- Hybrid and electric vehicles apply battery technology, aerodynamics, and other engineering advancements to achieve efficiency in driving. One such feature employed by these energy-saving vehicles is regenerative braking.
- Regenerative braking captures energy that is otherwise lost during braking and then uses this power to help recharge the vehicle's battery.
- The amount of electricity the system generates is proportional to the level of braking force. That means the stronger the braking force, the greater the electrical current.
- While regenerative braking systems are already available in most EVs, this tech is also used in electric railways. Rail transit can be described as frequent acceleration and braking of trains across many stations. This increases potential for braking energy recovery using energy storage systems.

What are the advantages of regenerative braking system?

- Better braking efficiency in stop-and-go traffic which enhances fuel economy
- Also helps in reducing carbon emissions.
- RBS also helps in energy optimisation resulting in minimum energy wastage.

What are the different types of HEVs?

- **A full HEV** will have a larger battery and a more powerful electric motor compared with a mild HEV. As a

result, a full HEV can power the vehicle for longer distances using just electric mode.

- **A mild HEV** cannot drive using only the electric motor and uses the battery at traffic lights or in stop-and-go traffic to support the ICE.
- **Micro hybrids** do not offer electric torque assistance as they lack an electric motor, but they have an idle stop-start system and energy management functions.

What are the advantages of Hybrid Technology?

- **Fuel efficiency:** The design of hybrid vehicles for reduced engine size and car weight as compared to ICE vehicles, translates into increased mileage.
- **More power:** With the increase in total power and torque, HEVs can deliver instant torque and provide high torque even at low speeds.
- **Minimum emissions:** Better fuel efficiency means less carbon footprint of these vehicles, thus helping move towards the goals set out in Paris Climate Accord.
- **Disruption-free Technology Transition:** HEV helps in creating a local EV parts manufacturing eco-system while simultaneously protecting the huge existing investments and jobs related to ICE parts manufacturing thus ensuring a faster and disruption-free technology transition.

What are some challenges of hybrid technology?

- In a price-sensitive market like India, one of the major challenges for HEVs is the high vehicle cost.
- Battery, a vital component of an HEV, increases the cost of the vehicle, making it pricier than vehicles powered only by an ICE. The RBS also adds to the higher cost of an HEV.

What initiatives are taken by government to promote Electric Vehicle Ecosystem?

- India is among a handful of countries that **support the global EV30@30 campaign**, which aims for at least 30% new vehicle sales to be electric by 2030.
- The remodeled Faster Adoption and Manufacturing of Electric Vehicles (FAME II) scheme.
 - The FAME India Scheme is aimed at incentivising all vehicle segments i.e. 2 Wheeler, 3 Wheeler Auto, Passenger 4 Wheeler Vehicle, Light Commercial Vehicles and Buses. The scheme covers Hybrid & Electric technologies like Mild Hybrid, Strong Hybrid, and Plug in Hybrid & Battery Electric Vehicles.
- **Production-Linked Incentive (PLI)** scheme for Advanced Chemistry Cell (ACC) for the supplier side.
- Government has also launched PLI scheme for Auto and Automotive Components for manufacturers of electric vehicles.

The automotive industry is transitioning, with an increasing focus on hybrid and battery electric vehicles (BEVs or EVs). Meanwhile, the rise in fossil fuel prices, increase in the adoption of clean mobility solutions, and stringent government norms for emission control drive the growth of the global EV market.

Kerala opposes changes to MMDR Act

In News: The Kerala government has opposed the new set of proposed amendments to the Mines and Minerals (Development and Regulation) Act.

Proposed amendments

- The main objection is against the sixth item in the note for consultation sent to the State governments that will empower the Centre to auction some minerals from the list of atomic minerals.
- Kerala strongly opposes the proposed amendment as State governments are the owners of the mines and minerals located within the territory of the State concerned, and under Entry 23 of List II of the Constitution and the Constitutional right of the State under Article 246(3), State Assemblies can make laws on such minerals.

Must Read: [MMDR \(Mines and Minerals Development and Regulation\) Act, 1957](#)

Thorium deposits

The element is extracted from monazite ore, which contains nine per cent thorium



Ownership of Mineral:

- The **State Governments** are the owners of minerals located within the boundary of the State concerned, under the provisions of the Mines and Minerals (Development and Regulation) Act, 1957 and Mineral Concession Rules, 1960.

- However, for minerals specified in the **First Schedule** to the Mines and Minerals (Development and Regulation) Act, 1957 **approval of the Central Government** is necessary.

- The **Central Government** is the owner of the minerals underlying the ocean within the territorial waters or the Exclusive Economic Zone of India.

- Schedule I contains minerals such as coal and lignite, minerals of the “rare earths” group containing Uranium and Thorium.

Atomic Minerals

- Uranium and Thorium are the main atomic minerals.

- Other atomic minerals are beryllium, lithium and zirconium.

Thorium

- Thorium is a chemical element with symbol Th and atomic number 90.
- It is **one of only two significantly radioactive elements** that still occur naturally in large quantities.
- Thorium is estimated to be about **three to four times more abundant than uranium in the Earth’s crust, and is chiefly refined from monazite sands.**
- **Monazite is a widely scattered on the Kerala Coast**
- **Thorium is predicted to be able to replace uranium as nuclear fuel in nuclear reactors.**

Electricity (Amendment) Bill 2022

In News: As the dues of power distribution companies (discoms) to power generators surge to unsustainable levels, with states holding back payments to be made to discoms for electricity supplies as well as against subsidies for free power schemes, the Centre is set to give distribution reforms a renewed push.

- **The Electricity (Amendment) Bill 2022**, to be introduced in the ongoing monsoon session of Parliament, is likely to push state electricity regulatory commissions to take up timely revision of tariffs and catalyse competition in the retail power distribution sector, among other provisions.

Stats

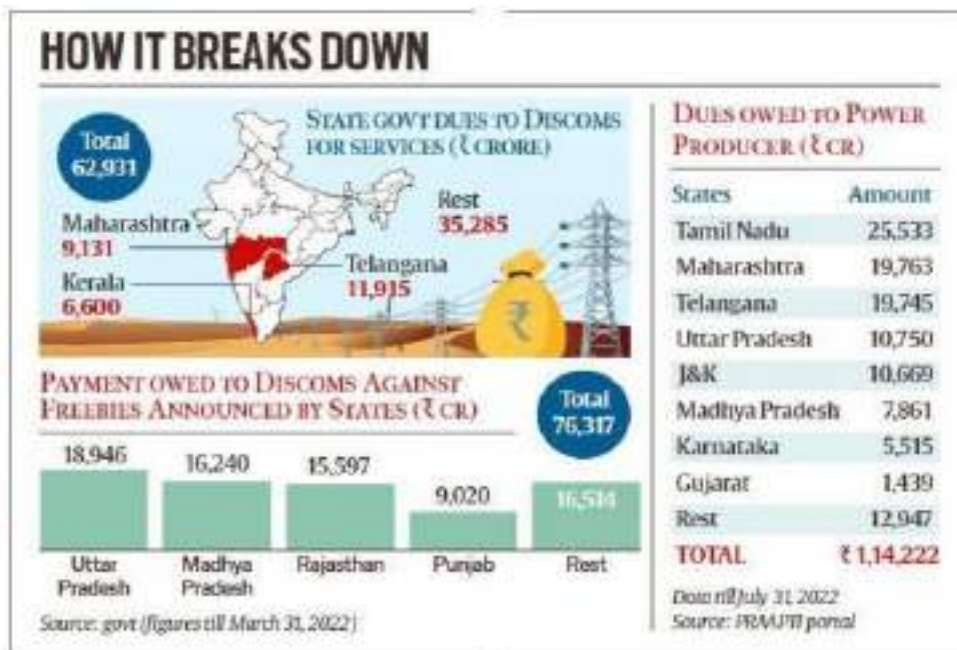
- This comes amid a renewed debate on the freebie culture and the focus on the mounting dues of power distribution companies.
- According to latest government data, **discoms of three states — Tamil Nadu, Maharashtra and Telangana — owed about 57 per cent of total dues to power generating companies (gencos);** followed by Uttar Pradesh and Madhya Pradesh and the UTs of Jammu & Kashmir, which account for another about 26 per cent of the total dues of Rs 1,14,222 crore owed to power generation companies.

Electricity (Amendment) Bill 2022

- The **suggested amendments are to the Electricity Act, 2003** which was enacted to consolidate the laws relating to the generation, transmission, distribution, trading, and use of electricity and generally for taking measures conducive to the development of electricity.
- The Bill proposes that **power distribution licensees will be allowed to use the networks of other licensees, which could boost competition and enhance efficiency.**
- The government also hopes to insert a **new section** in the Act that will **enable the management of power purchase and cross-subsidy** in case of multiple distribution licensees in the same area of supply.
- These measures are **expected to promote competition** in the power distribution sector so that consumers benefit from competitive prices.
- The government also **proposes to enable regulators to fix a minimum tariff ceiling to discourage unhealthy pricing wars among distributors and a maximum ceiling to ensure consumers are protected against price increase shock.**
- Amendments are also being made in the Act to strengthen the functioning of the **National Load Despatch Centre** for ensuring the safety and security of the grid and for the economic and efficient operation of the power system in the country.

The amendments to the act and other recent policy initiatives like the Ministry of Power's flagship Revamped Distribution Sector Scheme (RDSS) are aimed at resolving issues in the power sector by improving the performance of the distribution sectors which has been a drag on the industry.

Must Read: [The problems plaguing thermal power generators](#)



India's solar power dream

In News: By 2030, India is targeting about 500 GW of renewable energy deployment, out of which 280 GW is expected from solar PV. This necessitates the deployment of nearly 30 GW of solar capacity every year until 2030.

What it will take to fulfill India's solar power dream?

- Solar photovoltaics (PV) has driven India's push towards the adoption of cleaner energy generation technologies.
- From less than 10 MW in 2010, India has added significant PV capacity over the past decade, achieving over 50 GW by 2022.
- Indian solar deployment or installation companies **depend heavily on imports**, as India currently does not have enough module and cell manufacturing capacity.

Import Dependent

- India's current solar module manufacturing capacity is limited to 15 GW per year.
- The **demand-supply gap widens** as we move up the value chain — for example, India only produces **3.5 GW**

of cells currently.

- India has **no manufacturing capacity for solar wafers and polysilicon ingots**, and currently imports 100% of silicon wafers and around 80% of cells even at the current deployment levels.
- Also, out of the 15 GW of module manufacturing capacity, only 3-4 GW of modules are technologically competitive and worthy of deployment in grid-based projects.
- India remains dependent on import of solar modules for field deployment.

Current govt policy

- Government has identified this gap, and is rolling out various policy initiatives to push and motivate the industry to work towards self-reliance, both for cells and modules.
- Key initiatives include a **40% duty on the import of modules and 25% duty on the import of cells, and a PLI scheme to support manufacturing capex**.
- Also, it is mandatory to procure modules only from an approved list of manufacturers (ALMM) for projects that are connected to state/ central government grids; so far, only India-based manufacturers have been approved.

Size and technology

- Most of the Indian industry is currently tuned to handling M2 wafer size while the global industry is already moving towards M10 and M12 sizes
- The bigger size has an advantage in terms of silicon cost per wafer, as this effectively means lower loss of silicon during ingot to wafer processing.

Raw materials supply

- Silicon wafer, the most expensive raw material, is not manufactured in India.
- India will have to work on technology tie-ups to make the right grade of silicon for solar cell manufacturing — and **since >90% of the world's solar wafer manufacturing currently happens in China**, it is not clear how and where India will get the technology.
- Other key raw materials such as metallic pastes of silver and aluminium to form the electrical contacts too, are almost 100% imported.
- India is **more of an assembly hub than a manufacturing one**, and in the long term, it would be **beneficial to move up the value chain** by making components that could drive the price and quality of both cells and modules.

What needs to be done?

Academics plus industry

- Establishing state-of-the-art manufacturing facilities and giving access to technology.
- India needs to create such **industry-like centres to work on specific technology domains with clear roadmaps and deliverables for the short and long term**, monitored by a right mix of specialists from industry and academia.

Although India is making great progress in the deployment of solar PV modules for power generation, its path to become a manufacturing hub for the same requires more than just putting some tax barriers and commercial incentives in the form of PLI schemes, etc.

The need of the hour root-cause analysis through right testing and, in the long term, develop India's own technologies. High-end technology development requires substantial investment in several clusters which operate in industry-like working and management conditions, appropriate emoluments, and clear deliverables.

Must Read: [India's higher Climatic Targets](#)

Digital Lending Norms

In News: Aiming to curb rising malpractices in the digital lending ecosystem, the Reserve Bank of India (RBI) issued guidelines for entities engaged in digital lending.

The regulator classified digital lenders into three categories:

- entities regulated by the RBI and permitted to carry out lending business,
 - entities authorised to carry out lending as per other statutory or regulatory provisions but not regulated by the RBI,
 - And entities lending outside the purview of any statutory or regulatory provisions.
- The **latest regulatory framework is focused on the digital lending ecosystem of RBI's regulated entities (REs) and the LSPs** engaged by them to extend credit facilitation services.
 - As for entities falling in the **second category**, the respective regulator may consider formulating rules on digital lending, based on the recommendations of the working group.
 - For entities in the third category, the working group has suggested specific legislative and institutional interventions for consideration by the government to curb illegitimate lending.
 - Apart from direct disbursements and repayments of digital loans, the norms mandate that any fees or charges payable to LSPs in the credit intermediation process shall be paid directly by the RE and not by the borrower.
 - A standardised key fact statement (KFS) must be provided to the borrower before executing the loan contract.
 - The **all-inclusive cost of digital loans** in the form of **annual percentage rate (APR) will have to be disclosed to borrowers**.
 - Automatic increases in credit limit without the explicit consent of borrowers has been prohibited.
 - **The loan contract must provide for a cooling-off or look-up period** during which borrowers can exit digital loans by paying the principal and the proportionate APR without any penalty.

Digital Lending:

- It consists of lending through **web platforms or mobile apps**, by taking **advantage of technology for authentication and credit assessment**.
- India's digital lending market has seen a significant rise over the years.
- The digital lending value increased from USD 33 billion in FY15 to USD 150 billion in FY20 and is expected to hit the **USD 350-billion mark by FY23**.
- Banks have launched **their own independent digital lending platforms** to tap in the **digital lending market** by leveraging existing capabilities in traditional lending.

Significance of Digital Lending:

- **Financial Inclusion:** It helps in meeting the huge unmet credit need, particularly in the **microenterprise and low-income consumer** segment in India.
- **Reduce Borrowing from informal channels:** It helps in reducing informal borrowings as it simplifies the process of borrowing.
- **Time Saving:** It **decreases time spent on working loan applications in-branch**. Digital lending platforms have also been known to cut overhead costs by 30-50%.

Issues with Digital Lending Platforms:

- Growing number of **unauthorised digital lending platforms** and mobile applications as:
- They charge **excessive rates of interest and additional hidden charges**.
- They adopt **unacceptable and high-handed recovery methods**.
- They **misuse agreements to access data on mobile phones of borrowers**.

Steps Taken by RBI:

- Non-Banking Financial Companies (NBFCs) and banks need to **state the names of online platforms** they are working with.
- RBI has also mandated that digital lending platforms which are used on behalf of Banks and NBFCs should **disclose the name of the Bank(s) or NBFC(s) upfront to the customers.**
- The central bank had also asked lending apps to issue a sanction letter to the borrower on the letter head of the bank/ NBFC concerned before the execution of the loan agreement.
- Legitimate public lending activities can be undertaken by banks, NBFCs registered with the RBI and other entities that are regulated by state governments under statutory provisions.

Way Forward

- India is on the **verge of a digital lending revolution** and making sure that this lending is done responsibly can ensure the fruits of this revolution are realized.
- As several players have access to sensitive consumer data, there must be clear guidelines around, for example, the **type of data that can be held, the length of time data can be held for, and restrictions on the use of data.**
- Digital lenders should **proactively develop and commit to a code of conduct** that outlines the **principles of integrity, transparency and consumer protection**, with clear standards of disclosure and grievance redressal.
- Apart from establishing technological safeguards, **educating and training customers to spread awareness about digital lending is also important.**

Open Network for Digital Commerce (ONDC)

Context: The future of open retail is taking shape in India as the nation rolls out the Open Network for Digital Commerce (ONDC) in 100 cities in August 2022.

What is the scenario of Digital Commerce in India?

- The ongoing digital transformation in terms of access to connectivity at affordable cost, increase in internet and smartphone penetration and increased investments in the start-up ecosystem are significant factors contributing to the digital growth.
- India has the third-largest online shopper base globally, with 14 crore e-retail shoppers in 2020, only behind China and the US.
- However, the COVID-19 pandemic exposed the critical shortcomings of the Indian digital commerce ecosystem when most parts of the retail chain were found to be digitally absent and there was a complete breakdown of the supply chain.
- Around **1.2 crore Kiranas stores** (hyperlocal neighborhood provision stores) account for 80% of the retail sector in India, with **90% of them being unorganized**, or self-organized and most of them digitally excluded.

What is Open Network for Digital Commerce (ONDC)?

- Open Network for Digital Commerce (ONDC) is a network based on open protocol and will enable local commerce across segments, such as mobility, grocery, food order and delivery, hotel booking and travel, among others, to be discovered and engaged by any network-enabled application.
- The platform aims to create new opportunities, curb digital monopolies and by supporting micro, small and medium enterprises and small traders and help them get on online platforms. It is an initiative of the Department for Promotion of Industry and Internal Trade (DPIIT) under the Ministry of Commerce and Industry.
- For instance; a consumer shopping for a product on an e-commerce app Amazon would also receive results from e-commerce app Flipkart, if both Amazon and Flipkart integrated their platforms with the ONDC.
- This achieves the dual objective of **wider choice for consumers** on the one hand and **access to a wider**

consumer base for sellers on the other.

What Benefits Does the Open Network for Digital Commerce (ONDC) Offer?

- **Level Playing Field:** ONDC is keen to level the playing field for e-commerce operators and widen the digital market access for MSMEs and small traders in the country. Additionally, it will help new entrants by bringing discoverability, interoperability, and inclusivity.
- **Game Changing:** If it works, ONDC could fundamentally change the rules of the game for e-commerce and retail — potentially on a global scale — and herald a future of more open and competitive retail with less dominance by vertically integrated platforms.
- **Empowering Consumers:** It provides more granular control over the costs incurred by the consumers. They can choose the products from a large number of sellers, can get the price offered by the seller directly without being impacted by the pricing policy of the platform
- **Ease for Sellers:** A standard seller onboarding process across the ONDC partners will provide a low barrier to entry for sellers. This can be especially helpful for MSMEs
- **Freedom of Choice for Consumers:** Consumers can potentially discover any seller, product or service in a common platform, thus increasing freedom of choice for consumers. It will enable the consumers to match demand with the nearest available supply. This would also give consumers the liberty to choose their preferred local businesses.
- **Sets a global precedent on regulating Monopolies:** It could show United States (US) regulators how to take on monopolies.

What are the challenges related to ONDC?

- **Adoption Challenges:** Even if it succeeds, its effect may not match its intent. Bringing the tens of millions of existing kirana stores onto the platform will require a massive, well-funded adoption campaign.
- **Match-Up Concern:** Smaller businesses with low volumes may lack the resources to match the discounts offered by existing heavyweights like Amazon and Flipkart. These two global giants poured a combined USD 24 billion into India and captured 80% of the online retail market with aggressive discounts and promotion of preferred sellers.
- **Payment Challenges:** There might be a mismatch in payment gateway compatibility between the different platforms.
- **Legal Uncertainty:** The question arises about liability in case of a consumer facing any issue regarding the transaction or the quality of products or services delivered. It is unclear how ONDC fits into the entire legal landscape of e-commerce in India.
- **May not achieve desired objective:** the large platforms may be the ones that benefit the most from ONDC. In the case of UPI, which was designed to provide an open standard for payments, Google Pay and Walmart's PhonePe have grabbed a dominant share of the transaction volume.
- **Dispute Resolution:** Due to the decentralized nature of ONDC and the low barrier to entry for sellers, it would be interesting to see how consumer complaints are taken care of. In traditional marketplaces, the marketplace policies generally ensure customer satisfaction. ONDC being an open platform will lack this until clear policies are worked out or apps are built to ensure consumers are satisfied and sellers are protected from dubious consumers.
- **Inclusiveness:** ONDC must adequately and efficiently cater to facets such as participants residing/ operating in different geographic regions & the mass prevalence of low-value online transactions.

Special Economic Zones

In News: In the Union Budget this year, the government **proposed to replace the existing law governing Special Economic Zones (SEZs) with a new legislation** to enable states to become partners in **‘Development of Enterprise and Service Hubs’ (DESH)**.

