

# GS ANALYST

## MONTHLY CURRENT AFFAIRS MAGAZINE

- ✓ Coverage of Monthly topics for GS Paper 1, 2, 3 & 4
- ✓ Key Concepts & Prelims Specific Topics
- ✓ Questions for Answer Writing Practice

### PRELIMS

- UN's High Seas Treaty
- India's Mental Healthcare Act, 2017
- Increase in Death penalty by trial courts
- SC on aldermen's right to vote
- Economic Survey 2022- 23
- New Tax Regime
- Clean Energy
- .... and many more

### MAINS

- El Niño returning in 2023
- Turkey & its relation to earthquakes
- Lepakshi murals in Veerabhadraswamy temple
- Article 105 of Constitution
- Supreme Court income tax order on Sikkim
- 'Guilty by association' doctrine
- Puisne judge and role
- Dispute settlement scheme
- Vibrant Villages Programme
- ... and many more

### KEY CONCEPTS

- Maru Mahotsav 2023
- Dar es Salaam Declaration
- Paris Club
- US India Business Council (USIBC)
- DHARA 2023
- Follow on Public Offer (FPO)
- Antarctica'Doomsday Glacier'
- Sickle Cell Disease
- .... and many more

### CONTEMPORARY ISSUE BASED ESSAY

The greatest art of life is how to remain perpetually inspired and motivated..

## — **Disclaimer** —

The current affairs articles are segregated from prelims and mains perspective, such separation is maintained in terms of structure of articles. Mains articles have more focus on analysis and prelims articles have more focus on facts.

However, this doesn't mean that Mains articles don't cover facts and PT articles can't have analysis. You are suggested to read all of them for all stages of examination.

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# **SECTION: A**

## **(MAINS)**

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**CURRENT AFFAIRS**

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## UN'S HIGH SEAS TREATY

### CONTEXT:

The United Nations (UN) wants to protect the high seas as they make up more than 60% of the world's oceans and drawn less attention than coastal waters.

### Need of such treaty:

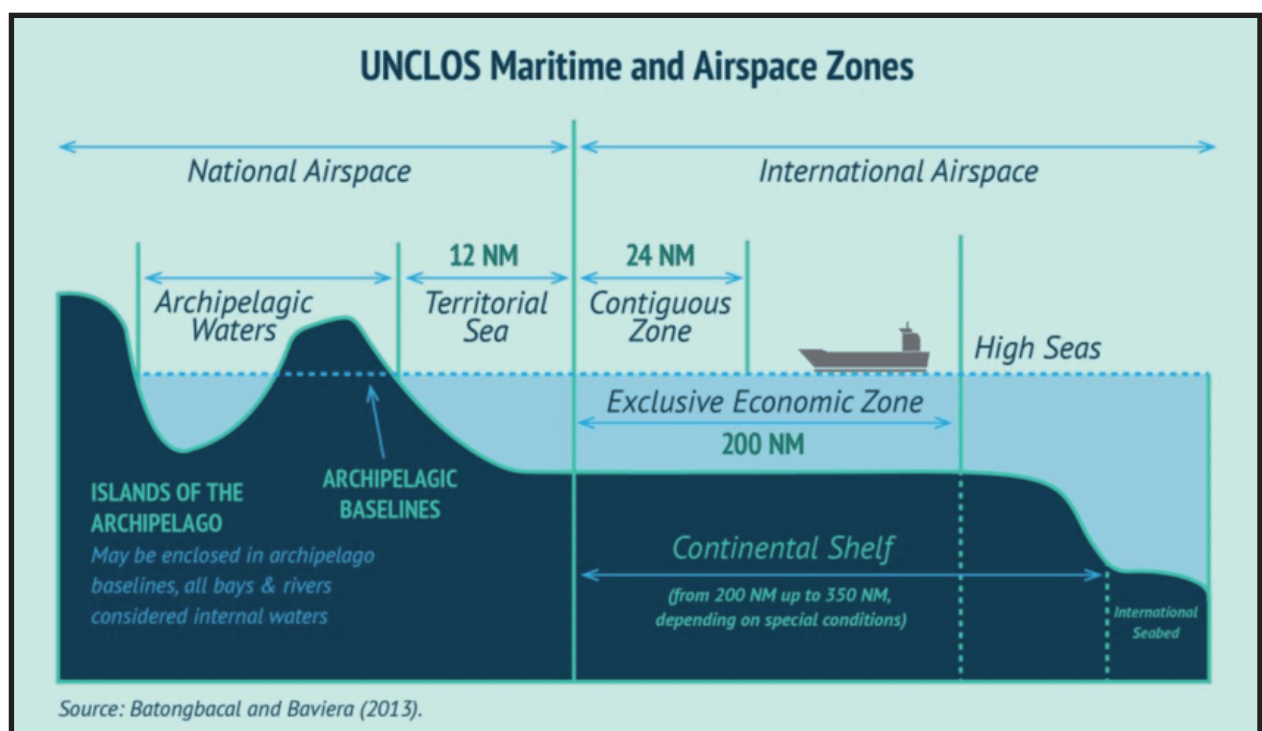
Fishing, shipping, tourism and ocean protection are currently controlled by around 20 organizations. However, their regulations only apply to a distance of 200 nautical miles (370 kilometres) from the coast.

- **Out of protection cover:** Although the high seas make up more than half of the surface of the Earth and 61% of all oceans, only 1% of international waters are under protection.
- **Increasing threats:** Illegal fishing, overfishing, new and emerging activities such as geo-engineering, and

climate change are among the many threats to high seas marine life.

### About New Treaty:

- The UN general assembly had decided to convene an **Intergovernmental Conference (IGC)** in December 2017 to elaborate on the text of the legal instrument for protecting biodiversity in areas **beyond national jurisdiction (BBNJ)** under **UNCLOS**.
- The treaty has been in the works for years and is supposed to protect species and allocate the oceans' resources in a sustainable way.
  - ▶ The IGC held four formal sessions in September 2018, March 2019, August 2019 and March 2022.
- The ambition of the treaty is to reverse the current downward trend in biodiversity and protect marine life, while also guaranteeing safe access to international waters.
- The treaty will help conserve biodiversity in areas beyond **national jurisdiction (BBNJ)** that lie outside countries' 322-kilometre **exclusive economic zones**.



### Mapping the High Seas:

- The international waters of the High Seas, which lie outside any country's **exclusive economic zone (EEZ)**, make up **64% of global ocean** and cover **46% of Earth's surface**.
- Nearly half of planet is beyond the reach of any enforceable law or governance.
- It is estimated that just 1.3% of the High Seas is

protected, compared to 17% of the land.