- The commerce ministry is proposing a host of **direct and indirect incentives** such as deferral of import duties and exemption from export taxes to **revamp Special Economic Zones** through a new legislation.
- The proposals seek to provide incentives such as retention of zero-rating of IGST on domestic procurement by a unit in an SEZ; continuation of indirect tax benefits to developers of these zones; and allowing depreciation on sale of used capital goods cleared to domestic tariff areas.
- There is also a plan to **extend the corporate tax rate to 15 per cent** without any exemptions for units undertaking authorised operations in these development hubs.
- The existing SEZ Act was enacted in 2006 with an aim to create export hubs and boost manufacturing in the country. However, these zones started losing their sheen after imposition of minimum alternate tax and introduction of sunset clause for removal of tax incentives.

Special Economic Zones (SEZ)

- An **SEZ is a territory within a country that is typically duty-free** and has different business and commercial laws chiefly **to encourage investment and create employment**.
- SEZs are created also to better administer these areas, thereby increasing the ease of doing business.
- **Asia’s first EPZ (Export Processing Zones) was established in 1965 at Kandla, Gujarat.**
- While these EPZs had a similar structure to SEZs, the government began to establish SEZs in 2000 under the Foreign Trade Policy to redress the infrastructural and bureaucratic challenges that were seen to have limited the success of EPZs.
- The Special Economic Zones Act was passed in 2005. The Act came into force along with the SEZ Rules in 2006. **Presently, 379 SEZs are notified, out of which 265 are operational.**
- About **64% of the SEZs are located in five states** – Tamil Nadu, Telangana, Karnataka, Andhra Pradesh and Maharashtra.

Objectives of the SEZ Act:

- To create additional economic activity.
- To boost the export of goods and services.
- To generate employment.
- To boost domestic and foreign investments.
- To develop infrastructure facilities.

Major Incentives and Facilities Available to SEZ:

- Duty free import/domestic procurement of goods for development, operation and maintenance of SEZ units
- Exemption from various taxes like Income Tax, minimum alternate tax, etc
- External commercial borrowing by SEZ units’ upto US \$500 million in a year without any maturity restriction through recognized banking channels.
- Single window clearance for Central and State level approvals.

Challenges

Unutilized Land

- Due to a **lack of demand for SEZ space and disruptions caused by the pandemic, unutilized land in SEZs exists.**

Multiple Models

- Multiple economic zone models exist, including SEZs, coastal economic zones, the Delhi-Mumbai Industrial Corridor, the National Investment and Manufacturing Zone, food parks, and textile parks, all of which face

issues in integrating the various models.

Competition from ASEAN Countries

- Many ASEAN countries have modified their policies in recent years to encourage global players to participate in their SEZs, as well as working on a developing set of skilling projects.

As a result, Indian SEZs have lost some of their worldwide competitive advantages, necessitating new rules.

What measures were taken by the government to revamp SEZs?

- The government constituted a committee headed by **Mr Baba Kalyani**, in 2018 to study the existing SEZs of India and prepare a policy framework to adopt strategic policy measures.

Recommendations of the Baba Kalyani committee

- Rename SEZs in India as 3Es- Employment and Economic Enclaves.
- Framework shift from export growth to broad-based employment and economic growth.
- Separate rules and procedures for manufacturing and service SEZs.
- Ease of Doing Business (EoDB) in 3Es such as one integrated online portal for new investments.
- Extension of Sunset Clause and retaining tax or duty benefits.
- Unified regulator for IFSC.
- Dispute resolution through arbitration and commercial courts.

Ethanol blending

Context: Prime Minister announced that **India has achieved its target of blending 10% sugarcane-extracted ethanol in petrol**, ahead of schedule.

What is ethanol blending?

- **Blending ethanol with petrol to burn less fossil fuel** while running vehicles is called ethanol blending.
- Ethanol is an **agricultural by-product which is mainly obtained from the processing of sugar from sugarcane**, but also from **other sources such as rice husk or maize**.
- Though we have had an E10 — or **10% ethanol as policy for a while, it is only this year that we have achieved that proportion**.
- India's aim is to increase this ratio to 20% originally by 2030 but in 2021, when NITI Aayog put out the ethanol roadmap, that deadline was advanced to 2025.
- Ethanol blending will **help bring down our share of oil imports** on which we spend a **considerable amount of precious foreign exchange**.
- Secondly, **more ethanol output would help increase farmers' incomes**.
- The NITI Aayog report of June 2021 says, "India's net import of petroleum was 185 million tonnes at a cost of \$55 billion in 2020-21," and that a successful ethanol blending programme can save the country \$4 billion per annum.

What are first generation and second generation ethanols?

- Ethanol production from molasses is first generation ethanol or 1G.
- **Other than molasses**, ethanol can be **extracted from materials such as rice straw, wheat straw**, corn cobs, corn stover, bagasse, bamboo and woody biomass, which are second generation ethanol sources or 2G.

How have other countries fared?

- Though the U.S., China, Canada and Brazil all have ethanol blending programmes, as a developing country, **Brazil stands out**.
- It had legislated that the ethanol content in petrol should be in the 18-27.5% range, and it finally touched the 27% target in 2021.

Concerns

Efficient Utilization of Land

- The Institute for Energy Economics and Financial Analysis (IEEFA) in a report in talks about the **inefficient land use in ethanol production**.
- For example, to match the annual travel distance of EVs recharged from one hectare generating solar energy, **187 hectares of maize-derived ethanol are required**, even when one accounts for the losses from electricity transmission, battery charging and grid storage.

Water intensive crop

- For India, sugarcane is the cheapest source of ethanol.
- On average, a tonne of sugarcane can produce 100 kg of sugar and 70 litres of ethanol — meaning, a litre of ethanol from sugar requires 2,860 litres of water.

Supply of Raw materials

- The supply of coarse grains may still be a problem as monsoon fluctuations affect the demand and supply ethanol blending materials.

Food security

- India may not find it easy to simultaneously strengthen domestic food supply systems, set aside adequate stocks for lean years, maintain an export market for grains, and divert grain to ethanol at the expected rate in coming years, and this is an issue that warrants continued monitoring.

Way Forward

Ethanol From Wastes:

- This would bring both **strong climate and air quality benefits**, since these wastes are currently often burned, contributing to smog.

Water Crisis:

- The ethanol policy should ensure that it doesn't **drive farmers toward water-intensive crops** and create a water crisis in a country where its shortage is already acute.

Prioritize Crop Production:

- With our depleting groundwater resources, arable land constraints, erratic monsoons, and dropping crop yields, food production must be prioritized over crops for fuel.

Must Read: Ethanol Blending: [comprehensively covered](#)

Fintech Regulation in India

What is Fintech?

Financial technology (better known as Fintech) is used to describe new tech that seeks to improve and automate the delivery and use of financial services. At its core, fintech is utilized to help companies, business owners, and consumers better manage their financial operations, processes, and lives by utilizing specialized software and algorithms that are used on computers and, increasingly, smartphones.

The Rise of FinTech in India

- The growth and expansion of the FinTech ecosystem in India have been aided by a number of factors, including the growing availability of smartphones, increased internet access, and high-speed connectivity.
- The government's "Make in India" and "Digital India" projects also played a significant role in accelerating the adoption of Fintech.
- With the advent of breakthrough platforms such as PayTM, PhonePe, MobiKwik, etc., digital payment systems have undeniably been the flag bearers of the Indian FinTech market.

What is the significance of Fintech?

- Enabled the penetration of under-banked and unserved segments of our vast market that brick-and-mortar banks failed to reach.
- Provided transparency, thanks to its adaptability, multilingual options of access and robust interface, leading to an expansion of the country's consumer base.

- Eased friction between financial institutions and retail customers.
- Drawn capital flows into the Indian economy.
- Bridged the gender and accessibility gap in financial services:
 - Helped meet challenges arising from restrictions on the in-person mobility of women and loss of employment at a time of financial distress owing to covid.

India Post Payments Bank launches 'Fincluvation'

India Post Payments Bank (IPPB), a 100% government-owned entity under the Department of Posts (DoP) announced the launch of Fincluvation— a joint initiative to collaborate with the Fintech Startup community to co-create and innovate solutions for financial inclusion. The intersection of technology with financial services coupled with traditional distribution networks is opening up a new set of business opportunities.

What are the emerging trends in the fintech industry?

- **Blockchain technology** that maintains records on a network of computers, but has no central ledger.
- **Smart contracts**, which utilize computer programs (often utilizing the blockchain) to automatically execute contracts between buyers and sellers.
- **Open banking**, a concept that leans on the blockchain and posits that third-parties should have access to bank data to build applications that create a connected network of financial institutions and third-party providers.
- **Insurtech**, which seeks to use technology to simplify and streamline the insurance industry.
- **Regtech**, which seeks to help financial service firms meet industry compliance rules, especially those covering Anti-Money Laundering and KYC protocols which fight fraud.
- **Cybersecurity**, given the proliferation of cybercrime and the decentralized storage of data, cybersecurity and fintech are intertwined.

What are the legal issues associated with Fintech?

1. Data Privacy

- Fintech companies collect and use **large amounts of customer data**. This raises concerns about how this data will be used and protected.

2. Money Laundering

- Money laundering is a process whereby the proceeds of criminal activity are transformed into legitimate funds. Money laundering costs firms and governments more than \$2 trillion per year.
- Fintech companies are required to comply with **anti-money laundering (AML) regulations**. These require financial institutions to take measures to prevent and detect money laundering.

3. Cyberattacks

- Financial institutions are a common target for cyberattacks.
- Fintech companies **hold large amounts of data**. This makes them attractive targets for cybercriminals. Also, fintech firms may be less prepared to defend against cyberattacks than traditional financial firms.

What are the regulations of Fintech?

Broadly, the fintech sector is regulated **under five regulations**:

- (i) The Payments and Settlement Systems Act of 2007.
- (ii) Peer-to-peer lending guidelines of 2017.
- (iii) National Payments Corporation of India regulations for payments via the Unified Payments Interface (UPI).
- (iv) Regulations governing NBFCs under the RBI Act of 1934.
- (v) Regulations governing payment banks under the Banking Regulations Act of 1949.

Additionally,

- **RBI set up an internal fintech department in January 2022:** Constituted in a bid to promote orderly growth

in the country's digital financial services sector, identify issues and challenges, facilitate constructive innovation, boost incubation, and regulate the fintech industry.

- RBI has rolled out a number of favourable policies for credit facilitators like small finance banks and payment banks. This has fast-tracked the usage of UPI, internet-based banking and mobile banking.

What would be the Right Approach to Regulate Fintechs?

Worldwide, fintech firms are subject to three types of regulations.

- Activity-based regulation**, in which identical actions are regulated equally regardless of the legal status or type of the entity doing the activity.
- Entity-based regulation**, which requires laws to be applied to licenced firms engaged in comparable and specified activities, such as deposit taking, payment facilitation, lending, and securities underwriting, among others.
- Outcome-based regulation**, where firms are required to ensure certain fundamental, common, and technology related aspects.

Steps being taken by India

- **The zero-MDR (merchant discount rate) guidelines** for promoting small ticket debit card merchant transactions
- Recent move by the RBI in barring prepaid instruments with credit lines in connection to Buy Now Pay Later (BNPL) is criticised as a deterrent to fintech growth and innovation in India. Razorpay report, 'The (Covid) Era of Rising Fintech', shows that the Indian BNPL industry has grown by a whopping 569 percent in 2020 and 637 per cent in 2021 to achieve the market size of \$3.7 billion.
- The tough stance of the RBI regarding cryptocurrency transactions is also criticised among participating fintechs. Fintechs operating as P2P lenders, alternative credit scoring platforms and crowd sourcing platforms are being slowly brought under the regulatory ambit.

The Way Forward

Fintech has the potential to transform other financial services like insurance, investment, remittances. It has already disrupted the financial world and changed the way we bank, make payments and invest, and greater changes are yet to come. With right cyber security and internet penetration approach India should move forward to recognize the emerging virtual banking system in future.

Supreme Court verdict on PMLA

Context: The Supreme Court will hear a review of its judgment upholding key provisions of the Prevention of Money Laundering Act (PMLA), 2002.

On ED's power under PMLA

An upshot of the judgment by the Supreme Court on the validity of certain provisions under the Prevention of Money Laundering Act

- The offence of money laundering is as heinous an offence as terrorism
- Section 3 (definition of money laundering), Section 24 (reverse burden of proof), and Section 5 (attachment of property) to stay
- Stringency in granting bail under the Act is legal and not arbitrary
- It is not mandatory to give an Enforcement Case Information Report (ECIR) in every case as it was not an FIR
- The statements made to ED are considered admissible
- Provision of attachment of property of accused as proceeds of crime 'balances' the interests of the accused and the State
- The question of enactment of PMLA amendments through the Money Bill route is to be decided by a larger Bench

What was the Supreme Court ruling on PMLA?

- In **Vijay Madanlal Choudhary & Ors v Union of India**, SC upheld key provisions of PMLA.

How is a judgment reviewed?

- A ruling by the Supreme Court is final and binding.
- However, Article 137 of the Constitution grants the SC the power to review its judgments.
- A review petition **must be filed within 30 days of pronouncement** of the judgment.
- **Except in cases of death penalty**, review petitions are heard through "circulation" by

judges in their chambers, and **not in an open court**.

- The judges who passed the verdict decide on the review petition as well.
- A review is **allowed on narrow grounds** to correct grave errors that have resulted in a miscarriage of justice.
- **“A mistake apparent on the face of record”** is one of the grounds on which a case for review is made. This mistake, the court has said, must be glaring and obvious — such as relying on case law that is invalid.

Why is the PMLA verdict under review?

Amendments introduced as Money Bills: In 2015, 2016, 2018, and 2019, **amendments** including on bail and classification of predicate offences **were made to the PMLA through the Finance Act**.

- The PMLA amendments do not qualify as Money Bill as defined under Article 110 of the Constitution.
- While the Court agreed that this could be a valid contention, it did not decide on the issue since the question of what qualifies as a Money Bill has been referred to a larger seven-judge Bench in another case.

Interpretation of Section 3 of the PMLA:

Section 3 of the law defines the offence of money laundering in terms of who is punishable.

- It states: “Whosoever directly or indirectly attempts to indulge or knowingly assists or knowingly is a party or is actually involved in any process or activity connected with the proceeds of crime and projecting it as untainted property shall be guilty of offence of money-laundering.”

Retrospective application of the offence of money laundering:

- In its ruling, the **SC said the offence of money laundering, i.e., enjoying the “proceeds of crime”, is a “continuous one”**, and can be acted upon independent of when the scheduled offence was committed.
- This means holding property that is derived from an offence which may not have been a scheduled offence at the time of commission will also be defined as money laundering.
- This is a **retrospective reading of the law, and violates the fundamental right under Article 20(1)** of the Constitution.

Enforcement Directorate distinct from “police”:

- The SC verdict upheld Section 50 of PMLA that **empowers ED officials to record statements on oath from any person**.
- This is **admissible in court**, unlike statements or confessions made to the police.
- The SC also said that the **ED need not supply a copy of the Enforcement Case Information Report (ECIR)** with an arrested person.
- This gives penal powers to the ED.

Bail provisions:

- The SC verdict, citing a compelling interest in imposing stringent bail conditions for economic offences, upheld bail provisions under PMLA that impose a reverse burden of proof on the accused.
- But in the absence of an FIR (or equivalent), Complaint and documents relied upon by the prosecution, no accused can present facts and submissions to persuade the Special Court to believe that he is not guilty of such offence.

Must Read: [Supreme Court upholds PMLA](#)

India's unique jobs crisis

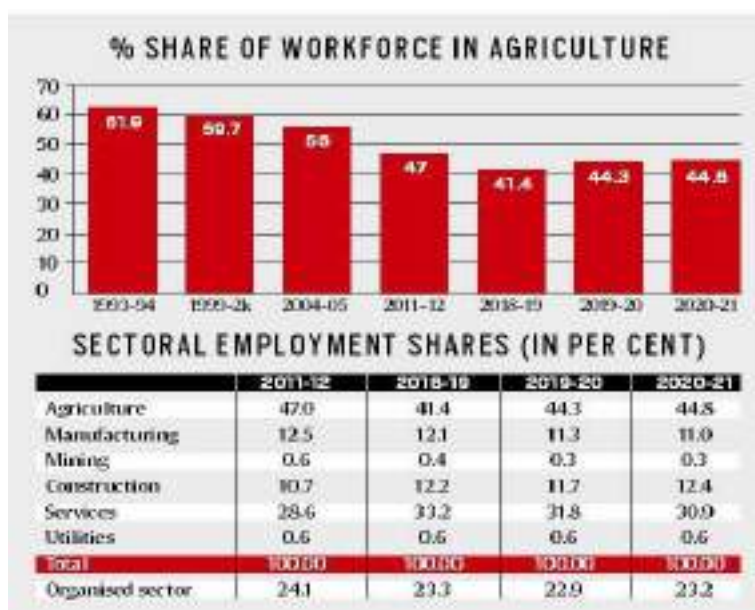
Context: India is currently facing a unique job crisis because, while fewer people are employed in agriculture today, the transformation has been slow.

Stats

- Between 1993-94 and 2018-19, **agriculture's share in India's workforce came down from 61.9% to 41.4%**, roughly a third in 25 years.

Weak structural transformation

- There's been a **reversal of the trend in last two years**, which has seen the share of those employed in farms rise to 44-45%. This has primarily to do with the **Covid-induced economic disruptions**.
- Even the movement of workforce from agriculture that India has witnessed over the past three decades or more **does not qualify as what economists call "structural transformation"**.
 - Such transformation would involve the **transfer of labour from farming to sectors –manufacturing and modern services** – where productivity, value-addition and average incomes are higher.
 - The share of manufacturing (and mining) in total employment has actually fallen along with that of agriculture.
 - **Surplus labour pulled out from farms is being largely absorbed in construction and services.**
 - While the services sector does include relatively well-paying industries — such as information technology, business process outsourcing, telecommunications, finance, healthcare, education and public administration — the bulk of the jobs in this case are in petty retailing, small eateries, domestic help, sanitation, security staffing, transport and similar **other informal economic activities**.



- Simply put, the **structural transformation process in India has been weak and deficient**.

- The surplus labour isn't moving to higher value-added non-farm activities, specifically manufacturing and modern services (the familiar '**Kuznets Process**' named after the American economist and 1971 Nobel Memorial Prize winner, Simon Kuznets).

- Instead, the **labour transfer is happening within the low-productivity informal economy**.

- The jobs that are getting generated outside agriculture are mostly in **low-paid services and construction**; the latter's share in

employment has even overtaken that of manufacturing.

- Weak structural transformation and persistence of informality also explains the tendency, especially by rural families, for pursuing multiple livelihoods. Many of them cling on to their small plots of lands, even while earning incomes wholly or predominantly from non-farm sources.

A picture in contrast

IT industry adding jobs:

- The IT industry is **clearly an isolated island of the Indian economy that added jobs during the pandemic and is continuing to do so**.
- The **five companies** (Tata Consultancy Services, Infosys, Wipro, HCL Technologies and Tech Mahindra) have **more employees than** the 12.5 lakh and 14.1 lakh currently on the rolls of the Indian Railways and the three defense services, respectively.
- Much of the IT sector's **recent success is courtesy of exports**.
- These have, in fact, boomed **due to Covid's triggering increased demand for digitisation** even among businesses that were hitherto slow in adoption.
- India's **net exports of software services have surged from \$84.64 billion in 2019-20 to \$109.54 billion in 2021-22**.

India's unique job crisis

- The manufacturing sector is **potentially best placed to absorb agricultural labourers**. However, there is a **lack of jobs in the manufacturing sector**.
- The more educated are **not qualified or skilled enough to be programmers or develop software programs which are essential for the IT industry**.

So, the Indian workforce possesses skill sets for the sectors where there is a lack of job opportunities. And sectors that generate excess jobs require particular skill sets that the majority of the Indian workforce lacks. As a result, the Indian economy is unable to absorb excess labour.

Universal Basic Income

What is Universal Basic Income?

- Universal basic income (UBI) is a model for providing all citizens of a country with a given sum of money, regardless of their income, resources or employment status.
- In the Indian context, where every third person is poor, there are huge marginal and small farmers, and daily wage workers, who move in and out of poverty, the concept can be useful as a poverty alleviation measure in India.
- **Purpose of the UBI:** To prevent or reduce poverty and increase equality among citizens
- **Underlying principle:** Basic income is the idea that all citizens are entitled to a livable income, whether or not they contribute to the production and despite the particular circumstances into which they are born.
- Economic Survey of India 2016-17 has advocated the concept of UBI as an **alternative to the various social welfare schemes** to reduce poverty.

UBI has 4 components:

- **Universality:** It is universal in nature.
- **Periodic:** Payments at regular intervals (not one-off grants)
- **Individuality:** Payments to individuals
- **Unconditionality:** No preconditions attached with the cash transfer

What are the advantages of UBI?

- UBI would **strengthen economic liberty at an individual level**; would help them to choose the kind of work they want to do, rather than forcing them to do unproductive work.
- Universal Basic Income would be a sort of **insurance against unemployment** and hence helps in reducing poverty. It will result in equitable distribution of wealth.
- Increased income will **increase the bargaining power of individuals**, as they will no longer be forced to accept any working conditions.
- Because of its universal character, there is **no need to identify the beneficiaries**. Thus it **excludes errors in identifying** the intended beneficiaries – a common problem in targeted welfare schemes.
- As every individual receive basic income, it **promotes efficiency by reducing wastages** in government transfers. This would also help in reducing corruption.
- Considerable gains could be achieved in terms of bureaucratic costs and time by replacing many of the social sector schemes with UBI.
- As the economic survey points out, transferring basic income directly into bank accounts will increase the demand for financial services. This would help **banks to invest in the expansion** of their service network, which is very important for financial inclusion.

What are the Arguments in Favour of UBI in India?

- **UBI will treat the beneficiaries as agents**, and will allow them to **use the money in the manner they see best**, for their benefits. The **Government will stand to respect**, rather than dictate, **individuals' choices**.
- These **direct transfers** will ensure that there is **no encroachment by the intermediaries and bureaucrats on the grants to be received by people**.

- An **increase in income** will help **financially instable people to gain access to credit** provided by banks, which was earlier **constrained due to low levels of income**.
- UBI will ensure that the **people achieve basic capabilities in terms of health, education, and minimum income**.
- It is also expected that **UBI will lead to expansion of economy's output**. Most existing welfare schemes in India are part of government's transfer payments to the public.

What are the arguments against UBI in India?

- It is estimated that a transfer of Rs **10,000 per capita per annum** under UBI will cost around **10% of GDP** to the exchequer whereas **all current welfare schemes** putting together costs **only 5.2% of GDP**.
- There is a **grave concern that UBI will distort the labor markets**, as an easy income in hand received regularly by workers will **discourage them to work**.
- The **Patriarchal stereotype** further highlights that the **grant received will be spent by men on temptation goods such as tobacco, alcohol, etc.**
- One **unnoticed issue is that of inflation**. While **food subsidies are not subject to fluctuations in the market prices**, the **basic income is highly vulnerable** to inflationary pressures.
- In addition, the **banking infrastructure density in the rural areas is very poor**. Reports say that less than **60% of the Jan Dhan Accounts are linked with Aadhaar**, which can lead to **inconsistency in identification of individual**.
- There is also a fear that the scheme might be **abused by the political class to win elections**.

CASE STUDY: India's Pilot Project, Madhya Pradesh

- In 2011, **SEWA, funded by UNICEF**, conducted a pilot study of **Universal Basic Income** in **8 villages of Madhya Pradesh** for 18 months.
- **Most villagers did not prefer subsidies** (covering rice, wheat, kerosene, and sugar) as a **result of the basic income experience**. They chose cash transfers over subsidies.
- Many **people used this money to improve** their housing **infrastructure** by building roofs and walls, toilets, etc.
- This meant **reduced number of diseases emanating from dirty surroundings**, which **indirectly reduces their expenditure on fighting such diseases**. It was also reported that **nutrition level improved**, particularly among the **Scheduled Castes (SCs) and the Scheduled Tribes (STs)**.

What should be the Way Forward?

Though there are many valid concerns but with superseding benefits of better implementation, reduced corruption, reduced leakages, less administrative costs, less red-tapism, better targeting, improved social well-being, the UBI concept can certainly flourish in the Indian economy.

- The **practical difficulties need to be addressed first before policymakers** try to implement the complete UBI policy. As a solution, the **introduction of UBI should be done in a gradual manner**.
- The policymakers must, therefore, **evaluate all its pros and cons** with accurate measures and statistics, before bringing this paradigm shift.
- Focus should also simultaneously be on producing skilled youth thereby eliminating the very need for UBI.

NOTE:

Universal Basic Insurance

- The other UBI, i.e. universal basic insurance, is also important.
- The **insurance penetration** (premium as a percentage of GDP) in India has been **hovering around 4% for many years** compared to 17%, 9% and 6% in Taiwan, Japan and China, respectively.
- Though the economy largely remains informal, **data of that informal sector are now available both for businesses** (through GSTIN) and **for unorganised workers** (through e-Shram).
- This data can be effectively utilized until the Indian economy grows to have adequate voluntary insurance;

thus social security can be boosted through the scheme of universal basic insurance.

Competition Amendment Bill

What is the Competition (Amendment) Bill, 2022?

The Competition (Amendment) Bill, 2022 aims to **improve regulatory set-up** by increasing the Competition Commission of India (CCI)'s accountability, giving it flexibility and enforcement efficiency. It seeks to amend the Competition Act, 2002. The objectives of the act are:

- To prevent practices having adverse effect on competition
- To promote and sustain competition in markets
- To protect the interests of consumers and
- To ensure freedom of trade carried on by other participants in markets

Why is an amendment to the already existing Indian Competition Act necessary?

As the dynamics of the market change rapidly due to technological advancements, artificial intelligence, and the increasing importance of factors other than price, amendments became necessary to sustain and promote market competition.

What are the key changes proposed by the Bill?

The key changes proposed by the Bill include:

A.Regulation of combinations based on transaction value:

- The **Act prohibits any person or enterprise from entering a combination** which may cause an appreciable adverse effect on competition. Combinations imply **mergers, acquisitions, or amalgamation of enterprises**.
- The Bill expands the **definition of combinations** to include **transactions with a value above Rs 2,000 crore** and if either of the parties has **'substantial business operations in India'**.
- The new Bill seeks to **accelerate the timeline** from 210 working days to only 150 working days with a conservatory period of 30 days for extensions.

B.Definition of control for classification of combination:

- For classification of combinations, the Act defines control as control over the affairs or management by one or more enterprises over another enterprise or group.

C.Time limit for approval of combinations:

- The Act specifies that **any combination shall not come into effect until the CCI** has passed an order or 210 days have passed from the day when an application for approval was filed, whichever is earlier. The Bill reduces the **time limit in the latter case to 150 days**.

D.Gun Jumping

- Parties should not go ahead with a combination prior to its approval.
- If the combining parties close a notified transaction before approval, or have consummated a reportable transaction without bringing it to Commission's knowledge, it is seen as gun-jumping.
- The penalty for gun-jumping is now proposed to be 1% of the deal value.

E.Anti-competitive agreements:

- Under the Act, anti-competitive agreements include any agreement related to production, supply, storage, or control of goods or services, which can cause an appreciable adverse effect on competition in India.

F.Settlement and Commitment in anti-competitive proceedings:

- Under the Act, **CCI may initiate proceedings against enterprises on grounds of:** (i) entering into anti-competitive agreements, or (ii) abuse of dominant position.
- The Bill permits CCI to close inquiry proceedings.
- According to the amendment, the Commission's decision regarding commitment or settlement will not be appealable after hearing all stakeholders in the case. The Commission will come out with regulations regarding procedural aspects.

G.Relevant product market:

- The Act defines relevant product market as products and services which are considered substitutable by the consumer. The Bill widens this to include the production or supply of products and services considered substitutable by the suppliers.

H.Decriminalisation of certain offences:

- The Bill changes the nature of punishment for certain offences from imposition of fine to penalty. These offences include failure to comply with orders of CCI and directions of Director General about anti-competitive agreements and abuse of dominant position.

The Bill introduces certain new concepts into the field of Indian competition law, including **Deal Value Thresholds**, the changes to the *definition of 'control'*, and mechanisms to settle certain violations of the Competition Act.

To increase the **ease of doing business in India** within the regulatory framework of the **Competition Act**, the CCI will need to provide timely guidance on the various concepts introduced in the Bill, and work together with all stakeholders to implement it.

What is the Competition Commission of India?

- Competition Commission of India (CCI) is a **statutory body** of the Government of India responsible for enforcing the **Competition Act, 2002**; it was duly constituted in March 2009.
- Competition Act **prohibits anti-competitive agreements, abuse of dominant position** by enterprises and regulates combinations, which causes an appreciable adverse effect on competition within India.

Most Recent Judgements of CCI

- **Cement companies:** CCI imposed a fine of ₹63.07 billion (US\$910 million) on 11 cement companies for cartelisation in June 2012.
- **BCCI:** CCI imposed a penalty of ₹522 million (US\$7.6 million) on the [BCCI](#) in 2013 for misusing its dominant position.
- **Telcos:** CCI ordered a probe into the functioning of [Cellular Operators Association of India \(COAI\)](#) following a complaint filed by Reliance Jio against the cartelization by its rivals Bharti Airtel, Vodafone India and Idea cellular.
- **Google:** The commission ordered an [antitrust probe against Google](#) for abusing its dominant position with Android to block market rivals.

What should be the way forward?

- With the new changes, the Commission should be better able to manage certain aspects of the New Age market and make its operation more robust.
- These proposed changes were necessary, and there is a need for the Government to recognise and accept the ever-changing market dynamics and make provisions for regular updation of laws.



INTERNATIONAL RELATIONS



India-Maldives

Context: President of Maldives, Ibrahim Mohamed Solih, is on an Official visit to India

MoUs signed during the visit:

- Both sides exchanged agreements covering areas like **women and child development, disaster management, cyber security and infrastructure development.**
- To strengthen Maldivian maritime capacity, India has announced the gifting of a second landing assault craft to the Maldives National Defence Force.

India-Maldives Relations

Historical:

- India and Maldives **share ethnic, linguistic, cultural, religious and commercial links.**
- **India was among the first to recognize the Maldives** after its independence in 1965 and later established its mission at Male in 1972.
- They officially and amicably decided their maritime boundary in 1976.

Geo-Strategic Importance:

Location

- Maldives, located at the southern and northern parts of this island chain lays the two important Sea Lanes of Communication (SLOCs).
- These SLOCs are critical for maritime trade flow between the Gulf of Aden and Gulf of Hormuz in West Asia and the Strait of Malacca in Southeast Asia.
- Nearly 50% of India's external trade and 80% of its energy imports transit these SLOCs in the Arabian Sea.

Multi-forum Engagement

- Maldives is a member of the South Asian Association for Regional Cooperation (SAARC) and the South Asia Subregional Economic Cooperation (SASEC).
- Under the **Colombo Security Conclave**, which is a maritime security grouping of India, Sri Lanka, Maldives and Mauritius which is to forge closer cooperation on maritime and security matters among these Indian Ocean countries
- Mauritius was included as a new member of the conclave during the fifth meeting of national security advisers of the Colombo Security Conclave.

Cooperation between India and Maldives:

- **Security Cooperation:** Through the decades, India has rushed emergency assistance to the Maldives, whenever sought.
 - **India and Maldives conduct the joint military exercise 'Ekuverin'.**
- **Assistances:** The 2004 tsunami and the drinking water crisis in Male a decade later were other occasions when India rushed assistance.
 - The Maldives has been one of the biggest beneficiaries of the Covid-19 assistance and vaccines delivered by India among India's all neighbouring countries.
 - The Maldives was the first beneficiary of India's Vaccine Maitri initiative.

People To People Contact:

- Maldivian students attend educational institutions in India and patients fly here for superspeciality healthcare, aided by a liberal visa-free regime extended by India.

Economic Cooperation:

- Tourism is the mainstay of Maldivian economy. The country is now a major tourist destination for some Indians and a job destination for others.

Challenges

- **Political Instability:** India's major concern has been the impact of political instability in the neighbourhood on its security and development.
- **Radicalisation:** In the past decade or so, the number of Maldivians drawn towards terrorist groups like the Islamic State (IS) and Pakistan-based madrassas and jihadist groups has been increasing.
 - This gives rise to the possibility of Pakistan based terror groups using remote Maldivian islands as a launch pad for terror attacks against India and Indian interests.
- **China Angle:** China's strategic footprint in India's neighbourhood has increased. The Maldives has emerged as an important 'pearl' in China's "String of Pearls" construct in South Asia.
 - Given the uncertain dynamics of Sino-Indian relations, China's strategic presence in the Maldives remains a concern.
 - Also, the Maldives have started using the China card to bargain with India.

Way Forward

- India-Maldives are perfectly placed to complement each other's strategic interests.
- Hence, deeper Socio-Economic and Defence engagement can help both to propagate mutual interests at Global Platform.

In accordance with the "Neighbourhood First Policy" of the government, India remains a committed development partner for a stable, prosperous and peaceful Maldives.

US-China's tussle on Taiwan

Context: The Speaker of the US House of Representatives, Nancy Pelosi, landed in Taiwan on August 2 evening, ignoring Chinese threats and a warning by President Xi Jinping.

What is the brief background of Taiwan?

- Taiwan is an island about 160 km off the coast of southeastern China. It was administered by the imperial Qing dynasty, but its control passed to the Japanese in 1895. After the defeat of Japan in World War II, the island passed back into Chinese hands.
- Taiwan is unfinished business of China's liberation under Chinese Communist Party (CCP) in 1949.
- **Chiang Kai-shek retreated to the island of Taiwan** and set up a regime that claimed authority over the whole of China and pledged to recover the mainland eventually.
 - Chiang Kai-shek set up the government of the Republic of China on the island, and remained President until 1975.
- The **CCP in turn pledged to reclaim** what it regarded as a "renegade" province and achieve the final reunification of China.
 - Beijing has never recognised the existence of Taiwan as an independent political entity, arguing that it was always a Chinese province.
- While the political tensions have continued, China and Taiwan have had economic ties. Many migrants from Taiwan work in China, and China has investments in Taiwan
- Taiwan could not be occupied militarily by the newly established People's Republic of China (PRC) as it became a **military ally of the United States** during the Korean War of 1950-53.
- It was described as an "**unsinkable aircraft carrier**" underscoring its strategic significance.
- This phase came to an end with the U.S. recognising **the PRC as the legitimate government of China in**

1979, ending its official relationship with Taiwan and abrogating its mutual defence treaty with the island. But USA continues to have unofficial ties with Taiwan.

What has been the policy of China towards Taiwan?

- China has pursued a typical carrot and stick policy to achieve the reunification of Taiwan with the mainland.
- It has held out the prospect, indeed preference for **peaceful reunification**, through promising a **high degree of autonomy** to the island under the “**one country two systems**” formula first applied to Hong Kong after its reversion to Chinese sovereignty in 1997.
- According to this formula, Hong Kong would retain its free market system and its political and judicial institutions and processes for a period of 50 years, thus enabling an extended and gradual transition.

What are the economic links between China and Taiwan?

- With China adopting market-oriented reforms since 1978 and becoming a significant economic and commercial opportunity globally, Taiwan business entities have invested heavily in mainland China and the two **economies have become increasingly integrated**.
- Between 1991 and 2020, the stock of **Taiwanese capital invested in China** reached U.S. \$188.5 billion and bilateral trade in 2019 was U.S. \$150 billion, about 15% of Taiwan’s GDP.
- By contrast the stock of Chinese capital invested in Taiwan is barely U.S. \$2.4 billion

How does the world, and US, view Taiwan?

- The United Nations does not recognise Taiwan as a separate country; in fact, only 13 countries around the world — mainly in South America, the Caribbean, Oceania, and the Vatican — do.
- U.S. has declared that it will “maintain the ability to come to Taiwan’s defence” while not committing itself to do so. This is the policy of “**strategic ambiguity**” of USA

Is China prepared to carry out military operations to invade and occupy Taiwan?

- In March 2021, the U.S. Pacific Commander, warned that China could invade Taiwan within the next six years as part of its strategy of displacing U.S. power in Asia. He suggested that Chinese military capabilities had been developed in order to achieve this objective.
- The recent initiatives of the Quad and AUKUS may act as a deterrent against Chinese moves on Taiwan.
- But they may equally propel China to advance the unification agenda before the balance changes against it in the Indo-Pacific.
- For these reasons, Taiwan is emerging as a potential trigger point for a clash of arms between the U.S. and China.

What has been the impact of escalating tensions on rest of Asia?

- They feel reassured by the considerable US military presence deployed in the region and tacitly support its Indo-Pacific strategy. However, their economic and commercial interests are bound tighter with the large and growing Chinese economy.
- Just as Taiwan is caught in a crossfire between the US and China, so are the East Asian and South East Asian countries. Most do not wish to be forced into making a choice.

What are the implications on India?

- Pragmatism tells that India should be consistent with its one China policy even while maintaining and even expanding non-official relations with Taiwan.
- For US, Japan and Australia, Taiwan is a key component of the Indo-Pacific strategy, not for India.
- In one sense, China’s preoccupation with its eastern ocean flank of the Yellow Sea, the Taiwan Strait and the South China Sea is good for India. It diminishes Chinese attention toward the Indian Ocean, India’s primary security theatre.
- One should use the opportunity to expand India’s naval capabilities and maritime profile in this theatre before the Chinese begin to look to our extended neighbourhood with renewed interest and energy.

India - EU ties

Context: While India celebrates its 75th year of Independence, it also **celebrates 60 years of diplomatic relations with the European Union (EU).**

Economic Partnership

- Bilateral trade between the two surpassed \$116 billion in 2021-22.
- The EU is India's second largest trading partner after the U.S., and the second largest destination for Indian exports.
- There are 6,000 European companies in the country that directly and indirectly create 6.7 million jobs.

Climate Partnership

- India and the EU have several avenues of collaboration.
- For example, **the 'green strategic partnership'** between India and Denmark aims to address **climate change, biodiversity loss and pollution, and the India-Nordic Summit** in May focused on green technologies and industry transformation that are vital for sustainable and inclusive growth.
- All this will act as a catalyst for enhanced cooperation between the two regions.

Defence Partnership

- Cooperation with the EU in the defence sector has also increased substantially.
- India and the EU regularly conduct joint military and naval exercises which reflect on their commitment to a free, open, inclusive and rules-based order in the Indo-Pacific.
- The first maritime security dialogue between the two in 2021 focused on cooperation in maritime domain awareness, capacity-building, and joint naval activities.
- France's on-time delivery of 36 Rafale fighter jets and willingness to offer Barracuda nuclear attack submarines to the Indian Navy reflects the growing level of trust in their relationships.
- Leading European defence equipment manufacturers are willing to partner with Indian companies for defence projects aligned with the 'Make in India' programme.

Innovation Ecosystem

- Another rapidly growing area of engagement is the **start-up and innovation ecosystem across India and Europe.**
- Furthermore, the Science and Technology Joint Steering Committee between the two focus on areas such as healthcare, Artificial Intelligence, and earth sciences.
- In 2020, there was an agreement for research and development cooperation in the peaceful uses of nuclear energy between the European Atomic Energy Community and the Government of India.

Challenges

- Both have differing opinions and divergent interests in some areas.
- **India's reluctance to explicitly condemn Russia's intervention in Ukraine, and the country's increasing economic cooperation with Russia, has been one area of disagreement.**
- India has called out the **EU's double standards on the same**, for the EU purchases 45% of its gas imports from Russia in 2021.
- There is also **ambiguity on the EU's strategy in tackling the rise of China.**
- Its muted response during **the Galwan clash** is a case in point.
- India's economic, political and demographic weight could be leveraged by EU to counterbalance China's influence across the region. But there seems to be some hesitancy about this.

Way forward

- India and the EU should not let such divergences of views overwhelm the many areas of convergence among them.
- The **proactive resumption of the ambitious India-EU free trade and investment agreement in 2021 is a**

step in the right direction.

- European partners acknowledge India as an important pillar in ensuring stability in Indo-Pacific.
- The EU wants to be more than just a trading bloc and is seeking alliances with like-minded countries like India.

India and the EU are political and economic poles in an increasingly multi-polar world. Our ability to work together, therefore, can shape global outcomes.

Reinvigorating Chabahar port

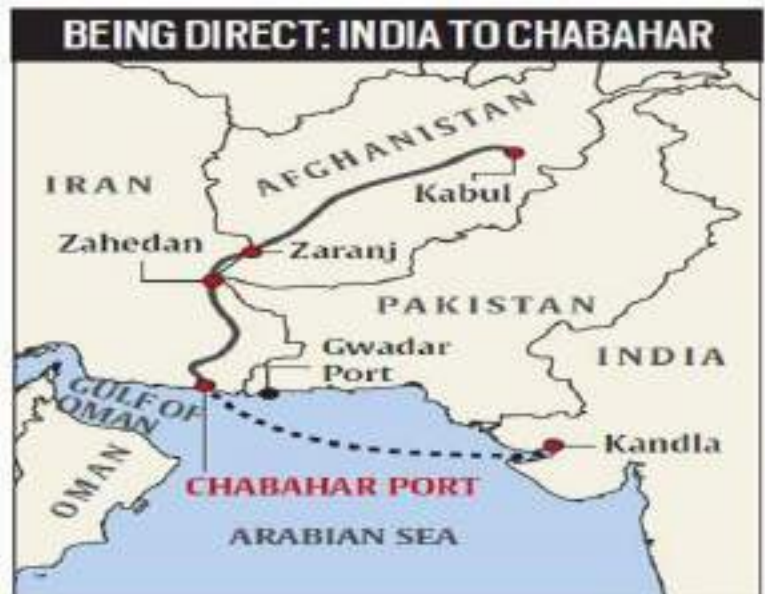
Context: After months of what appeared to be a “go-slow”, the **Union government** has revved up its interest in using Iran’s Chabahar port to connect to Afghanistan, Europe, Russia and Central Asia for trade.