### What would a High Seas Treaty do?

- **Body to enforce rules:** The high seas treaty, if agreed, would create a **new global body** to enforce rules laid out to protect about 30% of the world's oceans by 2030.
- **Extended law over waters:** It would extend international law beyond countries' territorial waters

and **exclusive economic zones (EEZs)**, which extend 200 miles from any nation's coastline, to cover a major portion of the currently unprotected waters from threats such as **overfishing and unchecked seafloor mining**.

- **Legal framework:** This treaty will provide a **first-ever legal framework** for the protection of biodiversity in international waters, including the:

#### 30 by 30 goals:

- This round of treaty negotiations comes on the heels of the adoption, by the **U.N. Convention on Biological Diversity**, of a target to protect 30% of Earth's land and coastal and marine areas by 2030.
- This agreement, known as 30 by 30, is intended to halt and reverse biodiversity loss to help put nature on a path to recovery.
- The new high seas treaty would enable protections that would contribute greatly to the 30 by 30 goal.

- creation of ocean sanctuaries
- environmental rules
- application of Environmental Impact Assessments preceding any human activities on the waters

#### Significance of Governance:

- **Economic benefits:** The resources of the ocean don't just sustain coast dwellers, but almost 3 billion people worldwide.
- The entire sea industry has a worth of **\$3 trillion (€2.8 trillion)** — that's 5% of the **world's gross domestic product**.

#### UN Convention on the Law of the Sea (UNCLOS):

- UNCLOS was adopted in 1982 and laid the foundation of ocean governance, with the first single set of rules for oceans and seas.
- There are **two more instruments** under the Convention:
  - The 1994 agreement on the implementation of **Part XI of UNCLOS**.
  - the 1995 **UN Fish Stocks Agreement**
  - The treaty on BBNJ will be the third legal instrument under the convention.

- **Energy generation:** The Ocean isn't just important for beach tourists and fishers. We also need it in order to generate sustainable wave and tidal energy, as well as for the production of commodities and even medicine.
- **Environmental significance:** More than half of the total amount of oxygen in our atmosphere is created by creatures in the ocean.

- **Welfare:** Scientists see a huge potential in the waters for the treatment of diseases.

- **For example:** Agents used to fight **leukemia** is derived from water sponge **Tectitethya crypta**. The poison of the fish-eating sea snail *Conus magus* is being used to develop an effective painkiller.

## INDUS WATER TREATY 1960

### CONTEXT:

India has announced to reconsider its Indus Water Treaty (IWT) with Pakistan citing disputes over the Kishenganga and Ratle hydropower projects in Jammu & Kashmir.

#### Indus Water Treaty (IWT), 1960:

- The six-decade-old treaty governs the sharing of waters of six rivers in the Indus system between the two countries.
- **Main Rivers:** Indus River, Jhelum, Chenab, Ravi, Beas, and Sutlej.
- The basin is mainly shared by India and Pakistan with a small share of China and Afghanistan.
- Under the treaty signed between India and Pakistan in 1960, all the waters of
  - **Eastern rivers**, namely **Ravi, Sutlej, and Beas (Eastern Rivers)** were allocated to India for exclusive use
  - **Western rivers** - **Indus, Jhelum, and Chenab** were allocated to Pakistan except for **specified domestic, non-consumptive, and agricultural use** permitted to India as provided in the Treaty.
- India has also been given the **right to generate hydroelectricity** through **run-of-the-river (RoR)** projects on the Western Rivers which, subject to **specific criteria** for design and operation is unrestricted.

#### River Indus: Geographic Location

- The Indus is a trans-boundary river of Asia and a trans-Himalayan river of South and Central Asia.
- The 3,120 km (1,940 mi) river rises in mountain springs northeast of Mount Kailash in Western Tibet, flows northwest through the disputed region of Kashmir, bends sharply to the left after the Nanga Parbat massif, and flows south-by-southwest through Pakistan, before emptying into the Arabian Sea near the port city of Karachi.



• **Significance:**

- ▶ The river has historically been important to many cultures of the region.
- ▶ The 3rd millennium BC saw the rise of the Indus Valley civilization, a major urban civilization of the Bronze Age.
- ▶ During the 2nd millennium BC, the Punjab region was mentioned in the Rigveda hymns as **Sapta Sindhu** and in the Avesta religious texts as **Saptha Hindu** (both terms meaning "seven rivers").

**The objected projects:**

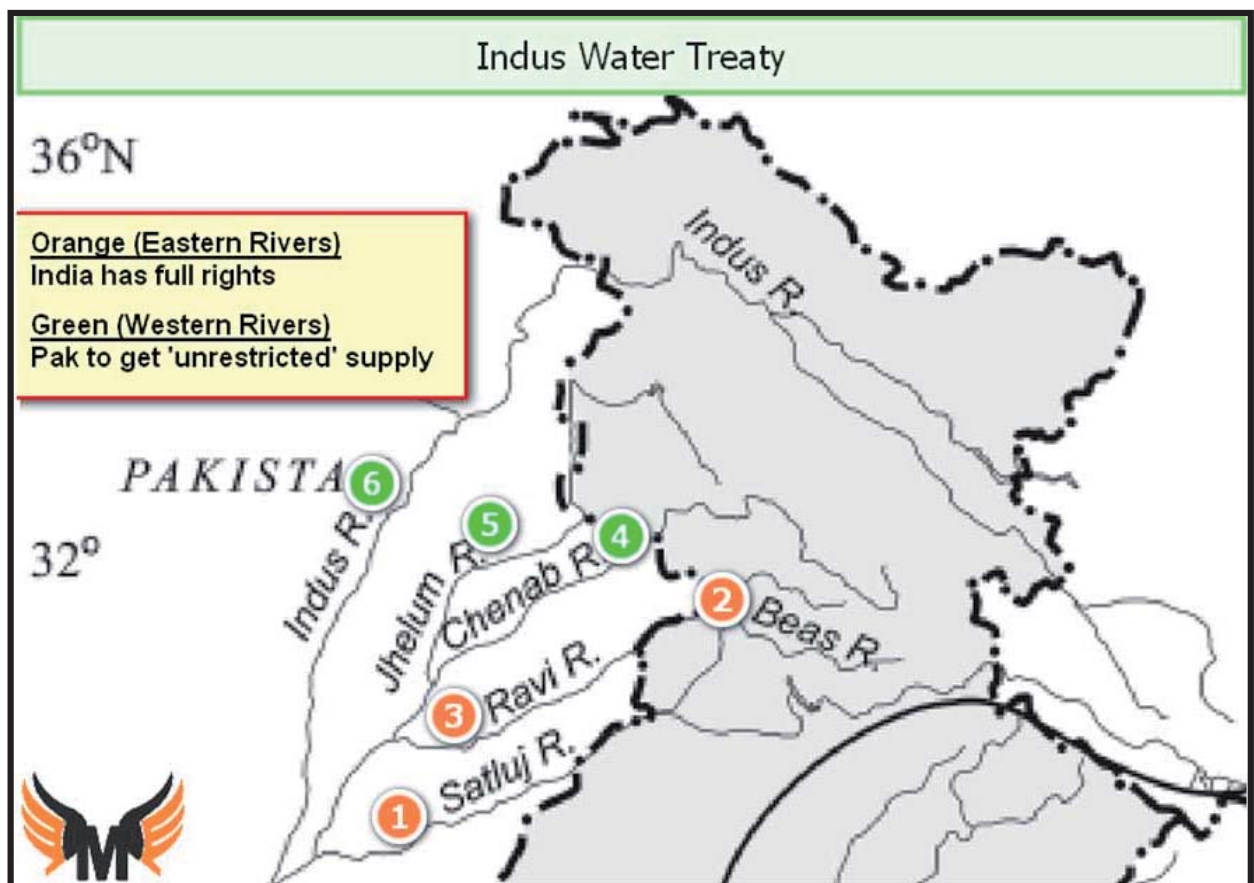
- India is constructing two hydroelectric power projects on:
  - ▶ **Kishanganga river**, a tributary of **Jhelum**
  - ▶ **Chenab**
- Pakistan has raised objections to these projects, and dispute resolution mechanisms under the Treaty have been invoked multiple times. But a full resolution has not been reached.