Importance of Chabahar port for India:

- It will also **boost India’s access to Iran**, the key gateway to the [International North-South Transport Corridor](#) that has sea, rail and road routes between India, Russia, Iran, Europe, and Central Asia.
- It also helps India counter Chinese presence in the Arabian Sea which China is trying to ensure by helping Pakistan develop the Gwadar port.
- **Trade benefits:** With **Chabahar port becoming functional**, there will be a significant boost in **the import of iron ore, sugar, and rice to India**. The **import cost of oil to India** will also see a considerable **decline considering recent global energy crisis due to Russia- Ukraine conflict**.
- From a **diplomatic perspective**, Chabahar port could be used as a point from where humanitarian operations could be coordinated.

Delay in the Chabahar port project:

- In years when western sanctions against Iran increased, the Chabahar project has been put on the back-burner, while in the years when nuclear talks that resulted in the Joint Comprehensive Plan of Action (JCPOA) in 2015 came into being, the Chabahar port has been easier to work on.
- In 2018, the **U.S. Trump administration** put paid to **India’s plans by walking out of the JCPOA and slapping new sanctions on dealing with Iran**. This led to the Union Government “zeroing out” all its oil imports from Iran, earlier a major supplier to India, causing a strain in ties.
- Union Government snapped ties with Afghanistan after Taliban takeover in August 2021, which put an end to humanitarian aid of wheat and pulses that was being sent to Kabul via Chabahar. India restarted wheat aid to Afghanistan this year, it negotiated with Pakistan to use land route instead.



Way Forward

- With the government now **reopening the Indian Embassy in Kabul**, and establishing **ties with the Taliban government**, it is possible that the **Chabahar route will once again be employed**
- Completion of Chabahar port project will give a **boost to Indian strategic interest and objectives in the region**.

Must Read: [Chabahar Port](#)

India-Nepal

In News: Recently Nepal informed India that recruitment of Gorkhas under Agnipath scheme **does not conform with provisions of tripartite agreement signed by Nepal, India, and Britain in 1947.**

- Recruitment of Gorkhas from Nepal began in then British Indian army after the Treaty of Sagauli was signed in 1816 between the government of Nepal and the British East India Company.
- And it became a tripartite arrangement in November 1947 after India became independent and Gorkhas in Nepal were given a choice to serve in the Indian Army or go to UK.

India-Nepal Relations

- Founded on the **age-old connection of history, culture, tradition and religion**, these relations are close, comprehensive, and multidimensional and are pronounced more in **political, social, cultural, religious, and economic engagements with each other.**

How have the Historical Ties been?

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



What are the Areas of Cooperation Between the Two Countries?

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 shares border with 5 Indian states-** Uttarakhand, Uttar Pradesh, West Bengal, Sikkim, and Bihar. Hence an important point of cultural and economic exchange.
- Nepal being a landlocked country many MOUs has been signed between both governments for better connectivity. For instance, laying an **electric rail track linking Kathmandu with Raxaul in India.**

Defence Cooperation:

- **Gorkha Regiments of the Indian Army** are raised partly by recruitment from hill districts of Nepal.
- India from 2011, every year undertakes a **joint military exercise with Nepal known as Surya Kiran.**

Cultural:

- There have been initiatives to promote people-to-people contacts in the area of art & culture, academics, and media with different local bodies of Nepal.
- **India has signed three sister-city agreements** for the twinning of Kathmandu-Varanasi, Lumbini-Bodhgaya, and Janakpur-Ayodhya.

Humanitarian Assistance:

- Nepal lies in the sensitive ecological fragile zone which is prone to earthquakes and floods causing massive

damage to both life and money, whereby 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.

Why is China's role in Nepal a matter of concern?

- An **Agreement on Transit Transportation**, a Protocol was concluded with China providing access to **four sea ports and three land ports**.
- China has overtaken India as the **largest source of foreign direct investment**.
- China is also engaged with **airport expansion projects at Pokhara and Lumbini**.
- Thus Nepal is quietly tilting away from India.

Way Forward:

- **Dialogues for Territorial Disputes:** The need today is to avoid rhetoric on **territorial nationalism and lay the groundwork for quiet dialogue** where both sides display sensitivity as they explore what is feasible.
- **Strengthening Economic Ties:** The **power trade agreement** needs to be such that India can build trust in Nepal. Despite more **renewable energy projects (solar) coming up in India**, hydropower is the **only source that can manage peak demand in India**.
- **Investments from India:** The **Bilateral Investment Promotion and Protection Agreement (BIPPA)** signed between **India and Nepal needs more attention from Nepal's side**.
- **Sensitising Towards Nepal:** India should engage more proactively with Nepal in terms of **people-to-people engagement, bureaucratic engagement as well as political interactions**.

Antarctic Regulation

Context: The Parliament has passed the Indian Antarctic Bill 2022 to assist in protecting the frozen continent where India operates two research centres and is part of several scientific explorations.

- Antarctica is the southernmost continent and does not have any indigenous population. The entire region is demilitarised and is used for scientific and peaceful purposes as per the Antarctic Treaty

Why the Antarctic is so important?

The huge frozen landmass at the bottom of our planet is more than just spectacular icing on the globe. It could be vital for our survival too.

- **Moderating Global Temperature:** The Antarctic ice deflects some of the sun's rays away from the Earth, keeping temperatures liveable.
- **Sea Level Rise:** Even small-scale melting would raise global sea levels, and cause flooding around the world.
- **Supports Marine Life:** the Ocean surrounding the continent also support masses of the world's sealife – including 15 species of whale and dolphin, and five species of penguin. The nutrient-rich waters encourage blooms of tiny plankton, the basis of the ocean food chain.
- **Natural laboratories:** The Antarctic is one of the world's least disturbed places. It is helping us understand global climate change now, the unique archive locked in Antarctica's nearly 4km thick ice sheet tells us what our planet's climate has been like over almost a million years.
- **Sensitive indicators of present-day environmental change:** The discovery in 1985 of the hole in the ozone layer above Antarctica revealed the damage done to the Earth's atmosphere by man-made chemicals.
- **Common Resource:** The continent is a no-man's land — a natural reserve that belongs to no country. It is only governed by global agreements.

How has Indian role in Antarctic evolved over the years?

- With **two expeditions successfully completed** within a span of 11 months, India finally became a member of

the Antarctic Treaty in August 1983 and China followed in 1985.

- 1984 saw two more striking Indian achievements: its first Antarctic team started wintering there from March 1, 1984 and a few months afterwards an unmanned **Antarctic research base named as Dakshin Gangotri** was established.
- Since then, India has set up two manned research stations in Antarctica — **Maitri** in 1988 and **Bharati** in 2012. Forty expeditions to the continent have taken place.
- **National Centre for Antarctic and Ocean Research (NCPOR)** is the nodal agency for planning, promotion, coordination and execution of the entire gamut of polar and southern ocean scientific research in the country as well as for the associated logistics activities. It was established in 1998.

What are the key features of the 2022 bill passed by Parliament?

It provides a detailed legal framework for India's Antarctic activities that is consistent with its international treaty obligations.

- **Objective:** The Bill seeks to give effect to the Antarctic Treaty, Convention on the Conservation of Antarctic Marine Living Resources, and the Protocol on Environmental Protection to the Antarctic Treaty. It also seeks to protect the Antarctic environment and regulate activities in the region.
- **Applicability:** The provisions of the Bill will apply to any person, vessel or aircraft that is a part of an Indian expedition to Antarctica under a permit issued under the Bill. Areas comprising of Antarctica include:
 - the continent of Antarctica, including its ice-shelves, and all areas of the continental shelf adjacent to it, and
 - all islands (including their ice-shelves), seas, and air space south of 60°S latitude
- **Central committee:** The central government will establish a Committee on Antarctic Governance and Environmental Protection. The Committee will be chaired by the Secretary of the **Ministry of Earth Sciences**. 10 members, not below the rank of joint secretary, will be nominated from various Ministries and organisations.
- **Need for permit:** A permit by the Committee will be required for various activities. Before a permit is granted by the Committee, the applicant has to carry out an environmental impact assessment of the proposed activities. Moreover, a permit must not be granted unless a waste management plan has been prepared for the expedition by the Committee.
- **Prohibited activities:** The Bill prohibits certain activities in Antarctica including: (i) nuclear explosion or disposal of radioactive wastes, (ii) introduction of non-sterile soil, and (iii) discharge of garbage, plastic or other substance into the sea which is harmful to the marine environment.
- **Offences and penalties:** Drilling for mineral resources or introducing non-native animals or plants in Antarctica without a permit will be punishable with imprisonment up to seven years and a fine between Rs 10 lakh and Rs 50 lakh. Conducting a nuclear explosion in Antarctica will be punishable with an imprisonment of 20 years and Rs 50 Crore fine.
- The central government may notify one or more Sessions Courts to be the Designated Court under the Bill and specify its territorial jurisdiction to try offences punishable under the Bill.

What are the benefits of the Antarctic Bill, 2022?

- **Specific Legal Framework:** The bill provides a regulatory framework for India's Antarctic activities through legal mechanisms which will help in the efficient operation of the Indian Antarctic Programme.
- **Accountability of Activities:** The enforcement of such laws will confer jurisdiction on the courts of India to deal with any dispute or crimes committed in parts of Antarctica. Legislation of such a kind will bind the citizens to the policies of the Antarctic treaty system. The bill will be applicable on Indian citizens, as well as foreign citizens, and any company registered in India or any sea vessel registered in India.
- **Builds India's Credibility:** Legislation of such a kind will bind the citizens to the policies of the Antarctic

treaty system. This will be useful to increase India's international visibility and credibility in Polar governance for cooperation in scientific studies and logistics.

- **Sustainable Development:** The bill plans to facilitate India's involvement in the management of tourism in the Antarctic and the sustainable development of fisheries.
- **Ensures De-militarisation:** The bill aim is to ensure de-militarisation of the (Antarctic) region along with getting rid of mining or illegal activities.

India as a foreign policy leader and balancer

India's Foreign Policy

A critical assessment of India's foreign policy during 1947–2022 should begin with the changing perceptions of this nation, internally and internationally.

A major stakeholder in the association of nations

- India's **ties with countries across regions** — in the South Pacific, through Southeast and South Asia, in other parts of Asia, Europe, and the Indian Ocean region, Africa, North America and Latin America— **show it to be an aspiring, as well as a major player on the world stage.**
- A leading member of the UN, an oft-invitee to the G7, a founding member of the BRICS, and a pivotal part in G20, India has become a major stakeholder in the comity of nations.

National interest drives foreign policy, but more is at stake here:

- The policy is anchored in a **nuanced balancing of interests and values.**
- National security remains the key driver.
- External relationships accelerate the country's economic progress.
- Other motivations include the **desire to enhance the nation's standing externally** and the **impulse to do well for the world** — India did not hesitate to share Covid medicines and vaccines with over 90 countries within a month of their launch.

A balancer and leader

- In the post-Cold War period, **India has moved more time and resources** to careful nurturing of **relations with the major powers** — the US, EU, especially France and Germany, the UK, Japan, Russia and China.
- India's enhanced GDP and its IT prowess have positioned it in parallel with apex group of leaders.
- At the height of the **Non-Aligned Movement and G77**, India was the leader of the "have-nots".
- By enjoying **proximity with the West** and demonstrating the capability to **cooperate and communicate with the "other" side** — Russia, the time-tested partner, and China, the principal adversary but also a consequential neighbour — **India now acts as a balancer and leader.**

Neighbourhood First Policy

- The neighbours have not been ignored.
- Equations with Bhutan, Bangladesh and Maldives are excellent.
- The tide that ran against India in its ties with Afghanistan, Nepal and Sri Lanka in recent years seems to have turned since the Covid-19 pandemic.
- More needs to be achieved in regional cooperation and integration.

Multilateralism

- The **Indo-Pacific has emerged as a principal theatre for Indian diplomacy.**
- The **increased emphasis on cooperation with Quad members**
- The **combined impact of formations such as AUKUS, the Indo-Pacific Economic Framework, Partners in the Blue Pacific** and India's continuing focus on ASEAN, despite the setback of its exit from RCEP, is a determined pushback to China.

- **Across the Western shores**, prospects have improved with the **establishment of I2U2** (India, Israel, U.S. UAE) — this became possible due to the progress in India-UAE, India-Israel and UAE-Israel relations.
- Positioning Africa's eastern and southern flanks as a part of the Indo-Pacific could enable India to craft a series of initiatives to strengthen cooperation in maritime activity, economic development, and the blue economy.
- Thus Indian Foreign policy making is aided by academia, think tanks, civil society and media more than ever before.

The increasing engagement of the wider public — especially the youth and business community — with foreign policy issues reflects the maturity and sophistication of Indian democracy. These trends must deepen and India's G20 Presidency provides a perfect opportunity and beginning for the next anniversary era.



HISTORY AND ART & CULTURE



Quit India Movement

In News: On this day **80 years ago** — on **August 9, 1942** — the people of India launched the decisive final phase of the struggle for independence.

Build-up to August 1942

- While factors leading to such a **movement had been building up, matters came to a head with the failure of the Cripps Mission.**
- With **World War II raging**, the beleaguered British government needed the cooperation of its colonial subjects. With this in mind, in **March 1942, a mission led by Sir Stafford Cripps** arrived in India to meet leaders of the Congress and the Muslim League.
- The idea was to secure India's whole-hearted support in the war, and the return offer to Indians was the promise of self-governance. Despite the promise of "the earliest possible realisation of self-government in India", Cripps **only offered dominion status, not freedom.** Also, there was a provision for the partition of India, which was not acceptable to the Congress.
- The **failure of the Cripps Mission** made Gandhi realise that freedom would come only if Indians fought tooth and nail for it. The Congress was initially reluctant to launch a movement that could hamper Britain's efforts to defeat the fascist forces. But it eventually decided on **mass civil disobedience.**

Gandhi's address: Do or Die

- On August 8, 1942, **Gandhi addressed the people in the Gowalia Tank maidan** in Bombay.
- **"Here is a mantra, a short one that I give you.** Imprint it on your hearts, so that in every breath you give expression to it," he said. **"The mantra is: 'Do or Die'.** We shall either free India or die trying; we shall not live to see the perpetuation of our slavery," Gandhi said.
- **Aruna Asaf Ali hoisted the Tricolour on the ground.** The Quit India movement had been officially announced. The government cracked down immediately, and by August 9, Gandhi and all other senior Congress leaders had been jailed.

The people vs. the Raj

- The arrest of their leaders failed to deter the masses. **With no one to give directions, people took the movement into their own hands.** In Bombay, Poona, and Ahmedabad, hundreds of thousands of **ordinary Indians clashed with the police.**
- There were strikes, demonstrations and people's marches in defiance of prohibitory orders in Kanpur, Patna, Varanasi, and Allahabad. Protests spread rapidly into smaller towns and villages.
- Till mid-September, **police stations, courts, post offices, and other symbols of government authority came under repeated attack.** Railway tracks were blocked, students went on strike in schools and colleges across India, and distributed illegal nationalist literature.
- In some places, the protests were violent. Bridges were blown up, telegraph wires were cut, and railway lines were taken apart.

The slogan 'Quit India'

- While Gandhi gave the clarion call of Quit India, **the slogan was coined by Yusuf Meherally**, a socialist and trade unionist who also served as Mayor of Bombay.
- A few years ago, in 1928, it was Meherally who had coined the slogan "Simon Go Back".



Future Leaders

- Underground activities were taken by leaders that included **Ram Manohar Lohia, J.P. Narayan, Aruna Asaf Ali, Biju Patnaik, Sucheta Kriplani**, etc which later emerged as prominent leaders.

Women Participation

- Women took active participation in the movement. Female leaders like **Usha Mehta** helped set up an **underground radio station** which led to the awakening about the movement.

Support

- **Muslim League, the Communist Party of India and the Hindu Mahasabha did not support the movement.** The Indian bureaucracy also did not support the movement.
- The League was not in favour of the British leaving India without partitioning the country first.
- The Communist party supported the British since they were allied with the Soviet Union.
- The Hindu Mahasabha openly opposed the call for the Quit India Movement and boycotted it officially under the apprehension that the movement would create internal disorder and will endanger internal security during the war.

Brutal suppression of protests

- The Quit India movement was **violently suppressed by the British** — people were shot and lathicharged, villages were burnt, and backbreaking fines were imposed.
- In the five months up to December 1942, an estimated **60,000 people had been thrown into jail.**

However, though the movement was quelled, it changed the character of the Indian freedom struggle, with the masses rising up to demand with a passion and intensity like never before: that the British masters would have to Quit India.



GEOGRAPHY



Drought

In News: Jharkhand and Uttar Pradesh are experiencing the worst monsoon season of the century.

- **Food and water scarcity are going to be the real issues** in the country's major rice producing states, with a potential to affect India's kharif produce this year.
- Between June 1 and August 12, the rainfall recorded over **Jharkhand was 371.9mm against a normal of 627.6mm, a 41 per cent seasonal deficit.** This is the lowest ever rainfall recorded over Jharkhand (June to August) since 1901, the IMD's rainfall data stated.
- For **Uttar Pradesh**, too, the picture is grim, as the state has **recorded only 251.7mm of the seasonal average of 449.1mm till August 12.**
- UP is the most rain deficient Indian state this year and has remained so since the start of the monsoon season.



So, what are the causes for rain deficit?

- This season, **only three low pressure systems developed in the Bay of Bengal**, mostly off the coast of Odisha. None of these systems impacted Jharkhand, Uttar Pradesh or Bihar.
- Thus, one of the two rain-bearing causes remained out of favour for these states.

Monsoon Trough

- In addition, this year, **the monsoon trough — an east-west low-pressure area extending from the heat low over Pakistan to head Bay of Bengal — remained to the south of its normal position for majority of the days** in July and in August, so far.
- The low pressure systems **did not move along Bihar, Jharkhand and Uttar Pradesh.** Such **unfavourable conditions contributed to high rainfall deficits** throughout the season.
- The monsoon trough's location, oscillation, and duration over a specific location, all directly affect the rainfall activity over the regions exactly to the south of its position.
- That is, when it is located to the south of its normal position, there is active or vigorous rainfall over most parts of central, peninsular India regions. When it shifts to the north of its normal position or lies along the Himalayan foothills, Uttar Pradesh, Bihar, Jharkhand, West Bengal and the northeastern states benefit.

So, what should farmers do?

- In UP and Jharkhand, the Agriculture Meteorology division has suggested the use of **short duration rice varieties and have encouraged cultivation of red gram.** Farmers have been encouraged to **opt for inter-cropping.**

National Disaster Management Act, 2005

- The NDM Act was passed by the government of India in 2005 **for the efficient management of disasters and other matters connected to it.**

Objective:

- To manage disasters, including **preparation of mitigation strategies, capacity-building and more.**
- Definition of **“disaster” in Section 2 (d) of NDM Act** states that a disaster means a “catastrophe, mishap,

calamity or grave occurrence in any area, arising from natural or manmade causes”.

Major Features

Nodal Agency:

- The Act designates the **Ministry of Home Affairs as the nodal ministry** for steering the overall national disaster management.
- **Institutional Structure:** It puts into place a **systematic structure of institutions at the national, state and district levels.**

The National Disaster Management Authority (NDMA)

- It is tasked with laying down disaster management policies and ensuring timely and effective response mechanisms.

The National Executive Committee (NEC)

- It is constituted under Section 8 of the NDM Act to assist the National Disaster Management Authority in the performance of its functions.
- The NEC is **responsible for the preparation of the National Disaster Management Plan** for the whole country and to ensure that it is reviewed and updated annually.

The National Institute of Disaster Management (NIDM)

- It is an institute for training and capacity development programs for managing natural calamities.

National Disaster Response Force (NDRF).

- It refers to trained professional units that are called upon for specialized response to disasters.
- The Act also provides for **state and district level authorities responsible** for, among other things, drawing plans for implementation of national plans and preparing local plans.
- *State Disaster Management Authority and District Disaster Management Authority.*

Finance:

- It contains the provisions for financial mechanisms such as the creation of funds for emergency response, National Disaster Response Fund and similar funds at the state and district levels.

Other Features:

- Under Section 51 of the Act, anyone **refusing to comply with orders is liable for punishment with imprisonment up to one year**, or fine, or both. In case this refusal leads to death of people, the person liable shall be punished with imprisonment up to two years.