**What is the dispute all about between India and Pakistan?**

- Both countries held different positions when Pakistan

raised objections regarding the technical design features of the **Kishanganga (330MW)** and **Ratle (850 MW) hydroelectric power plants** located on the tributaries of the **Jhelum** and the **Chenab**, respectively, designated as "**Western Rivers**".

- However, **under Articles III and VII of the treaty**, India is permitted to construct hydroelectric power facilities on these rivers (subject to constraints specified in Annexures to the Treaty).
- Differences were also discernible when Pakistan approached the **World Bank to facilitate** the setting up of a court of arbitration to address the concerns related to these two projects referred to in **Article IX Clause 5** of the treaty, and when India requested the **appointment of a Neutral Expert** referent to **Clause 2.1 of Article IX** on the settlement of differences and dispute of the treaty, respectively.
- Pakistan, invoking **Article VII Clause 2 on future cooperation**, raised objections on the construction and technical designs of the **Pakal Dul** and **Lower Kalnai hydropower plants** located on the **Marusudar River**, a tributary of the **Chenab**, in the **Kishtwar district** of Jammu and Kashmir.
- India has raised concerns on issues such as Pakistan's blockade of the **Fazilka drain**, which resulted in water contamination in the border areas.



# INCREASE IN DEATH PENALTY BY TRIAL COURTS

## CONTEXT:

According to the Annual Death Penalty Report 2022, Indian courts in 2022 awarded a record 165 death sentences, the highest in over two decades.

### About the report:

- Released by: 'Project 39A', a criminal reforms advocacy group with the **National Law University, Delhi**.

### Death penalty in India

- Hanging and shooting** are the two methods of the death penalty in India.
- According to the **Criminal Procedure Code**, hanging is the method of execution in the civilian court system.
- The **Army Act, of 1950**, however, lists hanging and shooting as official methods of execution in the military court-martial system.
- Under the provisions of criminal procedure, the death penalty must be awarded as an alternative punishment to life imprisonment which the offenders may be sentenced to in '**rarest of rare cases**'.

### Key highlights:

- According to NCRB data, **165 death penalties** were awarded by **trial courts since 2000**.
- The corresponding figure for the last five years was;
  - **146 in 2021, 78 in 2020, 104 in 2019, 163 in 2018, and 110 in 2017.**
- Sole decision taken by trial courts:** The report notes that **3% of the death penalty** cases were decided by trial courts "without any materials on mitigating circumstances of the accused and without any state-led evidence on the question of reform."

### The process to grant a death sentence:

- Mercy petition process:** For a convict to file a mercy petition, his/her death sentence must be confirmed by a high court first.
- The law says:** "The death sentence convict can appeal to the Supreme Court. If the Supreme Court either refuses to hear the **appeal or upholds** the death sentence, then the convict or his relatives can submit a mercy petition to the President of India (Articles 72) or **the Governor of the State (161)**."

### Rarest of rare cases:

Rarest rare cases can be described as those when the murder is committed in an extremely **brutal, ridiculous, diabolical, revolting, or reprehensible manner** so as to awaken the intense and extreme indignation in the community. When total depravity and cruelty are the motives behind a murder.

- Grounds to seek mercy appeal:** Physical fitness, age, the law was too harsh, or the convict is the sole breadwinner of the family.
- According to **Article 72 of the Constitution**, the power to pardon — the philosophy of which is "every civilised country recognises and provides for the pardoning power as an act of grace and humanity in course of law" — lies with the President.
- The Article also states that he/she can **grant pardons, reprieves, respites or remissions of punishment or suspend, remit or commute the convict**.

The mercy petition is reviewed by the **Ministry of Home Affairs**, which consults the state involved, before going to the President.

### Supreme Court's stand:

- A three-judge bench headed by then Chief Justice of India **U U Lalit** had referred the issue of **reconsidering death penalty** sentencing to a five-judge bench.
- The court had asked for a "uniform approach" to **granting real and meaningful opportunities** to convicts on death row.
- The court has also mandated trial courts to collect **psychiatric and psychological evaluations** of the convict before holding that there is no possibility of reform and awarding a death sentence.

### What are the issues in the current system?

A Supreme Court Bench led by **Justice U.U. Lalit** made the following observations:

- Quick decision:** In some cases, trial courts sentence a person to death merely hours after conviction.
- Little effort to unearth the issue:** Little effort is taken to unearth or understand the circumstances which led a person to commit the crime. In short, trial judges hardly know the people they are sending to the gallows.
- Ignored individual details:** No effort is ever made to dig deeper into a convict's childhood experiences, multi-generational history of physical and mental health issues, exposure to traumatic events and other familial, social and cultural factors crucial in order to undertake an individualised sentencing enquiry.

- Mitigation expert: The court said a “mitigation expert”, a qualified professional with unhindered access to the convict’s past, ought to be at the centre of this change in outlook.
- This ‘one-size-fits-all’ approach while considering mitigating factors during sentencing should end. A more enlightened approach has to be evolved. The apex court’s introspection may be a sign of the judiciary veering away from the death penalty.

**Capital Punishment and international standards:**

Capital punishment finds its place in international human rights treaties as a facet of the right to life as imbibed in “**International Covenant on Civil and Political Rights (‘ICCPR’)**”, it was later discovered that implementation of capital punishment violates the norms of the prohibition against cruel, inhuman, and degrading treatment and punishment. With the enforcement of the **second ICCPR**, there had been an increasing trend towards the removal of capital punishment as a way of punishment.

## GOVERNMENT TO UNVEIL NATIONAL DATA GOVERNANCE POLICY

**CONTEXT:**

The government announced National Data Governance Policy to enable access to anonymised data to start-ups in order to boost development.

**Background:**

- The **Ministry of Electronics and Information Technology (MeitY)** released a draft of this policy in May 2022 for public consultation.
- An expert committee report submitted to MeitY on whether a company can be classified as a “**data business**” based on certain **parameters, the type and quantity** of data collected after which anonymised data from these firms can be **obtained by a community**.

**Who can acquire data?**

Any group of people who are bound by common interests and objectives. An example of non-personal data sharing is general traffic data in a city from ridesharing apps.

**About:**

- to ensure greater citizen awareness, participation, and engagement with open data

- increase the availability of datasets of national importance
- identify datasets suitable for sharing and improve overall compliance to secure data sharing and privacy policies and standards

**Key features:**

- A core component of the data governance framework will be the formation of an India Data Management Office (IDMO) under the IT ministry.
- The anonymised datasets will be offered as part of the India datasets programmes to the AI (artificial intelligence) ecosystem, which will be a kinetic enabler for the digital economy.
  - It will lay out some guidelines for sharing of non-personal data by private entities

**Significance:**

- Datasets that represent India’s consumers is a huge opportunity for the **next generation of artificial intelligence and machine learning algorithms**.
- The datasets will be provided for governance research, which even the government can use to create better targeted policies, more AI researchers can look at technology solutions.

**How start-ups can be benefitted?**

- As part of the policy, the Indian government will also build the **India Datasets program**, which will consist of **non-personal and anonymised datasets** from Government entities that have collected data from Indian citizens or those in India.
  - Private entities will be encouraged to share such data.
- For start-ups, ability to have access to anonymised data will be a phenomenal capability that really should help overall **AI Machine Learning (AIML)** research, outcomes, solutions, companies, everything becomes significantly better.

## PANEL FOR OBC SUB-CATEGORISATION GETS ITS 14TH EXTENSION

**CONTEXT:**

The Commission under former Chief Justice of the Delhi high court, G. Rohini, which is tasked with the sub-categorisation of the Other Backward Classes, has been given its 14th extension by the President.

**Background:**

- The commission under **Justice Rohini** was formed in October 2017.
- The commission was formed by the President under **Article 340 of the constitution**.
- **Objective:** to slot the nearly 3,000 caste groups that makeup India's OBCs into categories.
  - The commission would then have to recommend how the **27% reservation for OBCs** could be distributed among these sub-categories in a manner that was most equitable.
- It was first given **12 weeks** to slot the nearly **3,000 caste groups** that makeup **India's OBCs** into categories.

**Uneven distribution:**

- In 2018, a consultation paper prepared by the commission was reported to have found that of the jobs and educational positions reserved for OBCs at the Central level, 97% have gone to people from **less than a quarter of all OBC sub-castes**.
- In addition, **938 OBC sub-castes** – which make up 37% of the total number – have **no representation** at all in the reserved seats.

**Need to make classification:**

- To examine the **uneven distribution of reservation benefits** among different castes in the central OBC list.
- To work out the mechanism, criteria, norms, and parameters in a scientific approach for sub-categorisation within such OBCs.
- To take up the exercise of identifying the respective castes/communities/sub-castes/synonyms for **comprehensive data coverage**.

**Evolution of OBC status in India:**

- The Kalelkar Commission, set up in 1953, was the first to identify backward classes other than the Scheduled Castes (SCs) and Scheduled Tribes (STs) at the national level.
- The Mandal Commission Report, 1980 estimated the OBC population at 52% and classified 1,257 communities as backward.
  - It recommended increasing the existing quotas, which were only for SC/ST, from 22.5% to 49.5% to include the OBCs.
- **Constitutional Backing for OBC reservation:**
- The central government reserved **27% of seats in union civil posts and services for OBCs [Article 16(4)]**.

- The quotas were subsequently enforced in central government educational institutions [Article 15 (4)].
- In 2008, the **Supreme Court** directed the central government to exclude the **creamy layer (advanced sections)** among the OBCs.
- The **102nd Constitution Amendment Act, of 2018** provided constitutional status to the National Commission for Backward Classes (NCBC), which was previously a **statutory body** under the **Ministry of Social Justice and Empowerment**.

## NO BAR ON CONTESTING TWO SEATS IN ONE POLL: SC

**CONTEXT:**

The Supreme Court has refused to set aside a provision in the election law which allows candidates to contest polls from two constituencies simultaneously.

**About the case:**

- A petition has argued in the Supreme Court to declare **Section 33(7) of the Representation of People Act** invalid and ultra vires.
- In response to it, the SC has mentioned that it is a matter of **political democracy** and it is the authority of **Parliament** to take a call on the matter.

**Section 33(7)** of the Act **allows a person to contest** a general election or a group of by-elections or biennial elections from **two constituencies**.

**Government stand on the issue:**

- In 2018, the government objected to the petition in court.
- It had argued that the **law cannot curtail the right of a candidate** to contest elections and curtail the polity's choice of candidates.
- The government had further told the Supreme Court that the **one-candidate-one-constituency restriction** would require a legislative amendment.

**Concern associated:**

- When a person contests an election from **two constituencies** and wins from both, then he/she vacates the seat in one of the two constituencies.



- The consequence is that a by-election would be required from one constituency involving avoidable expenditure on the conduct of that by-election.

### Suggestions:

To address the concerns associated with elections from two constituencies, a poll body has given the following suggestions:

- The poll body had even suggested that a candidate should deposit an amount of **Rs.5 lakh for contesting in two constituencies** in an Assembly election or **Rs.10 lakh in a general election**.
- The amount would be used to cover the expenses for a by-election in the eventuality that he or she was victorious in both constituencies and had to relinquish one.

### Features of the Representation of People Act, 1951:

- Only a qualified voter is eligible to contest elections to the **Lok Sabha and the Rajya Sabha**.
- For seats that are reserved for the **Scheduled Caste and Tribe communities**, only candidates belonging to those categories can contest the elections.
- A person found guilty of any of the following shall be disqualified for a **period of 6 years** to contest elections after release from jail:
  - Promoting hatred and enmity between classes
  - Influencing elections
  - Bribery
  - Rape or other grave crimes against women
  - Spreading religious disharmony
  - Practising untouchability
  - Importing or exporting prohibited goods
  - Selling or consuming illegal drugs as well as other chemicals
  - Engaging in terrorism in any form
  - Have been imprisoned for at least two years
- The candidate can also be disqualified if he/she has engaged in **any corrupt practice** or excluded from related government contracts.
- Disqualification can also result **if the candidate fails** to declare his/her assets. The candidate must declare his/her assets and liabilities within ninety days from his/her oath-taking day.
- The **Act requires all political parties** to be registered with the Election Commission. Any change in the name and/or address of the party should be intimated to the Commission.