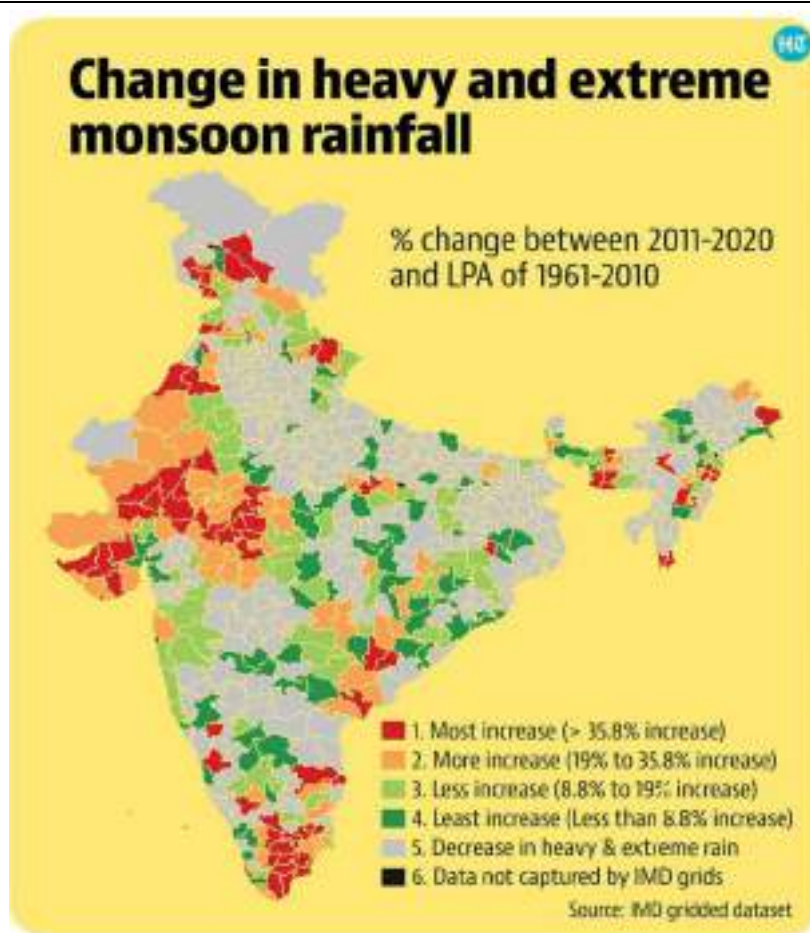
Cloudbursts

Context: Recently, over 20 people have been killed in destruction caused by cloudbursts and flash floods in different parts of Himachal Pradesh and Uttarakhand over the last three days.

- As heavy rainfall was observed in these states during the short duration of time which leads to the heavy rainfall triggering landslides and flash floods that have disrupted rail and road traffic, and resulted in house and wall collapses.

What are cloudbursts?

- A cloudburst is a **localized but intense rainfall activity.**
- According to the **India Meteorological Department (IMD)** a **cloudburst** features **very heavy rainfall over a localized area at a very high rate of the order of 10 cm per hour** featuring **strong winds and lightning** over a geographical region of **approximately 20 to 30 Sq. Kms.**
- By this definition, 5 cm of rainfall in a half-hour period over the same area would also be categorized as a cloudburst.



How common are cloudbursts?

- Cloudbursts are not uncommon events, particularly during the monsoon months.

- Most of these happen in Himalayan state where the local topology, wind systems, and temperature gradients between lower and upper atmosphere facilitate occurrence of such events.

- Because of the nature of terrain, the heavy rainfall events often trigger landslides and flash floods, causing extensive destruction downstream.

- This is the reason why every sudden downpour that leads to destruction of life and property in the hilly areas gets described as a “cloudburst”, irrespective of whether the amount of rainfall meets the defining.

Is it possible to forecast cloudburst?

- The India Meteorological Department forecasts rainfall events well in advance, but it does not predict the quantum of rainfall — in

fact, no meteorological agency does.

- The forecasts are for a relatively large geographical area, usually a region, a state, a meteorological sub-division, or at best a district. As they zoom in over smaller areas, the forecasts get more and more uncertain.)
- Therefore, specific cloudburst events cannot be forecast.

As per the IMD, there is no long-term trend that suggests that cloudbursts are rising. However, the incidents of extreme rainfall, as also other extreme weather events, are increasing, not just in India but across the world. Several studies have shown that climate change will increase the frequency and intensity of cloudbursts in many cities across the globe.

El Nino and La Nina

In News: The La Nina conditions prevailing over the equatorial Pacific Ocean since September 2020 have entered the third year. There are only six instances of La Nina lasting for more than two years since 1950s.

What are La Nina and El Nino?

They are two natural climate phenomena occurring across the tropical Pacific Ocean and influence the weather conditions all over the world.

Normal Conditions:

- In a normal year, a surface low pressure develops in the region of northern Australia and Indonesia and a high-pressure system over the coast of Peru. As a result, the trade winds over the Pacific Ocean move strongly from east to west.

- The easterly flow of the trade winds carries warm surface waters westward, bringing convective storms (thunderstorms) to Indonesia and coastal Australia. Along the coast of Peru, cold bottom cold nutrient rich water wells up to the surface to replace the warm water that is pulled to the west.

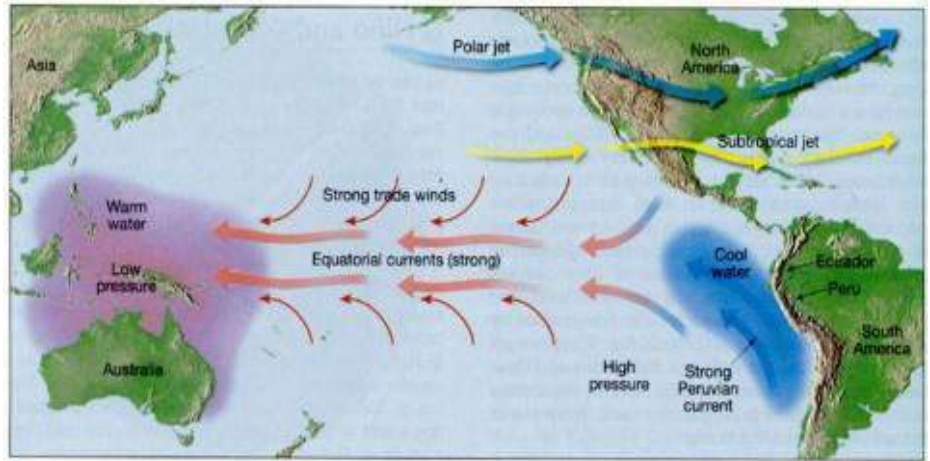


Fig.6 Normally, the trade winds and strong equatorial currents flow toward the west. At the same time, an intense Peruvian current causes upwelling of

El Nino:

- The phrase “El Nino” refers to the Christ Child and was coined by fishermen along the coasts of Ecuador and Peru to describe the warming of the central and eastern pacific.
- El Nino is the name given to the occasional development of warm ocean surface waters along the coast of Ecuador and Peru. El Niño events occur irregularly at intervals of 2–7 years, although the average is about once every 3-4 years.

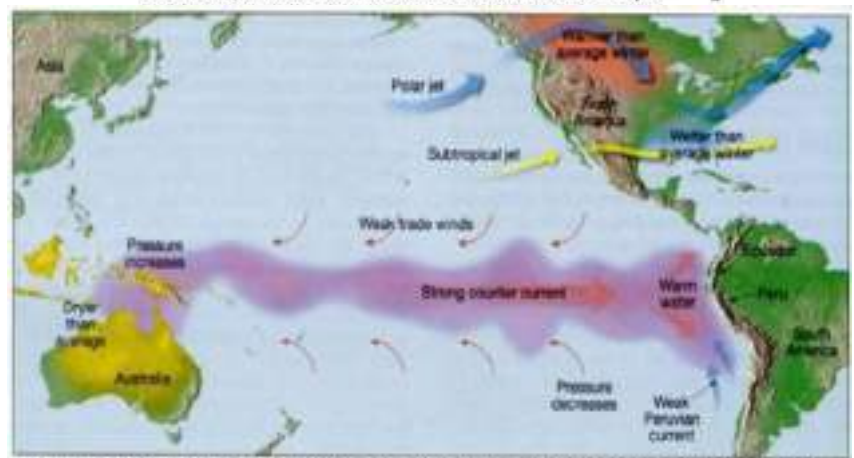


Fig.14 Upon the advent of an ENSO event, the pressure over the eastern and western Pacific flip-flops. This causes the trade winds to diminish, leading to an eastward movement of warm water along the equator. As a result, the surface waters of the central and eastern Pacific warm, with far-reaching consequences to weather patterns.

Impacts:

How El Nino impacts monsoon rainfall in across the globe:

- El Nino impacts ocean temperatures, the speed and strength of ocean currents, the health of coastal fisheries, and local weather from Australia to South America and beyond.
- Rainfall increases drastically in South America, contributing to coastal flooding and erosion.

How El Nino impacts monsoon rainfall in India:

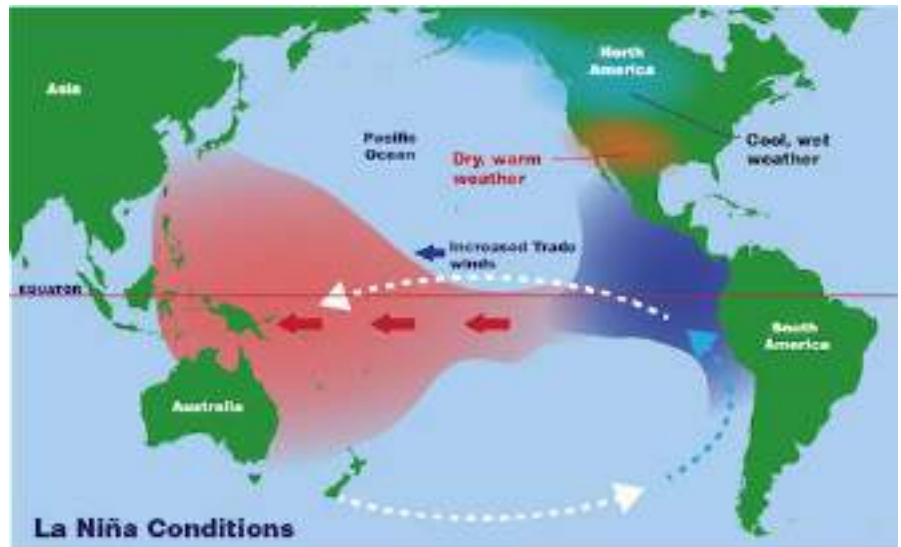
- El Nino and Indian monsoons are inversely related.
- The most prominent droughts in India – six of them – since 1871 have been El Nino droughts, including the recent ones in 2002 and 2009
- However, **not all El Nino years led to a drought in India**. For instance, 1997/98 was a strong El Nino year but there was no drought (Because of [IOD](#)). On the other hand, a moderate El Nino in 2002 resulted in one of the worst droughts.
- El Nino directly impacts **India’s agrarian economy** as it tends to lower the production of summer crops such as rice, sugarcane, cotton, and oilseeds.

La Nina:

- After El Nino event weather conditions usually return back to normal.
- However, in some years the trade winds can become extremely strong and an abnormal accumulation of cold water can occur in the central and eastern Pacific. This event is called a La Niña.

Impacts:

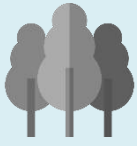
- La Nina tends to lead to **milder winters in Northern Europe** and **colder winters in southern/western Europe** leading to **snow in the Mediterranean region**.
- It is **continental North America** where most of these conditions are felt.
- La Nina **causes drought** in the **South American countries of Peru and Ecuador**.
- It usually has a positive impact on the **fishing industry of western South America**.
- In the **western Pacific**, La Nina increases the potential for landfall in those areas most vulnerable to their effects, and especially into continental Asia and China.
- It also leads to heavy floods in Australia and high temperatures in Western Pacific, Indian Ocean, off the Somalian coast and a comparatively better monsoon rains in India.

**What will be the Impacts of Third Consecutive La Nina?****Impacts on India:**

- The India Meteorological India (IMD) has predicted that some parts of India may witness heavy rains.
- The **Western Ghats** may receive **average or below-average rain**.
- **Winter rainfall is less than normal in North India.**
- **Snowfall over Western Himalayas is less than normal.**
- **Winter temperatures in the plains are less than normal.**
- Prolonged Winter Season over North India (**extended winters**).
- More rain during the **second half of the Northeast Monsoon**.

Negative Impact on Agriculture:

- Farmers will be at **risk of losing their standing Kharif crops** if it rains during this period.
- As the harvesting of the **Kharif crops begins in September-end or early October** and any rain just before that would prove **detrimental to the standing crops**.



ENVIRONMENT



Wild Life (Protection) Amendment Bill, 2021

In News: Lok Sabha on passed by voice votes the **Wild Life (Protection) Amendment Bill, 2021** that seeks to provide for implementation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

Key features of the Bill include:

CITES:

- The Convention requires **countries to regulate the trade of all listed specimens through permits.**
- It also seeks to regulate the possession of live animal specimens.
- The Bill seeks to implement these provisions of CITES.

Rationalising schedules:

- **Currently, the Act has six schedules** for specially protected plants (one), specially protected animals (four), and vermin species (one).
- The **Bill reduces the total number of schedules to four** by:
 - reducing the number of schedules for specially protected animals to two
 - removes the schedule for vermin species, and
 - Inserts a new schedule for specimens listed in the Appendices under CITES.

Obligations under CITES:

- The Bill provides for the **central government to designate a:**
 - **Management Authority**, which **grants export or import permits** for trade of specimens, and
 - **Scientific Authority**, which gives **advice on aspects related to impact on the survival of the specimens being traded.**
- Every person engaging in trade of a scheduled specimen must report the details of the transaction to the Management Authority.
- As per CITES, the Management Authority may use an identification mark for a specimen.
- The Bill prohibits any person from modifying or removing the identification mark of the specimen.
- Additionally, every person possessing live specimens of scheduled animals must obtain a registration certificate from the Management Authority.

Invasive alien species:

- The Bills empowers the **central government to regulate or prohibit the import, trade, possession or proliferation of invasive alien species.**
- The central government may authorise an officer to seize and dispose the invasive species.

Control of sanctuaries:

- The **Act entrusts the Chief Wild Life Warden to control, manage and maintain all sanctuaries in a state.**
- The Bill specifies that actions of the Chief Warden must be in accordance with the management plans for the sanctuary.
- These plans will be prepared as per guidelines of the central government, and as approved by the Chief Warden.
- For sanctuaries falling under special areas, the management plan must be prepared after due consultation with the **concerned Gram Sabha.**
- Special areas include a Scheduled Area or areas where the Scheduled Tribes and Other Traditional Forest

Dwellers (Recognition of Forest Rights) Act, 2006 is applicable

Conservation reserves:

- Under the Act, state governments may declare areas adjacent to national parks and sanctuaries as a conservation reserve, for protecting flora and fauna, and their habitat.
- **The Bill empowers the central government to also notify a conservation reserve.**

Surrender of captive animals:

- The Bill provides for any person to voluntarily surrender any captive animals or animal products to the Chief Wild Life Warden.
- The surrendered items become property of the state government.

Penalties: The Act prescribes imprisonment terms and fines for violating the provisions of the Act. The Bill increases these fines.

CITES

- The **Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)** is an **international agreement** to which States organizations adhere voluntarily.
- CITES was **drafted as a result of a resolution adopted in 1963** at a meeting of members of the International Union for Conservation of Nature (IUCN).
- **CITES entered into force in July 1975.**

Objective:

- Ensure that **international trade in specimens of wild animals and plants does not threaten their survival.**

Structure:

- The **CITES Secretariat is administered by UNEP** (The United Nations Environment Programme) and is located at Geneva, Switzerland.
- It plays a **coordinating, advisory and servicing role** in the working of the Convention.
- The **Conference of the Parties to CITES** is the **supreme decision-making body** of the Convention and comprises all its Parties.
- **Although CITES is legally binding on the Parties, it does not take the place of national laws.**

Functions

- The CITES works by subjecting international trade in specimens of selected species to certain controls.
- All **import, export, re-exports and introduction from the sea of species covered by the Convention** has to be authorized through a licensing system.
- Each Party to the Convention must **designate one or more Management Authorities** in charge of administering that licensing system and **one or more Scientific Authorities** to advise them on the effects of trade on the status of the species.
- **Appendices I, II and III** to the Convention are lists of species afforded different levels or types of protection from over-exploitation.

Coastal Regulation Zone

In News: Comptroller and Auditor General (CAG) of India tabled a report in Parliament on whether steps taken by the Union Environment Ministry to conserve India's coastal ecosystems have been successful.

What are the Centre's obligations on conserving the coastline?

- The government has issued notifications under the Environment Protection Act, 1986, to regulate activities along India's coasts particularly regarding construction.
- The Coastal Regulation Zone Notification (CRZ) 2019, implemented by the Ministry, classifies the coastal area into different zones to manage infrastructure activities and regulate them.
- The **three institutions responsible** for the implementation of the CRZ are the **National Coastal Zone**

Management Authority (NCZMA) at the Centre, the **State/Union Territory Coastal Zone Management Authorities (SCZMAs/UTCZMAs)** in every coastal State and Union Territory and the **District Level Committees (DLCs)** in every district that has a coastal stretch and where the CRZ notification is applicable.

What did the audit find?

The audit pointed out various categories of violations.

- Environment Ministry hadn't notified NCZMA as a permanent body and it was being reconstituted every few years. In absence of defined membership, **it was functioning as an ad-hoc body.**
- There were instances of the **Expert Appraisal Committees** — a committee of scientific experts and senior bureaucrats who evaluate the feasibility of an infrastructure project and its environmental consequences — **not being present during project deliberations.**
- The **SCZMA had not been reconstituted in Karnataka** and there was delayed reconstitution in the States of Goa, Odisha and West Bengal.
- The DLCs of Tamil Nadu **lacked participation from local traditional communities.**
- There were instances of projects being approved despite inadequacies in the Environment Impact Assessment (EIA) reports.

What are CRZ norms?

- In India, the CRZ Rules govern **human and industrial activity close to the coastline**, in order to protect the fragile ecosystems near the sea.
- They **restrict certain kinds of activities** — like **large constructions, setting up of new industries, storage or disposal of hazardous material, mining, reclamation and bunding** — within a certain distance from the coastline.
- **In 2018-19, fresh Rules were issued**, which aimed to remove certain restrictions on building, streamlined the clearance process, and aimed to encourage tourism in coastal areas.
- While the CRZ Rules are made by the Union environment ministry, implementation is to be ensured by state governments through their Coastal Zone Management Authorities.

Classifications of Coastal Zones under CRZ Notification 2011:

CRZ-I (ecologically sensitive areas like mangroves, coral reefs, biosphere reserves etc.).

- **No new construction shall be permitted in CRZ-I except**
 - Projects relating to the Department of Atomic Energy;
 - Construction of trans-harbour sea link and roads without affecting the tidal flow of water, between LTL and HTL. etc.
- Between **Low Tide Line and High Tide Line** in areas which are not ecologically sensitive, the following may be **permitted**;
 - Exploration and extraction of natural gas;
 - Construction of basic amenities like schools, roads, etc. for traditional inhabitants living within the biosphere reserves;
 - Salt harvesting by solar evaporation of seawater;
 - Desalination plants;
 - Storage of non-hazardous cargo such as edible oil, fertilizers within notified ports;

COAST CUTTER

CLASSIFICATION


CRZ I | Ecologically sensitive areas like sanctuaries, reserve forests, mangroves, coral reefs, turtle-nesting grounds, which could be inundated due to rise in sea level

CRZ II | Areas which have already been developed up to the shoreline within municipal or corpn limits


CRZ III A | CRZ III areas with a population of more than 2,161 per sqkm. Here, 50m from high tide will be no-development zone (NDZ)


CRZ III B | Other CRZ III areas with less population. Here area up to 200m from the HTL on the landward side will be earmarked as NDZ


BOOST FOR TOURISM


➤ With the freeze on constructions along the coastal zone more or less lifted, the tourism sector will be the biggest beneficiary 




 ➤ Toilets, changing rooms, drinking water facility and temporary shacks can be constructed even on beaches

➤ Existing residential buildings can be converted into homestays without increasing the plinth area 

➤ CRZ will not be a bar for public utilities like roads even if it passes through mangrove forests 

➤ Introduction of CRZ-III into A and B clauses will address state's main concern of issuing permission to dwelling units as well 

BACKGROUND

➤ Under Environment Protection Act, 1986 a notification was issued in February 1991 for regulation of activities in coastal area by the ministry of environment and forests 

➤ Coastal land up to 500m from the high tide line (HTL) and area of 100m along banks of estuaries, backwater, creeks and rivers which are subject to tidal fluctuations are called coastal regulation zone (CRZ)

CRZ-II (Areas which are developed up to the shoreline and falling within the municipal limits; includes built-up area – villages and towns are that are already well established),

- Buildings are permissible on the landward side of the hazardous line.
- Other activities such as desalination plants are also permissible.
- Some construction is permitted only as per guidelines specified by the notification.

CRZ-III: Areas that are relatively undisturbed and do not fall under either in Category I or II and also include **rural and urban areas that are not substantially developed.**

- Between 0-200 metres from HTL is a No Development Zone where no construction shall be permitted.
- Only certain activities relating to agriculture, forestry, projects of Department of Atomic Energy, mining of rare minerals, salt manufacture, regasification of petroleum products, non-conventional energy sources and certain public facilities may be permitted in this zone.
- Between 200-500 metres of HTL, those permitted in 0-200 metres zone, construction of houses for local communities and tourism projects are permissible.

CRZ-IV: The aquatic area from **low tide line up to territorial limits** is classified as CRZ-IV including the area of the tidal influenced water body.

- There is no restriction on the traditional fishing undertaken by local communities.
- No untreated sewage or solid waste shall be let off or dumped in these areas.

New Rules under CRZ regulations

- The government notified new CRZ Rules with the stated objectives of promoting sustainable development and conserving coastal environments.
- For the so-called **CRZ-III (Rural) areas, two separate categories have been stipulated.**
- In the **densely populated rural areas (CRZ-IIIA) with a population density of 2,161** per sq km as per the 2011 Census, the **no-development zone is now 50 m** from the high-tide level, as against the 200 m stipulated earlier.
- In the **CRZ-IIIB category (rural areas with population density below 2,161 per sq km)** continue to have a **no-development zone extending up to 200 m from the high-tide line.**
- The new Rules have a **no-development zone of 20 m for all islands close to the mainland coast, and for all backwater islands in the mainland.**

Arctic warming

Context: On August 11, Finnish Meteorological Institute researchers published their study in the Communications Earth & Environment journal, concluding that the **Arctic is heating four times faster than the rest of the planet.**

The warming is **more concentrated in the Eurasian part of the Arctic**, where the Barents Sea north of Russia and Norway is warming at an alarming rate — seven times faster than the global average.

What is Arctic amplification? What causes it?

- **Global warming** expedited due to anthropogenic forces since pre-industrial times and has **increased the planet's average temperature by 1.1 degrees Celsius.**
- While changes are witnessed across the planet, any change in the surface air temperature and the net radiation balance tend to produce larger changes at the north and south poles.
- This **phenomenon is known as polar amplification**; these changes are **more pronounced at the northern latitudes and are known as the Arctic amplification.**
- Among the many global warming-driven causes for this amplification, the **ice-albedo feedback, lapse rate feedback, water vapour feedback and ocean heat transport are the primary causes.**
- **Sea ice and snow have high albedo** implying that they are capable of reflecting most of the solar radiation as opposed to water and land.
- In the Arctic's case, **global warming is resulting in diminishing sea ice.**
- As the sea ice melts, the Arctic Ocean will be more capable of absorbing solar radiation, thereby driving the amplification. The ice-albedo feedback and the lapse rate feedback are responsible for 40% and 15% of polar amplification respectively.

What are the consequences of Arctic warming?

- The causes and consequences of Arctic amplification **are cyclical — what might be a cause can be a consequence too.**
- The Greenland ice sheet saw a sharp spike in the rate and extent of melting between July 15-17 of this year was very high.
- The **unusual summer temperatures resulted in a melt of 6 billion tonnes of ice sheet per day, amounting to a total of 18 billion tonnes in a span of three days, enough to cover West Virginia in a foot of water.**
- In 2019, Greenland ice melt was the **single biggest cause for the rise in the sea level, about 1.5 metres.**
- If the sheet melts completely, the sea level would rise by seven metres, capable of subsuming island countries and major coastal cities.
- The warming of the Arctic Ocean and the seas in the region, the **acidification of water, changes in the salinity levels, is impacting the biodiversity**, including the marine species and the dependent species.

- The Arctic amplification is causing widespread starvation and death among the Arctic fauna.
- The permafrost in the Arctic is thawing and in turn releasing carbon and methane which are among the major greenhouse gases responsible for global warming.
- The thaw and the melt will also release the long-dormant bacteria and viruses that were trapped in the permafrost and can potentially give rise to diseases.
- The best-known example of this is the permafrost thaw leading to an anthrax outbreak in Siberia in 2016, where nearly 2,00,000 reindeer succumbed.

What is the impact on India?

- The link between the changing Arctic and the monsoons in the subcontinent is growing in **importance due to the extreme weather events the country faces, and the heavy reliance on rainfall for water and food security.**
- A study titled ‘A possible relation between Arctic sea ice and late season Indian Summer Monsoon Rainfall extremes’ found that the **reduced sea ice in the Barents-Kara sea region can lead to extreme rainfall events** in the latter half of the monsoons — in September and October.
- The changes in the atmospheric circulation due to diminishing sea ice combined with the warm temperatures in the Arabian Sea contribute to enhanced moisture and drive extreme rainfall events.
- According to the World Meteorological Organization’s report, ‘State of Global Climate in 2021’, sea level along the Indian coast is rising faster than the global average rate. One of the primary reasons for this rise is the melting of sea ice in the Polar Regions, especially the Arctic.

The Arctic amplification furthers the idea that “what happens in the Arctic does not remain in the Arctic” and can substantially affect tropical processes far south.

Europe’s great drought

Context: Europe is experiencing the great drought.

- Some of **Europe’s biggest rivers — Rhine, Po, Loire, Danube** — which are usually formidable waterways, are **unable to support even mid-sized boats.**
- As water levels have fallen, remains of sunken ships and ominously named hunger stones — rocks engraved by previous generations during earlier periods of extraordinary dryness — have come out of erstwhile depths.
- The drought has been billed as **the worst in 500 years.**
- It is being said that never has a **European summer been so dry since 1540**, when a year-long drought killed tens of thousands of people.
- The **dry spell this year follows a record-breaking heatwave** that saw temperatures in many countries rise to historic highs.

The **impact has been debilitating.**

- Water **transport has suffered badly**, and is **having cascading effects.**
- **Power production has been hit**, leading to electricity shortages and a further increase in energy prices already pushed high by the war in Ukraine.
- **Food is sharply more expensive in many countries, and drinking water is being rationed in some regions.**

Worst drought in past 500 years

- Earlier European droughts — such as those in 2003, 2010, and 2018 — too were compared to the 1540 event.
- Much like now, the 2018 drought was described as the “worst in 500 years”.
- But a senior scientist at the European Commission’s Joint Research Centre said this year could turn out to be worse than 2018, though data were still being analysed.

- The “worst in 500 years” description may be still not settled, but the impacts of this event are expected to be far worse than anything experienced in the recent past.
- **Europe has been facing large scale climatic anomalies for over six months** — precipitation has been far less than usual, while temperatures have soared to unprecedented levels.
- And this has come on top of the massive energy and food-supply implications of the Ukraine war.

Waterways and power

- Apart from agriculture and drinking water supplies, the most visible impact has been the disruption in Europe’s waterways.
- Europe depends heavily on its rivers to move cargo in an economical manner, including coal to power plants.
- With water levels down to less than a metre in some stretches, most large ships have been rendered unusable.
- Supply disruptions in coal have hit power generation.
- Lack of adequate water has affected the operation of nuclear power plants, which use large amounts of water as coolant.
- The result has been a shortage of electricity and an unprecedented rise in energy prices.

Drought in China, US too

- Many parts of **China too are headed towards a serious drought**, being described as the worst in 60 years.
- The country’s **longest river, Yangtze**, which caters to about a third of the Chinese population, is seeing water levels drop to record lows, according to a report in the South China Morning Post.
- Two of the **country’s biggest freshwater lakes, Poyang and Dongting**, have touched their lowest levels since 1951, the report said.
- The water scarcity is leading to problems similar to those in Europe. Power shortages in some areas have begun to force factories to shut, adding to the strain on global supply chains.
- **Over 40% of the area in the United States too is under drought conditions currently, affecting about 130 million people**, according to the US government.



SOCIETY & SOCIAL ISSUES



Number of women scientists goes up

In News: The appointment of **Dr N Kalaiselvi** as the first woman director general of India's largest research and development organisation, the **80-year-old Council of Scientific and Industrial Research (CSIR)**, underlined a significant trend — official data show the participation of women in science research has been generally increasing over the past two decades in the country.

Stats

- More than a quarter — **28%** — of participants in extramural R&D projects in 2018-19 were women, up from 13% in 2000-01 due to various initiatives taken by successive governments.
- The number of women principal investigators in **R&D had risen more than four times from 232 in 2000-01 to 941 in 2016-17.**
- The percentage of **women among researchers went from 13.9% in 2015 to 18.7% in 2018.**
- Results of the All India Survey on Higher Education (AISHE) 2019 showed a 53% and 55% participation of women in science education at the Bachelor's and Master's levels respectively, numbers that are comparable with many developed countries. But at doctoral level, women graduates (44%) lagged behind men (56%).
- Department of Science and Technology supported **Gender Advancement for Transforming Institutions (GATI) project, based on the UK's Athena Swan Charter**, and was introduced.
- In the first phase of GATI, 30 educational and research institutes have been selected by DST, with a focus on women's participation in leadership roles, faculty, and the numbers of women students and researchers.

What are the Causes for Under-representation?

Stereotypes: The paucity of women in STEM is not merely due to skill inadequacy, but also a result of assigned stereotypical gender roles.

Patriarchal and Societal Causes: There are patriarchal attitudes in hiring practices or awarding fellowships and grants etc. Matters related to marriage and childbirth, responsibility related to running of households and elder care further hinder the representation of women in these 'non-conventional' fields.

Lack of Role Models: Lack of women leaders and women role models may be preventing more women from entering these fields.

Absence of Supportive Institutional Structure: Women leave the workforce, due to the absence of supportive institutional structures during pregnancy, safety issues in fieldwork and workplace.

Initiatives launched to Promote Women in Science

- **Vigyan Jyoti Programme** was launched to address the underrepresentation of women in different fields of Science Technology Engineering and Mathematics (STEM) in the country.
- **KIRAN scheme** was launched in 2014-15 to provide opportunities for women scientists in moving up the academic and administrative ladder.
- The Department of Science & Technology has also additionally established **Artificial Intelligence (AI) labs** in women universities with the goal to foster AI innovations and to prepare skilled manpower for AI-based jobs in future.
- Under the **Indo-US Fellowship for Women in STEMM (WISTEMM) program**, women scientists can work in research labs in the US.
- The **Gender Advancement for Transforming Institutions (GATI) program** was launched to develop a

comprehensive Charter and a framework for assessing Gender Equality in STEM.

Way Forward

- The **problem needs to be addressed at two levels – at societal level** which requires long term effort and the **policy and institutional level**, which can be started with immediate effect.
- There is an immediate need to **invest in supporting infrastructure, incentivising institutions to promote gender equity, transparency in decision making** etc. to bridge the persisting gender imbalance in STEM majors.
- However, schools need to break the **'gendered notions of intelligence'** and encourage girls not only to take science at secondary and higher secondary level but also to pursue their career in STEM.
- This would help not only in women being able to chase their dreams but science itself would be benefitted from other points of view.

While the situation is definitely improving, and the increase in numbers of women in STEM is indicative of this, the road is yet long. We have a long way to go.

National tribal health mission

Context: For the first time since independence, a **tribal President has become a reality in India**. On this **International Day of the World's Indigenous Peoples**, let us explore how this symbolic gesture can be turned into a health revolution for the tribal people of India.

- Nearly **11 crore tribal people** (enumerated as Scheduled Tribes (ST) in the Census of India (2011) live in India.
- They constitute **8.6% of India's population**, the **second largest number of tribal people in any country in the world**.
- A study published in The Lancet, titled 'Indigenous and Tribal Peoples' Health' (2016), found that **India held the inglorious distinction of having the second highest infant mortality rate for the tribal people**, next only to Pakistan.
- In 2018, the **first national report on the state of India's tribal people's health** was submitted to the Government of India by the Expert Committee on Tribal Health.
- The 13-member committee was jointly appointed by the Ministry of Health and Family Welfare and the Ministry of Tribal Affairs, Government of India.

Findings

- Firstly, tribal people are **concentrated in 809 blocks in India**. Such areas are designated as the Scheduled Areas.
- **Half of India's tribal population, nearly five and a half crore, live outside the Scheduled Areas**, as a scattered and marginalised minority.
- Second, the health status of tribal people has certainly improved during the last 25 years as seen in the decline in the under-five child mortality rate from 135 in 1988 in the National Family Health Survey (NFHS)-1 to 57 in 2014 (NFHS-4). However, **the percentage of excess of under-five mortality among STs compared to others has widened**.
- Third, **child malnutrition is 50% higher in tribal children**: 42% compared to 28% in others.
- Fourth, **malaria and tuberculosis are three to 11 times more common among the tribal people**.
 - Though the tribal people constitute only 8.6% of the national population, half of the total malaria deaths in India occur among them.
- Fifth, while malnutrition, malaria and mortality continue to plague tribal people, gradually, the **more difficult to treat non-communicable diseases** such as hypertension and diabetes, and worse, mental health problems such as depression and addiction leading to cancer and suicide, are increasing. These threaten the health and survival of tribal adults.

- Sixth, tribal people **heavily depend on government-run public health care institutions**, there is a **27% to 40% deficit in the number of such facilities**, and 33% to 84% deficit in medical doctors in tribal areas.
- Seventh, there is **hardly any participation of the tribal people** – locally or at the State or national level – **in designing, planning or delivering health care to them**.

The official policy of allocating and spending an additional financial outlay, called Tribal Sub-Plan (TSP), equal to the percentage of the ST population in the State, has been completely flouted by all States.

A road map

- Firstly, **launch a National Tribal Health Action Plan** with a goal to bring the status of health and healthcare at par with the respective State averages in the next 10 years.
- Second, the committee suggested **nearly 80 measures to address the 10 priority health problems, the health care gap, the human resource gap and the governance problems**.
- Third, the committee suggested **allocation of additional money so that the per capita government health expenditure on tribal people becomes equal to the stated goal of the National Health Policy (2017)**, i.e. 2.5% of the per capita GDP.

The tribal healthcare system is sick, and tribal people need more substantive solutions. India need to move from symbolic gestures to substantive promises, from promises to a comprehensive action plan, and from an action plan to realising the goal of a healthy tribal people.

India's sex ratio at birth normalises slightly

In News: Study says sex ratio at birth fell from 111 boys per 100 girls in 2011 to 108 boys per 100 girls in 2019-21.

- The latest study by **Pew Research Center** has pointed out that **“son bias” is on a decline in India** and the **average annual number of baby girls “missing” in India fell from about 480,000 (4.8 lakh) in 2010 to 410,000 (4.1 lakh) in 2019**.
- The “missing” here refers to how many more female births would have occurred during this time if there were no female-selective abortions.
- Among the major religions, **the biggest reduction in sex selection seems to be among the groups that previously had the greatest gender imbalances**, particularly among Sikhs.
- World over, boys modestly outnumber girls at birth, at a ratio of approximately 105 male babies for every 100 female babies.
- That was the ratio in India in the 1950s and 1960s, before prenatal sex tests became available across the country.
- India legalised abortion in 1971 but the trend of sex selection started picking up in the 1980s due to the introduction of ultrasound technology.
- In the 1970s, India's sex ratio was at par with the global average of 105-100, but this widened to 108 boys per 100 girls in the early 1980s, and reached 110 boys per 100 girls in the 1990s.
- From a large imbalance of about 111 boys per 100 girls in India's 2011 census, the sex ratio at birth appears to have normalised slightly over the last decade, narrowing to about 109 in the 2015-16 wave of the National Family Health Survey and to 108 boys in the latest wave of the NFHS, conducted from 2019-21.
- The Pew Research Center report points out that between 2000-2019, nine crore female births went “missing” because of female-selective abortions.
- The report has also analysed religion-wise sex selection, pointing out that the gap was the highest for Sikhs.
- The study points out that while the Sikhs make up less than 2% of the Indian population, they accounted for an estimated 5%, or approximately 440,000 (4.4 lakh), of the nine crore baby girls who went “missing” in India between 2000 and 2019.
- The share of “missing” girls among Hindus is also above their respective population share. “Hindus make up

80% of India's population but accounted for an estimated 87%, or approximately eight crores of the females "missing" due to sex-selective abortions.

- The share of female births "missing" among Muslims and Christians during this period is lower than each group's share of the Indian population.

Measures taken by Government to fight sex selective abortions

Pre-Conception and Pre-Natal Diagnostic Techniques Act

- The act was enacted in **1994 in response to the decline in Sex ratio in India**, which deteriorated from **972 in 1901 to 927 in 1991**.
- The main purpose of the act is to **ban the use of sex selection techniques before or after conception and prevent the misuse of prenatal diagnostic technique** for sex selective abortion.

Salient features of the act:

- It regulates the **use of pre-natal diagnostic techniques**, like ultrasound and amniocentesis by allowing them their use only to detect few cases.
- No laboratory or centre or clinic will conduct **any test including ultrasonography for the purpose of determining the sex of the foetus**.
- No person, including the one who is conducting the procedure as per the law, will **communicate the sex of the foetus** to the pregnant woman or her relatives by words, signs or any other method.
- Advertisement for pre-natal and pre-conception sex determination facilities will attract fine of Rs 10000 and imprisonment upto 3 years.
- The Act mandates **compulsory registration of all diagnostic laboratories, all genetic counselling centres, genetic laboratories, genetic clinics and ultrasound clinics**.
- The Act was amended to bring the technique of pre conception sex selection and ultrasound technique within the ambit of the act.
- The 2003 amendment to the act led to **establishment of the central supervisory board and state level supervisory board** was constituted.

Other measure taken by government to improve condition of females:

'Beti Bachao, Beti Padhao' campaign

The objectives of this initiative are to **prevent of gender biased sex selective elimination**, and to ensure **survival and protection of the girl child**. The strategies involved in this scheme are:

- Implement a sustained **Social Mobilization and Communication Campaign** to create equal value for the girl child & promote her education.
- Place the issue of decline in CSR/SRB in public discourse, improvement of which would be a indicator for good governance.
- Focus on Gender Critical Districts and Cities low on CSR for intensive & integrated action.
- Mobilize & Train Panchayati Raj Institutions/Urban local bodies/ Grassroot workers as catalysts for social change, in partnership with local community/women's/youth groups.

Legislations for creating a safe and secure environment for females.

- [POCSO Act](#) (Prevention of Children from Sexual offences)
- [Sexual Harassment at Workplace](#) (Prevention, Prohibition and Redressal) Act
- Changes in the Criminal Law on the recommendations of Justice Verma Committee

Enhanced Focus on Health & Education of Child

- Provision of better nutrition through ICDS and MDM.
- Janani Shishu Suraksha Karyakaram
- Scholarship schemes like Pragati
- Special girl's school like Kasturba Gandhi Balika Vidyalayas

Political Empowerment

- Reservation of seats for women in Panchayats and Urban Local bodies are provided to enhance the decision making powers of women which leads to increased awareness among women about their rights especially reproductive rights.

Must Read: [Child Malnutrition](#)

National Crime Records Bureau (NCRB) Report

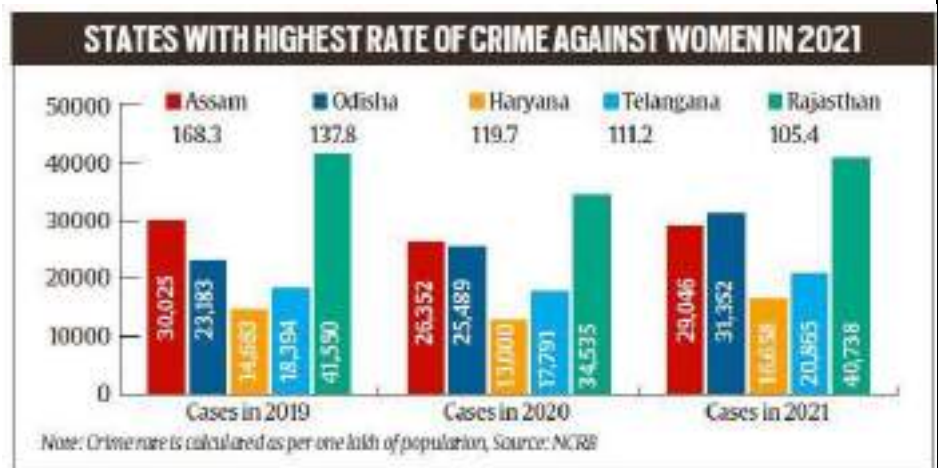
Context: Recently, National Crime Records Bureau (NCRB) released its report.