- A party **can take donations** from any individual or company within India, but not government-owned ones. And, contributions from foreign entities are not allowed.
- Every political party must report a donation of over **Rs.20, 000** received from any person or company.
- A party that gets a minimum of **6 per cent** of the valid votes for assembly elections in more than four states or wins at least 2 per cent of seats in Lok Sabha from at least three states is recognized as a National Party.
- A party that gets a minimum of 6 per cent of the votes in the state assembly elections or wins at least 3 per cent of total seats in the state assembly will be a state political party.
- Candidates should deposit Rs.25000 as security for the Lok Sabha elections and Rs.12500 for all other elections. Candidates belonging to the **SC/ST communities get a 50% reduction** in the security deposit

## PUNISH TO REFORM: RAJASTHAN'S OPEN PRISON MODEL

### CONTEXT:

The open prison model adopted in Rajasthan, with convicts staying on community land without high walls or strict surveillance, has promoted a reformative form of punishment and succeeded in transforming the lives of inmates.

### What is Open Prison?

- Open prisons have relatively **less stringent rules** as compared to controlled jails.
- They go by many names like **minimum-security prisons, open-air camps** or **prisons without bars**.
- The fundamental rule of an open prison is that the jail has minimum security and functions on the self-discipline of the inmates.
- The jail does not confine them completely but requires them to earn their living to support their families, living with them inside the jail.
- Prisoners can move out of prison for their work and are supposed to come back to the prison campus after their working hours.
- Every state in India has a prison law, like the Rajasthan Prisoners Rules and Andhra Pradesh Prison Rules, 1979.

**Seventeen states** are reported to have functional open jails with Rajasthan having **31 such prisons**, the highest that any state has.

- The **United Nations Standard Minimum Rules for the Treatment of Prisoners**, popularly known as the **Nelson Mandela Rules**:
- It laid down the objectives of open prisons stating that such prisons provide no physical security against escape but rely on the self-discipline of the inmates, providing the conditions most favourable to the rehabilitation of carefully selected prisoners.

### Right to Life and Personal Liberty for Prisoners:

- **Article 21:** The Supreme Court in various cases has declared the right to medical care comes under the ambit of **Article 21** of the Constitution

**Article 21** of the Constitution also guarantees the **Right to personal liberty** and thereby prohibits any inhuman, cruel or degrading treatment to any person whether he is a **National or foreigner**.

- **Article 39A:** Article 39A of the Constitution of India deals with the obligation of the State to provide free Legal aid to such accused prisoners both in the prison and outside, as they are unable to engage a lawyer due to a lack of means to defend themselves in the Court for the criminal charges brought against them.

### Benefits of open prison:

- It will reduce overcrowding and operational costs of the prison administration.
- It will reduce the psychological pressure and lack of confidence among prisoners when they assimilate into society.
- It goes with the repeated call to develop a humane attitude and reformatory approach towards the offenders in society.

### Issues faced by prisoners:

- Overcrowding.
- Prolonged detention of under-trial prisoners
- A poor man remains in jail for over a year without trial for minor offences such as theft.
- Many inmates can't even afford the bail amount.
- Unsatisfactory living conditions.
- Lack of treatment Programs.
- The allegations of the indifferent and even inhuman approaches of prison staff have repeatedly attracted the attention of critics over the years.

## UNDERSTANDING INDIA'S MENTAL HEALTHCARE ACT, 2017

### CONTEXT:

The National Human Rights Commission (NHRC) in a report flagged the "inhuman and deplorable" condition of all 46 government-run mental healthcare institutions across the country; out of which three are run by the Union government and the remaining by State governments.

### Important issues highlighted in the Report:

- The facilities are "illegally" keeping patients long after their recovery, in what is an "infringement of the human rights of mentally ill patients".
- Moreover, the perennial shortage of doctors, lack of infrastructure and proper amenities speak of a "very pathetic and inhuman handling by different stakeholders".
- The human rights body's observations were made after visits to all operational government facilities, to assess the implementation of the **Mental Healthcare Act, 2017(MHA)**.

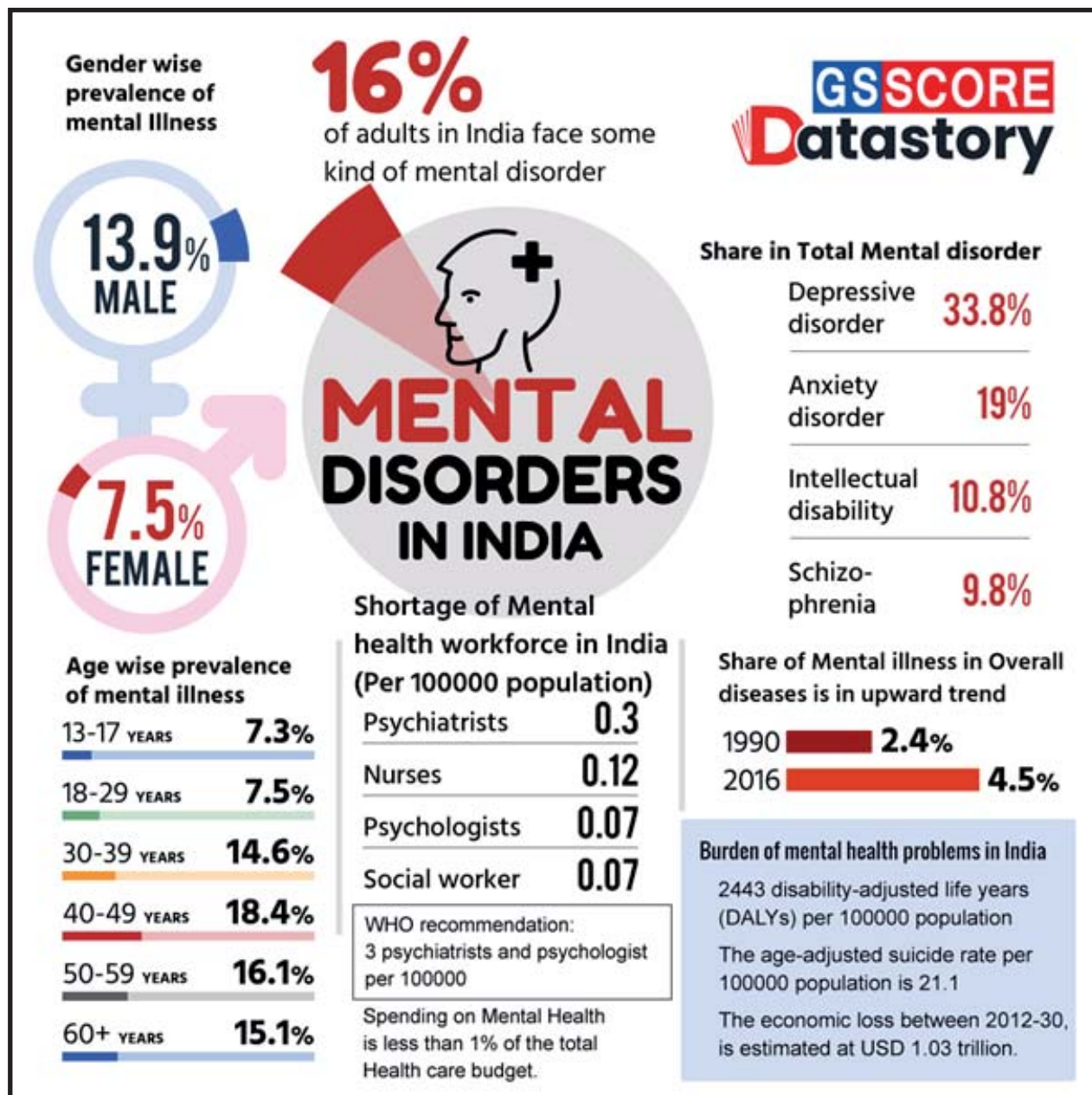
### What does the Mental Healthcare Act, 2017 say?