- **Daily wage earners** remained the largest profession-wise group among **suicide victims in 2021**.
- Significant rise in **crimes against women** and while **chargesheet rate low**.
- Rise in **crime against children and POCSO accounts** third highest crime against the children.
- Punjab has highest **no of crimes rate under NDPS (Narcotic Drugs and Psychotropic Substances)**.
- There is increase in **crime against scheduled tribes (STs)** registration as increase of **6.4% from 8,272 cases in 2020 to 8,802 in 2021** whereas cases of atrocities against scheduled castes (SCs) registered an increase of 1.2% in 2021.

Significant rise in crimes against women and while chargesheet rate low:

- There is **alarming rise of 40% in crimes against women and children** however only **31% of IPC cases being charge sheeted**.
- A rapid 111% jump in cases of cybercrimes.
- Majority of cases under **crime against women under IPC were registered under ‘Cruelty by Husband or His Relatives’ (31.8 per cent)** followed by **‘Assault on Women with Intent to Outrage her Modesty’ (20.8 per cent)**,
- **Uttar Pradesh (56,083), Rajasthan (40,738) and Maharashtra (39,526)** recorded the highest number of cases from state.
- In capital city, according to data, **with 356 cases in 2021, there has been a 111% rise in cases of online fraud, online harassment, publication of explicit content, etc.**

- The report **“Accidental Deaths and Suicides in India”** shows that **daily wage earners** remained the largest profession-wise group among **suicide victims in 2021, accounting for 42,004 suicides (25.6 per cent)**
- At the national level, number of suicides increased by **7.17 per cent from the years 2020 to 2021**.



- However, the number of suicides in the daily wage group rose by 11.52 per cent during this period. Therefore, growth in suicide in daily wage in more than national average.
- According to the report, **10,881 suicides were recorded in the “Persons engaged in farming sector” group in 2021, including 5,318 under “farmer/cultivator” and 5,563 “agricultural labourers”**.
- From the nationwide number in 2021, the maximum of **22,207 suicides were recorded in Maharashtra, followed by Tamil Nadu (18,925), Madhya Pradesh (14,956), West Bengal (13,500) and Karnataka**

(13,056). Among Union Territories, **Delhi recorded the highest number of 2,840 suicides.**

Punjab has highest no of crimes rate under [NDPS Act](#)

- Punjab again topped the list of crime rate (per lakh population) in cases lodged last year **under the Narcotics Drugs and Psychotropic Substances (NDPS) Act**
- The report further showed that **Himachal Pradesh — with a population of 74.06 lakh people as per NCRB — ended second on the list in the same category.**

Rise in registered cases under UAPA

- 814 cases were registered under the Unlawful Activities Prevention Act (UAPA) as compared to **796 cases in 2020** while **76 cases of sedition** were registered in 2021 as compared to **73 in 2020.**

National Crime Records Bureau (NCRB):

- NCRB was **set-up in 1986** to function as a repository of information on crime and criminals to assist the investigators in linking crime to the perpetrators.
- It was recommended by **Tandon Committee, National Police Commission (1977-1981) and the MHA’s Task force (1985).**
- NCRB is entrusted with the responsibility for monitoring, coordinating, and implementing the **Crime and Criminal Tracking Network & Systems (CCTNS) project.**
- It is headquartered in **New Delhi** and is part of the **Ministry of Home Affairs.**
- Its publications include:
 - **Accidental Deaths & Suicides in India**
 - **Prison Statistics India**
 - **Fingerprints in India**
 - **Report on missing women and children in India**





SECURITY ISSUES



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

In News: The Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Amendment Bill, 2022, was passed in Rajya Sabha.

- The Bill **amends the Weapons of Mass Destruction and their Delivery Systems (Prohibition of Unlawful Activities) Act, 2005.**
- The 2005 Act prohibits unlawful activities (such as manufacturing, transport, or transfer) related to **weapons of mass destruction, and their means of delivery.**
- **Weapons of mass destruction are biological, chemical, or nuclear weapons.**

Amendments

- **Prohibition on financing certain activities:** The Bill bars **persons from financing any prohibited activity** related to weapons of mass destruction and their delivery systems.
- To prevent persons from financing such activities, **the central government may freeze, seize or attach their funds, financial assets, or economic resources** (whether owned, held, or controlled directly or indirectly).
- It may also **prohibit persons from making finances or related services available for the benefit of other persons in relation to any activity which is prohibited.**

Benami Transaction Amendment Act (2016)

In News: The Supreme Court has ruled that **Section 3(2) of the Benami Transactions (Prohibition) Act, 1988 is unconstitutional** as it is manifestly arbitrary.

- It further said that the **Benami Transactions (Prohibition) Amendment Act, 2016 can be applied only prospectively and not retrospectively.**

Judgment

- A three-judge Bench, **declared as unconstitutional Sections 3(2) and 5 introduced through the Benami Transactions (Prohibition) Amendment Act, 2016.**
- The 2016 law amended the original Benami Act of 1988, expanding it to 72 Sections from a mere nine.
- **Section 3(2) mandates three years of imprisonment for those who had entered into benami transactions between September 5, 1988 and October 25, 2016.**
- That is, a person can be **sent behind bars for a benami transaction entered into 28 years** before the Section even came into existence.
- The bench held that **the provision violated Article 20(1) of the Constitution.**

Article 20: Protection in Respect of Conviction for Offences

- Article 20 grants protection **against arbitrary and excessive punishment** to an accused person, whether citizen or foreigner or legal person like a company or a corporation.
- It contains three provisions in that direction:
 1. **No ex-post-facto law:** No person shall be (i) convicted of any offense except for violation of a law in force at the time of the commission of the act, nor (ii) subjected to a penalty greater than that prescribed by the law in force at the time of the commission of the act.
 2. **No double jeopardy:** No person shall be prosecuted and punished for the same offense more than once.
 3. **No self-incrimination:** No person accused of any offense shall be compelled to be a witness against

himself.

What is Benami Transaction?

- Benami literally means '**without a name**'. Therefore, an **asset without a legal owner or a fictitious owner is called benami**.
- It can be a **property of any kind**, whether movable or immovable, acquired by way of benami transaction.

Benami Transaction (Prohibition) Act, 1988:

- Benami transactions were first prohibited in India under Section 2(a) of the Benami Transactions (Prohibition) Act, 1988.
- The legislative intent behind the prohibition on benami transactions was to **deter people from engaging in such transactions for dishonourable purposes**, such as money laundering, tax evasion, etc.
- However, **no rules were enacted to govern the procedural execution of the legislation**.
- As a result, until the changes made by the Benami Transactions (Prohibition) Amendment Act 2016, the original Act's practical application was ineffective.

Benami Transactions (Prohibition) Amendment Act 2016:

- In July 2016, "The Benami Transactions (Prohibition) Amendment Act, 2016" was enacted.

Defined Benami Transactions

- Where a property is transferred to or is held by a person and the consideration for such property has been **provided by another person**.
- Transaction or arrangement in respect of a property carried out or made in a **fictitious name**.
- Transaction or arrangement in respect of a property where the **owner of the property is not aware of or denies knowledge of such ownership**.
- Transaction or an arrangement in respect of a property where the **person providing the consideration is not traceable or is fictitious**.

Defined the Benamidar –

- 'Benamidar' implies a person or a fictitious person, in whose name a benami property is transferred or held.
- Law provides that a Benamidar **cannot re-transfer the benami property held by him to the beneficial owner**.

Scope of the term 'Property' –

- It may be **movable or immovable, tangible or intangible**, and **corporeal or incorporeal**.

Power of Authorities –

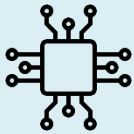
- Provides for an **Appellate Tribunal** to hear appeals against any orders passed by the Adjudicating Authority.
- Appeals against orders of the Appellate Tribunal will lie to the high court.
- The special court should conclude the **trial within six months** from the date of filing of the complaint.

The prescribed authorities under the Act have very wide powers –

- Discovery and inspection.
- Enforcing the attendance of any person, including officers of banking, financial institution, any other intermediary or reporting entity.
- Authority to instruct to produce the books of accounts.
- Receiving evidence on affidavits.
- Confiscation of benami property – The Act empowers the authorities to provisionally attach properties.
- Once it is adjudicated that a property is benami, it can be confiscated by the Central government.

Penal consequences –

- A person found guilty of the offence of benami transaction can face rigorous imprisonment from one to seven years.
- Fine is also levied up to 25% of the fair market value of the property.



SCIENCE & TECHNOLOGY



5G Auctions

Context: India successfully concluded the 5G auction on 1 August with bids worth around 150173 crore. The auction saw India's major telecom operators participating- Reliance Industries Jio, Bharti Airtel, and Vodafone Idea.

What is 5G?

- 5G is the fifth generation cellular technology that apart from increasing the downloading and uploading **speeds**(speed of 1 Gbps) over the mobile network, also reduces the **latency** i.e. the time taken by a network to respond.

What are the advantages of 5G?

- **High Speeds:** Imagine downloading a full HD movie in under 3 seconds. That's how fast downloads are with 5G. 5G is capable of delivering speeds up to 20Gbps with a 100x increase in traffic capacity and network efficiency.
- **Reduced Latency:** Also, with mmWave, you can even achieve latency of just 1ms which helps with immediate connection establishment and that subsequently reduces network traffic.
- **Foundation for latest technologies:** It is believed that at its full potential 5G will be able to offer speeds that can render augmented reality in real-time. This will further lead to the development of more hardware that works on augmented reality. This tech is also going to be the foundation for virtual reality, autonomous driving and the internet of things.
- **Ripple Effect:** The advantages of 5g will not only make your smartphone experience better but will also open up avenues for advancements in other fields like medical, infrastructure and even manufacturing.

How much spectrum was bought by the applicants?

About the different bands of spectrum:

- **700 MHz band-** It is best suited for coverage in high-density areas and is ideal for data networks and consumer-led services. It can provide a range of 6-10 kilometres.
- **26 GHz millimetre band-** It is ideal for enterprise level 5G applications including setting up private 5G networks.
- **800 MHz-2500 GHz spectrum bands-** The bidders bought airwaves primarily to increase their coverage of 4G and fill gaps in circles where the 4G network had started to congest.

3D printing

In News: Researchers from Hyderabad have 3D-printed an artificial cornea and transplanted it into a rabbit's eye.

What is 3D Printing?

- 3D printing uses **computer-aided design (CAD)** to create **3-dimensional objects** through a **layering method**.

Principle of 3D printing:

- In 3D printing, a 3D printer makes a three-dimensional object from a CAD (computer-aided design).
- The creation of a **3D printed object is achieved using additive processes**.
- In an additive process an object is created by **laying down successive layers of material until the object is created**.
- Each of these layers can be seen as a thinly sliced cross-section of the object.
- 3D printing **enables us to produce complex shapes** using less material than traditional manufacturing methods.

The most common 3D printing raw materials are the commodity thermoplastic polymers:

- Acrylonitrile butadiene styrene (ABS)
- Polylactic acid (PLA)
- Polyethylene terephthalate glycol-modified (PETG).

Advantages of 3D Production Process

- **Faster production** - 3D printing can manufacture parts within hours, which speeds up the prototyping process. This allows for each stage to complete faster.
- **Better quality products** - 3D printing produces a consistent quality of product.
- **Great for design and product testing** - 3D printing is one of the best tools for product design and testing. It offers opportunities to design and test models to allow refinement with ease.
- **Cost-effective** - 3D printing can be a cost-effective means of production. Once the model is created, the process is usually automated, and raw material waste tends to be limited.
- **Product designs are almost infinite** - The possibilities of 3D printing are almost limitless.
- **3D printers can print using various materials** - Some 3D printers can actually blend or switch between materials. In traditional printing, this can be difficult and expensive.
- **Environmentally Friendly** - As this technology reduces the amount of material wastage used this process is inherently environmentally friendly.
- **Advanced Healthcare:** 3D printing is being used in the medical sector to help save lives by **printing organs for the human body such as livers, kidneys and hearts**. Further advances and uses are being developed in the healthcare sector.

Disadvantages

- **Reduction in Manufacturing Jobs:** There could be potential reduction in human labour, since most of the production is automated and done by printers.
- **Limited Materials:** 3D Printing can create **items in a selection of plastics and metals**. But the available selection of raw materials is not exhaustive. This is due to the fact that not all metals or plastics can be temperature controlled enough to allow 3D printing. In addition, many of these printable materials cannot be recycled and very few are food safe
- **Restricted Build Size:** 3D printers currently have small print chambers which restrict the size of parts that can be printed. Anything bigger will need to be printed in separate parts and joined together after production. This can increase costs and time.
- **Design Inaccuracies:** Some printers having **lower tolerances**, meaning that final parts may differ from the original design.
- **Part Structure:** With 3D printing parts are produced **layer-by-layer**. Although these layers adhere together it also means that they can **delaminate under certain stresses or orientations**.

3D printing has the potential to democratize the production of goods, from food to medical supplies, to great coral reefs. In the future, 3D printing machines could make their way into homes, businesses, disaster sites, and even outer space. As this technology spreads, it could help connect marginalized and difficult-to-reach populations with essential products. All in all, this emerging technology has the potential to revolutionize our societies, and transform the development sector.

India Blockchain Platform

Context:

- **India** has made a significant effort to become a **digital society** by building a large **citizen-scale digital public infrastructure**.
- As, **with the commencement of the Digital India mission in 2015**, our payments, provident fund, passports,

driving licences, crossing tolls, and checking land records all have been transformed with modular applications built on **Aadhaar, UPI, and the India Stack**.

What are the Challenges of public digital infrastructure?

- For better **implementation of digital technology**, it is **prerequisite that digital infrastructure** should be designed based on **principles of availability, affordability, value, and trust**.
- This can be made by **using design principles, legislative frameworks, governance frameworks, and public engagement**.
- But the **current digital ecosystem**, it is identified that existing **different digital infrastructures** are not interconnected as a design; a technical integration is required to make them conversant and interoperable.
- **Most of available digital data** is stored on **private databases**, which makes the **validation of data more complex** as the network grows, driving up costs and creating inefficiencies.

Web 3.0 to address these challenges:

What is Web 3.0?

- **Web 3.0 (Web3)** is the **third generation of the evolution of web technologies**.
- The web, also known as the **World Wide Web**, is the **foundational layer** for how the internet is used, providing website and application services.
- **Web 3.0** will have a **strong emphasis on decentralized applications** and make **extensive use of blockchain-based technologies**.
- Web 3.0 will also make use of **machine learning and artificial intelligence (AI)** to help empower more intelligent and adaptive applications.
- **Web 3.0 architecture** can be the next **resilient platforms**, which is **capable of scaling and solving** the current challenges in a **cost-efficient manner**.
- The Web 3.0 architecture establishes a new version of the Internet protocol incorporating token-based economics, transparency, and decentralization.

Increasing global adoption of blockchain infrastructure:

- Many countries have already begun establishing their blockchain policies and infrastructure.
- **Estonia, the world's blockchain capital**, is using **blockchain infrastructure** to verify and process all **e-governance services** offered to the general public.
- **In Britain**, the Centre for **Digital Built Britain**, a partnership between the **University of Cambridge and the UK government** is running the **National Digital Twin (NDT)** program to foster collaboration between **owners and developers of digital twins** in the built environment
- There are also well-established **Decentralised finance (DeFi)** platforms that rely on blockchain infrastructure like **Ethereum**, however, pegged to the base cryptocurrencies owned by that platform.
- DeFi allows users to borrow and lend cryptocurrencies on a short-term basis at algorithmically determined rates.

Current regulation mechanism and what need to be done?

- Currently, the blockchain models are **unregulated and rely on intrinsic standards**.
- The **ideal solution** to solving most of the known issues of **decentralised technologies lies in the middle path**, i.e., a **national platform**.
 - blockchains (both permissioned and public),
 - application providers (decentralized applications — dApps — and existing),
 - Token service providers and infrastructure managers.

The **need of the hour** is to work on an **indigenous solution of the people, for the people, and by the people**. A **digital infrastructure based on blockchain technology** will transform the **digital ecosystem in India**, and will enable the **future of digital services, platforms, applications, content, and solutions**. Considering the current situation worldwide, one can safely assume that we are at the beginning of the curve, but the days are not far.



PRACTICE QUESTIONS



Q.1) Consider the following statements about Space Liability Convention of 1972.

1. The Launching States are liable for the damage caused by their space objects only on the surface of the earth but for the damage in space.
2. The convention also holds the Launching States responsible for the space junk crashing back to earth.

Choose the correct statement(s)

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.2) Consider the following statements about Electoral bonds.

1. Only State Bank of India is authorised to issue and encash these bonds.
2. These bonds are only redeemable in the designated account of a registered political party.
3. The donor's name is not mentioned on the bond.

Choose the correct statement(s)

- a) 1 only
- b) 1 and 2
- c) 2 and 3
- d) 1, 2 and 3

Q.3) Which of the below given pairs is/are correctly matched?

Exercise	Country
VINBAX	Vietnam
Nomadic Elephant	Mongolia

AL NAJAH-IV	Oman
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Choose the correct code from below:

- a) 1 only
- b) 2 and 3
- c) 2 only
- d) 1, 2 and 3

Q.4) Which of the below given pairs is/are correctly matched?

Port	Country
Astrakhan port	Russia
Anzali port	Azerbaijan
Bandar Abbas	Iran

Choose the correct code:

- a) 3 only
- b) 1 and 3
- c) 2 and 3
- d) 2 only

Q.5) Consider the following statements

1. The State Governments are the owners of minerals located within the boundary of the State concerned
2. To grant mineral concessions for minerals specified in the First Schedule to the Mines and Minerals (Development and Regulation) Act, 1957 approval of the Central Government is necessary

Choose the correct statement(s)

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.6) Consider the following statements about Regenerative braking

1. It recovers some of the kinetic energy that would otherwise turn into heat and instead converts it into electricity.
2. A regenerative braking system (RBS) used in automotive applications leads better braking efficiency in stop-and-go traffic which enhances fuel economy.

Choose the incorrect statement(s)

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.7) Exercise Pitch Black, a multilateral exercise recently seen in news is organised by which of the following organization/country?

- a) BMISTEC
- b) ASEAN
- c) Australia
- d) Vietnam

Q.8) Consider the following statements

1. The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) Secretariat is administered by United Nations Environment Programme.
2. The Conference of the Parties to CITES is the supreme decision-making body of the Convention.
3. Although CITES is legally binding on the Parties, it does not take the place of national laws.

Choose the correct statements:

- a) 1 and 2
- b) 2 and 3
- c) 1, 2 and 3

d) 1 and 3

Q.9) Consider the following statements about Mission Amrit Sarovar

1. The Mission is aimed at developing and rejuvenating 75 water bodies in each district of the country.
2. Bhaskaracharya National Institute for Space Application and Geo-informatics (BISAG-N) has been engaged as Technical partner for the Mission.

Choose the **incorrect** statement(s)

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.10) 'Minerals Security Partnership' seen in news is used in the context of

- a) Maritime Security
- b) Rare Earth Materials
- c) Hydrocarbons and Mineral Oil
- d) Major minerals supply chain

Q.11) Legendary artist late Jagannath Mohapatra is associated with the practise of which of the following traditional art?

- a) Kathak
- b) Pattachitra art
- c) Warli Painting
- d) Madhubani Painting

Q.12) In which of the Ramsar site, one can find the unique *phumdis*?

- a) Loktak Lake, Manipur
- b) Sunderbans, West Bengal
- c) Pala wetland, Mizoram
- d) Vembanad-Kole wetland, Kerala

Q.13) Which committee is related with the Personal Data Protection Bill, 2019?

- Justice Iyer Committee
- Justice J.S. Verma Committee
- Justice B.N. Srikrishna Committee
- Justice Rajinder Sachar Committee

Q.14) Consider the following statements with respect to 'Living Lands Charter'

- It is a non-binding agreement adapted by all the members of the Commonwealth.
- It aims to support member countries to effectively deliver their commitments under UNFCCC.

Select the correct statement(s)

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Q.15) River Hasdeo which flows through the Hasdeo Aranya forests of Chhatisgarh, is a tributary of which major river of India?

- River Jhelum
- River Ganga
- River Satluj
- River Mahanadi

Q.16) Udyam Sakhi Portal, is an initiative of which of the following ministry?

- Ministry of Labour and Employment
- Ministry of Finance
- Ministry of Micro, Small and Medium Enterprises
- NITI Aayog

Q.17) Consider the following statements Navigation with Indian Constellation (NAVIC)

- NAVIC consists of a constellation of three geostationary, four geosynchronous and two on-standby satellites.

- NAVIC will facilitate accurate real-time positioning and timing services over India and the region around it extending to 1,500 km.

Choose the **incorrect** statement(s)

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Q.18) Consider the following statements

- Cabinet Secretary is the ex-officio head of the Civil Services Board.
- S/He ranks eleventh on the Indian order of precedence.
- S/He is under the direct charge of the PM and is appointed for a fixed tenure of two years.

Choose the correct statement(s)

- 1 and 3
- 3 only
- 1 and 2
- 1, 2 and 3

Q.19) Consider the following statements

- Formosa Strait separates Taiwan and mainland China.
- The Yellow Sea is a marginal sea of the Western Pacific Ocean located between mainland China and the Korean Peninsula.

Choose the **incorrect** statement(s)

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Q.20) Consider the following statements about Jal Jeevan mission

1. It envisages supply of 55 litres of water per person per day to every rural household through Functional Household Tap Connections (FHTC) by 2026.
2. The Mission is implemented by Ministry of Rural Development.
3. It is a central sector scheme.

Choose the correct statement(s)

- a) 1 only
- b) 1 and 2
- c) 2 and 3
- d) None

Q.21) Consider the following statements Small Satellite Launch Vehicle (SSLV)

1. SSLV is a rocket that is designed to orbit satellites weighing less than 300 kg to Sun Synchronous Orbit (SSO).
2. It is a 3 stage Launch Vehicle configured with three Solid Propulsion Stages and liquid propulsion-based Velocity Trimming Module (VTM) as a terminal stage.

Choose the **incorrect** statement(s)

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.22) Consider the following statements

1. An ordinance can be retrospective.
2. To stay a law, the Ordinance must be approved by Parliament within six weeks of its reassembly.
3. Ordinances can be used to revoke the fundamental rights of the citizens guaranteed by the Indian Constitution.

Choose the correct statement(s)

- a) 1, 2 and 3
- b) 2 only
- c) 2 and 3
- d) 1 and 2

Q.23) Consider the following statements

1. Cripps Mission offered dominion status to India.
2. Failure of Cripps Mission was the immediate cause to the launch of Quit India Movement.
3. The slogan 'Quit India' was given coined by Yusuf Meherally, a socialist and trade unionist.

Choose the correct statement(s)

- a) 1, 2 and 3
- b) 2 and 3
- c) 1 only
- d) 2 only

Q.24) Ordinance making power of the Indian President is under which Article of the Constitution of India?

- a) Article 72
- b) Article 143
- c) Article 123
- d) Article 132

Q.25) Consider the following statements about AGM-88 HARM missile recently in news

1. It is an anti-radiation missile, with minimum range of 1000km.
2. It is an air-to-surface missile tactical missile designed to seek and destroy enemy radar-equipped air defense systems.

Choose the **incorrect** statement(s)

- a) 1 only

- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.26) Consider the following statements

1. Central Board of Indirect Taxes and Customs (CBIC) is a statutory body.
2. The Chairman of CBIC is appointed by Appointments Committee of the Cabinet.

Choose the correct statement(s)

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.27) Katchal island, recently seen in news belong to which of the following country?

- a) China
- b) Taiwan
- c) India
- d) Sri Lanka

Q.28) SMILE-75 is an initiative of which of the following ministry?

- a) Ministry of Women and Child Development
- b) Ministry of Home Affairs
- c) Ministry of Social Justice & Empowerment
- d) Ministry of Micro, Small and Medium Enterprises

Q.29) Which among the following verticals is/are part of Pradhan Mantri Awas Yojana-Urban (PMAY-U)?

1. Beneficiary-led individual house construction.
2. Affordable Housing through Credit Linked Subsidy.
3. In Situ Slum Redevelopment
4. Affordable Housing through Partnership.

Choose the correct code:

- a) 2 and 4
- b) 1 and 2
- c) 1, 3 and 4
- d) 1, 2, 3 and 4

Q.30) Exercise Vajra Prahar 2022, joint Special Forces exercise conducted between India and?

- a) Nepal
- b) United States of America
- c) Australia
- d) Bangladesh

Q.31) Global Employment Trends for Youth 2022 report was released by?

- a) World Bank
- b) United Nations Conference on Trade and Development
- c) International Labour Organization
- d) World Economic Forum

Q.32) Consider the following statements about Vice-President (VP)

1. The Constitution lays down S/he should not be a member of either House of Parliament.
2. S/he can resign from his/her office at any time by addressing the resignation letter to the Deputy-Chairman.

Choose the **incorrect** statement(s)

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.33) National Intellectual Property Awareness Mission (NIPAM), is an initiative of?

- a) Ministry of Micro, Small and Medium Enterprises
- b) Ministry of Commerce and Industry

- c) NITI Aayog
d) Prime Minister's Office

Q.34) Consider the following statements about Essential Commodities Act 1955

1. The Ministry of Consumer Affairs, Food and Public Distribution, implements the Act.
2. Central Government can notify an item as essential, in consultation with state governments.
3. By declaring a commodity as essential, the government can control the production, supply, and distribution of that commodity.

Choose the correct statements:

- a) 1, 2 and 3
b) 2 and 3
c) 1 and 3
d) 1 and 2

Q.35) Consider the following statements about NAMASTE scheme, recently seen in news

1. It is a joint project of Ministry of External Affairs and the Ministry of Culture.
2. The scheme aims to honor the NRIs and people of Indian origin, who strive for the enhancement of Indian culture abroad.

Choose the **incorrect** statement(s)

- a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

Q.36) which of the below given pairs is/are **not** correctly matched?

Popular Slogans	Given By
Jai Hind	Vallabhbai Jhaverbhai Patel

Inquilab Zindabad	Bhagat Singh
Quit India	Yusuf Meherally

Choose the correct code:

- a) 1 only
b) 1 and 3
c) 2 and 3
d) 1 and 2

Q.37) Which of the following is/are correctly matched?

Ramsar Site	State
Yashwant Sagar	Madhya Pradesh
Hygam Wetland Conservation Reserve	Jammu and Kashmir
Vaduvur Bird Sanctuary	Tamil Nadu

Choose the correct code:

- a) 1 and 2
b) 2 and 3
c) 1, 2 and 3
d) 1 and 2

Q.38) Zaporizhzhia nuclear plant, recently in news is located in which of the following country?

- a) Russia
b) Ukraine
c) Poland
d) Belarus

Q.39) Consider the following statements about PeVatrons

1. PeVatrons is the source of some of the highest energy particles that whip across our galaxy.
2. They typically consist of protons but sometimes also include atomic nuclei and electrons.

Choose the correct statement(s)

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.40) Consider the following statements about Aurobindo Ghose

1. He helped establish the Anushilan Samiti of Calcutta in 1902.
2. He was arrested in connection with the Alipore Conspiracy Case.
3. He developed a kind of Yoga called Integral Yoga.

Choose the **incorrect** statement(s)

- a) 1 only
- b) 2 only
- c) None
- d) 1 and 2

Q.41) Consider the following statements about Lok Adalats

1. The institution of Lok Adalat has been given statutory status under the Legal Services Authorities Act, 1987
2. Lok Adalat has no jurisdiction in respect of any case or matter relating to an offence not compoundable under any law.
3. Every award made by a Lok Adalat shall be final and binding on all the parties to the dispute.

Choose the correct statements:

- a) 1 and 2
- b) 1 and 3
- c) 1, 2 and 3
- d) 2 and 3

Q.42) Nagorno-Karabakh, recently seen in news is a conflict area between?

- a) Russia - Ukraine

- b) China - Mongolia
- c) Armenia - Azerbaijan
- d) Sudan - Ethiopia

Q.43) Consider the following statements about Indian Bureau of Mines (IBM)

1. Established in 1948, IBM is a multi-disciplinary government organisation under the Department of Mines.
2. Indian Bureau of Mines (IBM) has its head quarters at Ranchi.
3. IBM aims to promote systematic and scientific development and optimum utilisation of mineral resources of the country.

Choose the correct statements:

- a) 1 and 2
- b) 2 and 3
- c) 1, 2 and 3
- d) 1 and 3

Q.44) Paalan 1000 app, recently seen in news, is an initiative of?

- a) Ministry of Health and Family Welfare
- b) Ministry of Women and Child Development
- c) Ministry of Labour & Employment
- d) Ministry of Science and Technology

Q.45) Consider the following statements about

1. Manthan is India's exclusive platform for driving R&D collaboration at scale and achieving India's scientific missions and UN SDGs.
2. It is an initiative of Office of the Principal Scientific Adviser (PSA) to the Government of India (GoI).

Choose the incorrect statement(s)

- a) 1 only

- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.46) Consider the following statements
Emergency Credit Line Guarantee Scheme (ECLGS)

1. Under ECLGS collateral free additional credit is provided to MSMEs.
2. Under ECLGS 100% guarantee coverage is being provided by the National Credit Guarantee Trustee Company.

Choose the **incorrect** statement(s)

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.47) Which of the below given pairs is/are correctly matched?

GI Products	State
Tawlhlohpuan	Manipur
Khola Chilli	Kerala
Kaji Nemu	Odisha

Choose the correct code:

- a) 1, 2 and 3
- b) 1 only
- c) 2 only
- d) None

Q.48) Consider the following statements about Durgawati Devi

1. She was a revolutionary and member of Naujawan Bharat Sabha.
2. She made an unsuccessful attempt to kill the Punjab Governor, Lord Hailey.

Choose the correct statement(s)

- a) 1 only

- b) 2 only
- c) Both 1 and 2
- d) Neither 1 and 2

Q.49) Consider the following statements

1. Monetary Policy Committee (MPC) is formed as per the provisions of Banking regulation Act, 1949.
2. RBI Governor as its ex officio chairperson of MPC.
3. RBI has to submit a report to the Union government if it is in breach of the inflation targets for three consecutive quarters.

Choose the correct statement(s)

- a) 1 and 2
- b) 2 and 3
- c) 1, 2 and 3
- d) 2 only

Q.50) Consider the following statements about NIDAAN Portal

1. It is a first-of-its kind database of arrested narcotics offenders.
2. The NIDAAN platform sources its data from the ICJS and the e-Prisons repository.

Choose the **incorrect** statement(s)

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.51) Consider the following statements about Combined Maritime Forces (CMF)

1. CMF is a multi-national naval partnership to promote security, stability and prosperity in world's most important shipping lanes.

2. The CMF grouping is commanded by a U.K. Navy Vice Admiral.

Choose the correct statement(s)

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Q.52) Consider the following statements about Sovereign Gold Bond Scheme 2022-23

- These are issued by the Reserve Bank of India (RBI) on behalf of the Government of India.
- The bonds are restricted for sale to resident individuals and charitable institutions only.
- The interest on Gold Bonds shall be taxable as per the provision of Income Tax Act, 1961.
- Bonds cannot be used as collateral for loans.

Choose the **incorrect** statements:

- 2 and 3
- 2, 3 and 4
- 2 and 4
- 3 and 4

Q.53) Which of the following legislation was passed during the tenure of Lord Curzon?

- Indian Official Secrets Amendment Act, 1904
- Calcutta Municipal Amendment Act
- Indian Universities Act, 1904

Choose the correct code:

- 1 and 2
- 2 and 3
- 1 and 3
- 1, 2 and 3

Q.54) Consider the following statements

- Jal Jeevan Mission envisages supply of 55 litres of water per person per day to every rural household by 2024.
- Paani Samitis plan and implement village water supply systems.
- The plan prepared by Paani Samitis has to be approved in a Gram Sabha before implementation.

Choose the correct statement(s)

- 1 only
- 1 and 2
- 2 only
- 1, 2 and 3

Q.55) Consider the following statements about per- and polyfluoroalkyl substances (PFAs)

- PFAs are man-made chemicals used to make products that resist grease, water and oil.
- They are called as “forever chemicals” because of their tendency to stick around in the atmosphere, rainwater and soil for long periods of time.

Choose the correct statement(s)

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Q.56) Mithila Makhana, a special variety of aquatic fox nut was awarded Geographical Indication (GI) tag recently by Government of India. Mithila Makhana is cultivated in which of the following state of India?

- Odisha
- Madhya Pradesh
- Bihar
- Rajasthan

Q.57) Consider the following statements about Non Fungible Tokens

1. They are backed by Blockchain technology.
2. NFTs can have only one owner at a time.
3. NFTs aren't mutually interchangeable.

Choose the **incorrect** statement(s)

- a) 2 only
- b) 3 only
- c) 2 and 3
- d) None

Q.58) With reference to the famous Mandala art, consider the following statements:

1. It is believed to be rooted in Buddhism.
2. Sohan Qadri and Prafulla Mohanty gained widespread recognition for their works associated with mandala art.
3. In Hinduism, the mandala imagery first appeared in Yajur Veda.

Which of the statements given above is/are correct?

- a) 1 only
- b) 1 and 2
- c) 2 and 3
- d) 1, 2 and 3

Q.59) With reference to Reserve Bank of India's Central Bank Digital Currency (CBDC), consider the following statements:

1. CBDC is same as a fiat currency and is exchangeable one-to-one with the fiat currency.
2. CBDC can be transacted using wallets backed by blockchain.

Choose the **incorrect** statement(s)

- a) 1 only
- b) 2 only

- c) Both 1 and 2
- d) Neither 1 nor 2

Q.60) Consider the following statements about National Automated Fingerprint Identification System (NAFIS)

1. The NAFIS project is a country-wide searchable database of crime- and criminal-related fingerprints.
2. NAFIS was developed by National Informatics Centre (NIC) and Department of Science and technology.
3. NAFIS assigns a unique 15-digit National Fingerprint Number (NFN) to each person arrested for a crime.

Choose the **incorrect** statement(s)

- a) 2 only
- b) 3 only
- c) 2 and 3
- d) None

Q.61) In which one of the following groups are all the four countries part of International North-South Transport Corridor (INSTC)?

- a) Turkey, India, Russia, and Yemen
- b) India, Ukraine, Belarus, and Egypt
- c) Russia, Iran, Pakistan, and India
- d) India, Russia, Azerbaijan, and Kazakhstan

Q.62) The Great Red Spot-on Jupiter is a

- a) High Pressure region that rotates clockwise
- b) Low Pressure region that rotates clockwise
- c) High Pressure Region that rotates anti-clockwise
- d) Low Pressure region that rotates anti-clockwise

Q.63) With reference to space technology, consider the following statements.

1. Spectrographic Investigation of Nebular Gas (SING) deals with the study infrared radiation.
2. The SING project would be the first space-collaboration involving India and China

Which of the statement/s given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.64) He was one of the founding members of Ghadar party, reached out to Bhikaji Cama in Paris, and met with Vladimir Lenin in Russia seeking support for the Indian cause. He was inspired by Bala Gangadhar Tilak and was an ardent admirer of the French Revolution and of the American War of Independence.

He was?

- a) Aurobindo Ghosh
- b) Pandurang Khankhoje
- c) Bipin Chandra Pal
- d) Motilal Nehru

Q.65) Per and polyfluoroalkyl substances (PFAs), suspected to cause decreased fertility, developmental effects in children, increased cholesterol levels and increased risk of some cancers, are generated as environmental pollutants from which of the following?

1. Making of non-stick cookware
2. Textile Industries
3. Cosmetic industries
4. Paper Industries

Select the correct answer using the code given below:

- a) 1, 2 and 3 only
- b) 1, 2 and 4 only

- c) 2, 3 and 4 only
- d) 1, 2, 3 and 4

Q.66) Consider the following pairs:

Ports and countries

1. Qingdao - South Korea
2. Chabahar - Iran
3. Shenzhen - China
4. Jebel Ali - UAE

How many pairs given above is/are correctly matched?

- a) One pair only
- b) Two pairs only
- c) Three pairs only
- d) All four pairs

Q.67) Nepal borders with which of the following Indian states?

1. West Bengal
2. Assam
3. Bihar
4. Himachal Pradesh

Select the correct answer using the code given below:

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 2 and 4 only

Q.68) With reference to cultural history of India, consider the following statements:

1. Manusmriti has categorized all women as shudras.
2. The text is attributed to the mythical figure of Vishnu.
3. It discusses aspects of the Arthashastra.

Which of the statement/s given above is/are correct?

- a) 1 only
- b) 1 and 3 only
- c) 2 and 3 only
- d) 1, 2 and 3

Q.69) The United Nations security council resolution 2633 often mentioned in news in the context of?

- a) The situation in the middle East
- b) Reports of secretary general on the Sudan and South Sudan
- c) The situation in Afghanistan
- d) Emergency special session on Ukraine

Q.70) Consider the following pairs:

Hydroelectric project and Rivers

1. Vishnugad Pipalkoti – Bhagirathi
2. Bhakra Nangal – Sutlej
3. Bansagar – Sone
4. Balimela – Indravathi

How many pairs given above is/are correctly matched?

- a) One pair only
- b) Two pairs only
- c) Three pairs only
- d) All four pairs

Q.71) ‘Vizhinjam sea port’ recently seen in the news, is in

- a) Trivandrum, Kerala
- b) Tuticorin, Tamil Nadu
- c) Cochin, Kerala
- d) Mangalore, Karnataka

Q.72) Consider the following statements

1. Forests are included in List III under the Seventh Schedule of the Constitution.
2. Under Forest Conservation (FC) Act, 1980 Central clearance is required for non-forest use of forest land.

Choose the **incorrect** statement(s)

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.73) Consider the following statements about software-as-a-services (SaaS)

1. It is a software distribution model in which services are hosted by a cloud service provider.
2. The end-users do not need to install any software on their devices to access these services.

Choose the **incorrect** statement(s)

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Q.74) Which among the following is/are the verticals of Arth Ganga

1. Monetization and Reuse of Sludge & Wastewater
2. Zero Budget Natural Farming
3. Promote institutional building by empowering local administration
4. Livelihood Generation Opportunities

Choose the correct code:

- a) 1, 3 and 4
- b) 2 and 4
- c) 1, 2 and 3
- d) 1, 2, 3 and 4

Q.75) Consider the following statements:

Islands and Location

1. Paracel Islands - East China Sea
2. Kuril Islands - North Pacific Ocean

3. Falkland Islands – South Atlantic Ocean
4. Senkaku Islands – Indian Ocean

How many pairs given above is/are correctly matched?

- a) One pair only
- b) Two pairs only
- c) Three pairs only
- d) Four pairs only

Q.76) Consider the following countries:

1. UAE
2. Pakistan
3. China
4. India
5. Israel

Which among the above are not Signatories to the Nuclear Non-Proliferation Treaty (NPT)?

- a) 1, 2 and 5 only
- b) 1, 3 and 5 only
- c) 2, 4 and 5 only
- d) 1, 2, 3 and 5 only

Q.77) Consider the following statements

1. Small cells are low-powered radio access nodes that have a coverage range from a few metres to a few hundred metres.
2. They are portable and easy to deploy.
3. The establishment of Small Cells is necessary for deploying 5G as opposed to earlier generations such as 4G.

Choose the **incorrect** statement(s)

- a) 1 only
- b) 2 only
- c) 2 and 3
- d) None

Q.78) Arrange the following regions from North to South

1. Galwan Valley
2. Daulat Beg Oldi
3. Pangong lake
4. Chumar
5. Demchok

Choose the correct code:

- a) 2-1-3-4-5
- b) 1-2-4-3-5
- c) 2-1-4-5-3
- d) 1-2-3-5-4

Q.79) Scheme for Economic Empowerment of DNTs (SEED), is an initiative of?

- a) Tribal Cooperative Marketing Development Federation of India Limited (TRIFED)
- b) Ministry of Tribal Affairs
- c) NITI Aayog
- d) Ministry of Social Justice and Empowerment

Q.80) Consider the following statements

1. In a normal year, the trade winds over the Pacific Ocean move strongly from east to west.
2. El Nino results the warming of the central and eastern pacific.
3. El Nino years always led to a drought in India.

Choose the correct statements:

- a) 1 only
- b) 1 and 2
- c) 2 only
- d) 1, 2 and 3

Q.81) Consider the following statements

1. International Atomic Energy Agency (IAEA) was created in 1945 afternath of atomic bomb incidents on Hiroshima and Nagasaki.
2. IAEA reports annually to the United Nation General Assembly.
3. In 2005, it was awarded the Nobel Peace Prize for their work for a safe and peaceful world.

Choose the **incorrect** statements:

- a) 1 only
- b) 2 only
- c) 1, 2 and 3
- d) 1 and 3



KEY ANSWERS



1	D	31	C	61	D
2	D	32	B	62	C
3	D	33	B	63	B
4	B	34	A	64	B
5	C	35	C	65	D
6	C	36	D	66	C
7	C	37	C	67	C
8	C	38	B	68	B
9	D	39	C	69	D
10	B	40	C	70	B
11	B	41	C	71	A
12	A	42	C	72	D
13	C	43	D	73	D
14	A	44	A	74	D
15	D	45	D	75	B
16	C	46	D	76	C
17	D	47	D	77	D
18	D	48	C	78	A
19	D	49	B	79	D
20	D	50	D	80	B
21	D	51	A	81	A
22	D	52	C		
23	A	53	D		
24	C	54	D		
25	A	55	C		
26	C	56	C		
27	C	57	D		
28	C	58	B		
29	D	59	D		
30	B	60	C		

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