- Mental healthcare in India is governed by the Mental Healthcare Act, 2017 (**MHA**).
- It was enacted after India ratified the **United Nations Convention on Rights of Persons with Disabilities, 2006**.
- MHA, 2017 replaced the **Mental Healthcare Act, 1987**, which did not provide for *rights* of mentally ill persons and instead prioritised *institutionalisation* of mentally ill persons.
  - The 1987 Act also necessitated stringent and arbitrary licensing requirements for psychiatrists.
- MHA, 2017, emphasises the **rights of mentally ill persons**.
- Its preamble states that it is "**An Act to provide for mental healthcare and services for persons with mental illness and to protect, promote and fulfil the rights of such persons during delivery of mental healthcare and services and for matters connected therewith or incidental thereto.**"
- It empowers persons with mental illnesses (**PMIs**) to decide the mode and method of their treatment, provided that they can comprehend the information provided to them.

## How long-term institutionalisation violates rights?

- Long-term institutionalisation not only violates **Article 21 of the Constitution** which protects

personal liberty, but also indicates a “failure of the State Government(s) to discharge the obligation under various international Covenants (such as the United Nations Convention) relating to rights of persons with disabilities which have been ratified by India”.



## Important Government Initiatives dealing with 'Mental Health':

- National Mental Health Programme (NMHP):** Aim to be implemented in **704 districts** for which support is provided to States/UTs through the **National Health Mission**.
- Community Health Centre (CHC) and Primary Health Centre (PHC) levels** were established to address outpatient services, assessment, counselling/ psycho-social interventions, continuing care and

support to persons with severe mental disorders, drugs, outreach services, ambulance services etc.

- National Tele Mental Health Programme:** In Budget (2022-2023), India's Finance Minister announced the programme to improve access to quality mental health counselling and also care services.
- T-MANAS** (Tele-Mental Health Assistance and Nationally Actionable Plan through States) aim to provide mental health support and interventions to people in remote and neglected areas.

- **KIRAN:** The Ministry of Social Justice and Empowerment has launched a **24/7 toll-free** helpline to provide support to people facing anxiety, stress, depression, suicidal thoughts, and other mental health concerns.
- **Manodarpan Initiative:** It is an initiative of the Ministry of Education under **Atmanirbhar Bharat Abhiyan**. It is aimed to provide psychosocial support to students, family members, and teachers for their mental health and well-being during the times of Covid-19.

**Madhya Pradesh** is the first State in the country to draft a suicide prevention strategy and the government has formed a task force for it.

## SC ON ALDERMEN'S RIGHT TO VOTE

### CONTEXT:

Recently, the Supreme Court mentioned that the Constitution does not allow nominated members of a municipality the right to vote in meetings, while issuing notice to the Lieutenant Governor and the pro tem presiding officer of the Municipal Corporation of Delhi (MCD).

### Nominated members of Municipal Corporation:

- The **General Body of a Municipality or Municipal Corporation** constitutes of elected representatives called Councillors.
- Councillors can **nominate eminent personalities** of the city to become the members of this body.
- These nominated members are **called 'Aldermen'**.

### Constitutional backing:

- **Article 243U** of the Constitution mandates that elections to constitute a municipality should be completed well in time.
- The **pro tem presiding officer** has allowed **nominated members to vote** in direct violation of **Article 243R (2)(iv) of the Constitution**, as pro tem presiding officer must be the Seniormost member of the council (which is not the case in Delhi).
- Section 76 of the **Delhi Municipal Corporation Act of 1957**, the Mayor, or in his absence the Deputy Mayor, has to preside over **every meeting of the corporation**, the simultaneous holding elections of **Mayor, Deputy Mayor and members of the Standing Committees** is directly contrary to the provisions of the statute.

### Municipal body:

- The system of **Municipalities or Urban Local Governments** was constitutionalised through the **74th Constitutional Amendment Act of 1992**.
- The provisions in this amendment are included in **Part IXA** which came into force on June 1, 1993. Therefore, it gave a constitutional foundation to the **local self-government units** in urban areas.

**Elections to Municipalities:** The superintendence, direction and control of the preparation of the electoral rolls for, and the conduct of, all elections to the Panchayats and municipalities shall be vested in the State Election Commissions.

## CHILDREN'S RIGHT TO PROTECT THEIR GENETIC INFORMATION

### CONTEXT:

Supreme Court Bench, hearing a case against the disputed between parents (for divorce/child custody), mentioned that a child should not be lost in its search for paternity and also added that a child's genetic information is part of his fundamental right to privacy.

### About the Judgement:

- The Supreme Court has held that children cannot be mechanically subjected to DNA tests in each and every case between warring parents as a short-cut to establish proof of infidelity.
- It also added that family courts adjudicating between warring parents should order DNA tests only as a last resort.

### Court's argument supporting Child's privacy:

- Children have the right not to have their legitimacy questioned frivolously before a court of law. This is an essential attribute of the **right to privacy**.
- Children are not to be regarded like **material objects**, and be subjected to **forensic/DNA testing**, particularly when they are **not parties** to the divorce proceeding.
- The court highlighted the **psychological trauma** that a child would be forced to suffer if his or her legitimacy was put under a cloud through DNA tests.
- Mechanical orders allowing DNA tests also harm the **reputation and dignity** of the mother.



**Power to ask for evidence:**

The Supreme Court in **Sharda vs. Dharmpal** has held that a **matrimonial court** has the power to order a person to undergo a medical test.

- Such order would not be in violation of the right to personal liberty under **Article 21** of the Constitution.

**Laws related to DNA test:**

- **Section 112 of Indian evidence Act:** The fact that any person was born during the continuance of a valid marriage between his mother and any man, or within **two hundred and eighty days** after its dissolution, the mother remaining unmarried, shall be conclusive proof that he is the legitimate son of that man, unless it can be shown that the parties to the marriage had no access to each other at any time when he could have been begotten.

## ECONOMIC SURVEY 2022- 23

**CONTEXT:**

The government released the Economic Survey 2022-23 which laid out the outlook for India's growth, inflation and unemployment for the upcoming years.

**What is the Economic Survey?**

- The Survey provides a **detailed report** of the national economy **for the year along with forecasts**.
- It touches upon everything from **agriculture to unemployment to infrastructure**.
- It is prepared by the **Economic Division** of the **Department of Economic Affairs (DEA)**.

The comments or policy solutions contained in the Survey are **not binding** on the government.

**Key takeaways of the survey:**

- **GDP growth:** India's growth estimate for FY23 is higher than for almost all major economies.
  - Despite strong global headwinds and tighter domestic monetary policy, if India is still expected to grow between **6.5 and 7.0 per cent**.
  - India's underlying **economic resilience**; of its **ability to recoup, renew and re-energise** the growth drivers of the economy.
- **Inflation:**
  - The RBI has projected **headline inflation** at 6.8% in FY23, outside its comfort zone of 2% to 6%.

- High inflation is seen as one big factor holding back demand among consumers.
- However, there is an optimistic view about the inflation levels and trajectory, as private investment can help to recoup.

**Unemployment:**

- The employment levels have risen in the **current financial year**.
- The job creation appears to have moved higher with the initial surge in exports, a strong release of the "pent-up" demand, and a swift rollout of the capex.

The **Periodic Labour Force Survey (PLFS)**, which showed that **urban unemployment rate** for people aged 15 years and above declined from 9.8% in the quarter ending September 2021 to 7.2% one year later.

**Outlook for 2023-24:**

- It projected a baseline **GDP growth of 6.5%** in real terms in FY24.
- Poor global growth may widen **India's trade deficit** and make the rupee depreciate.
- Similarly, **sustained monetary tightening** (higher interest rates) may drag down economic activity in FY24.

**What does it mean to India?**

- **A decadal growth:** India's economy has recovered from the Covid disruption and, at long last, is poised to see sustained robust growth in the rest of the decade.
- **Reduction in Non-performing assets and banking activities:** Indian economy is thus well placed to grow at its potential in the coming decade, similar to the growth experience of the economy after 2003.

**Challenges:**

- India's potential growth rate without inflation becoming a problem which had fallen to just 6%.
- The **unemployment rates** underestimate the alarming stress in the labour market, because labour force participation rate (or the proportion of people demanding jobs) is itself quite low.
- India is the **world's most populous country** with a growing youth bulge.
- It has the world's largest pool of **poor people and the largest pool of malnourished children**.

# PRIMARY AGRICULTURAL CREDIT SOCIETIES

## CONTEXT:

The Budget has announced Rs. 2, 516 crore for computerisation of 63,000 Primary Agricultural Credit Societies (PACS) over the next five years.

The budget aims to bring greater **transparency and accountability** in their operations and enabling them to diversify their business and undertake more activities.

## What are Primary Agriculture credit societies (PACS)?

The DCCBs work with PACS, which deal directly with farmers.

- PACS are village level **cooperative credit societies** that serve as the last link in a three-tier cooperative credit structure headed by the **State Cooperative Banks (SCB)** at the state level.
- Credit from the SCBs is transferred to the **district central cooperative banks**, or DCCBs, that operate at the district level.

### PACS in the country:

- There are about **95,000 PACS in the country** of which only 65,000 are active at present.
- According to the union home minister, all Panchayats must have one such body by 2027.
- This will be helpful in **promoting farming and dairy activities** at the grassroots level.
- The cooperation ministry is working on a plan to set up multi-purpose PACS in Panchayats over the next five years.

## Why are they significant?

- Since these are cooperative bodies, **individual farmers** are members of the PACS, and office-bearers are elected from within them. A village can have **multiple PACS**.
- PACS are involved in **short term lending** — or what is known as **crop loan**.
- At the start of the cropping cycle, **farmers avail credit** to finance their requirement of **seeds, fertilisers** etc.
- Banks extend this credit **at 7 per cent interest**, of which 3 per cent is subsidised by the Centre, and 2 per cent by the state government.

- Effectively, farmers avail the **crop loans at 2 per cent interest**

NABARD's annual report of 2021-22 shows that **59.6 per cent of the loans** were extended to the **small and marginal farmers**.

## Functions of PACS:

- Maintaining the supply of the hired light machinery for agricultural purposes.
- To arrange for supplying of agricultural inputs. **Examples** -are seeds, fertilizers, insecticides, kerosene, etc.
- It will carry out activities like the sale of gas and petrol and the storage and marketing of dairy and farm products to alleviate poverty and empower women.
- It helps its members by providing marketing facilities that could enhance the sale of their agricultural products in the market at the proper prices.
- Generating optimum financial benefits for people engaged in animal husbandry and allied sectors.

## Importance of Digitisation:

- While **SCBs and DCCBs** are connected to the **Core Banking Software (CBS)**, PACS are not.
- Some PACS use their **own software**, but a compatible platform is necessary to bring about uniformity in the system.
- **Computerisation of PACS** has already been taken up by a few states, **including Maharashtra**.

The **Maharashtra State Cooperative Bank** has plans to directly lend to PACS in districts where the DCCBs are either financially weak or have lost their banking licence.

# JUST ENERGY TRANSITION PARTNERSHIP (JET-P)

## CONTEXT:

After South Africa, Indonesia, and Vietnam, India is considered the next candidate for a JET-Partnership. India's G-20 presidency could potentially be an opportune moment to forge a deal.

**Just Energy Transition Partnership (JET-P)** is emerging as the key mechanism for **multilateral financing by developed countries** to support an **energy transition in developing countries**.

**About:**

- The partnership has taken on particular significance following the insertion of the phrase '**phase-down**' of coal in the **Glasgow Pact**.
- However, India must develop a coherent domestic just **energy transition (JET) strategy** in order to negotiate a financing deal that addresses its unique set of socio-economic challenges.

**Energy transitions and developing countries:**

- Energy transitions could give rise to **intra-generational, intergenerational, and spatial equity concerns**.
- Transitions affect near-term **fossil-dependent jobs**, disrupt forms of future energy access, shrink state's capacity to spend on welfare programmes, and thus exacerbate existing economic inequities between coal and other regions.
- Existing **JET-P** deals pay limited attention to intra-generational inequity, such as job losses resulting from a coal phase-down.
- However, among the **three JET-P deals** signed so far, only South Africa's deal mentions a 'just' component — funding reskilling and alternative employment opportunities in the coal mining regions to be financed as part of the initial \$8.5 billion mobilisation.

- The other **two JET-Ps (Indonesia and Vietnam)** are focused on **mitigation finance** for sector-specific transitions.

**India and energy transition:**

- India's transition requires significant simultaneous growth in energy demand.
- The **Central Electricity Authority** projects a near doubling of electricity demand by 2030.
- A country that is likely to multiply its energy demand requires adequate supply from a diverse mix of sources. India cannot afford to put its development on hold while decarbonising.

**India's commitments:**

- India has signalled a commitment to clean energy with ambitious targets like 500GW of non-fossil, including **450 GW renewable energy (RE) capacity** addition and **43% RE purchase** obligation by 2030.
- These targets are supported through complementary policy and legislative mandates (Energy Conservation (Amendment) Act), missions (**National Green Hydrogen Mission**), fiscal incentives (production-linked incentives) and market mechanisms (upcoming national carbon market).

- These interventions show India's serious efforts at energy transition, but additional supplementary measures are needed for a coherent JET strategy.

## NEW TAX REGIME

**CONTEXT:**

Recently, during the Union Budget 2023-24 speech, Union Finance Minister announced a change in income tax slabs and rebate limits under the new income tax regime.

- According to the proposed 2023 Finance Bill, **Startups that offer their shares to foreign investors may be subject to paying the "angel tax,"** which was previously only applicable to investments raised by Indian residents.

**What are the Proposed Changes?**

- **Tax Rebate Limit Raised:**
  - The enhancement of this limit to **₹7 lakhs from ₹ 5 lakhs** indicates that the **person whose income is less than ₹7 lakhs need not invest anything to claim exemptions** and the entire income would be tax-free irrespective of the quantum of investment made by such an individual.
  - This **will result in giving more consumption power to the middle-class income group** as they could spend the entire amount of income without bothering too much about investment schemes to take the benefit of exemptions.

**Changes in Income Tax slabs:**

- It was proposed to change the tax structure in the new regime **by reducing the number of slabs to five from six income categories and increasing the tax exemption limit to ₹3 lakh.**
- Tax assessors will still be **able to choose from the prior regime.**

- **Salaried and Pensioners:** The new system's standard deduction for taxable income exceeding Rs15.5 lakhs is ₹52,500.
- **For Pensioners:**
  - The Finance Minister **announced extending the benefit of the standard deduction to the new tax regime.**
  - Each salaried person with an income of **₹15.5 lakh** or more will **benefit by ₹52,500.**
- **Maximum Tax Along with Surcharge:**
  - It was **proposed to reduce the highest surcharge rate** from 37% to 25% in the new tax regime. This **would result in the reduction of the maximum tax rate to 39%.**
  - The highest tax rate in India is 42.74%. **This is among the highest in the world.**
  - Tax rates have been reduced under the new tax regime and the **maximum marginal rate drops from 42.74% to 39%.**
- **Finance Bill, 2023:**
  - The Finance Bill, 2023 was also unveiled which has **proposed to amend Section 56(2) VII B of the Income Tax Act.**
  - The provision states that when an unlisted company, such as start-ups receive equity investment for the issue of shares exceeding their face value, it will be considered income for the start-up and be subject to income tax under the heading "Income from other Sources".
  - **Section 56(2) VII B of the Income Tax Act**, colloquially known as the '**angel tax**' was **first introduced in 2012** to deter the generation and use of unaccounted money through the subscription of shares of a closely held company at a value that is higher than the fair market value of the firm's shares.
- It was also proposed to **include foreign investors also**, meaning that when a start-up raises funding from a foreign investor, that too will now be **counted as income and be taxable.**

## THE STATUS AND PROCEEDS OF DISINVESTMENT

### CONTEXT:

The Centre has not met the disinvestment target for 2022-23 so far, having realised ₹31,106 crore to date, of which, ₹20,516 crore or close to a third of the budgeted estimate came from the IPO of 3.5% of its shares in the Life Insurance Corporation (LIC).

### Why does the government undertake disinvestment?

- Divestment is when the government sells its assets or a subsidiary, such as a **Central or State public sector enterprise.**
- Three main approaches to disinvestment are:
  - **Minority disinvestment:** The government retains a majority in the company, typically greater than 51%, thus ensuring management control.
  - **Majority disinvestment:** The government hands over control to the acquiring entity but retains some stake whereas in complete privatisation.
  - **Complete privatisation:** 100% control of the company is passed on to the buyer.

There is a separate department for undertaking disinvestment-related procedures called the **Department of Investment and Public Asset Management (DIPAM).**

### Reason for disinvestment:

- The government may disinvest in order to **reduce the fiscal burden** or **bridge the revenue shortfall** for that year.
- It also uses **disinvestment proceeds** to finance the **fiscal deficit**, to invest in the economy and development or social sector programmes, and to **retire government debt.**
- Disinvestment also encourages **private ownership of assets** and trading **in the open market.**

### Disinvestment vs. Strategic Disinvestment:

- If the government is selling **minority shares** in a PSE (less than 50%), it will continue to be the owner of the PSE. This is normal disinvestment procedure.
- But if the government is selling majority shares (50% or more) of PSE to some other entity (mostly to a private sector entity), then this method is called **strategic disinvestment or strategic sale**. Unlike the simple disinvestment, strategic sale implies some sort of privatization, along with transfer of management control.
- PSEs for strategic disinvestment are selected based on certain criteria:
  - They may be incurring losses
  - Or it may be operationally difficult for the government to continue with the PSE.



## What are CPSEs likely to be divested in 2023-24?

- The government decided to include IDBI Bank, the Shipping Corporation of India (SCI), the Container Corporation of India Ltd (Concor), NMDC Steel Ltd, BEML, HLL Lifecare, and so on in its disinvestment list.
- Incidentally, the disinvestments of **Bharat Petroleum Corporation Limited, SCI, and ConCor** had been approved by the government in 2019 but have not gone through yet.
- The divestments of both **SCI and ConCor** were stuck as some of the physical assets of these companies were properties of the States they are located in and had to be demerged.
- The divestment of major holdings of the IDBI bank is also in the pipeline and is likely to be concluded by mid-FY24.

### Benefits of disinvestment:

The importance of disinvestment by the government lies in utilisation of funds for:

- To improve public finances and fund increasing fiscal deficit.
- Financing large-scale infrastructure development.
- For investing in the economy to encourage spending and fund growth.
- For retiring Government debt- since a big part of Centre's revenue receipts go towards repaying public debt/interest.
- For expenditure on social programs like health and education.
  - To encourage wider share of ownership in an enterprise, and reduce monopoly like enterprises.
  - To introduce, competition, market discipline and efficiency.
  - To depoliticize non-essential services and move out of non-core businesses, especially ones where private sector has now entered in a significant way.
  - It also sends a positive signal to the market and can boost economic activity.

### What have been the challenges to disinvestment?

- It is argued that government is selling profit-making enterprises and is weakening the public sector
- It is diverting attention from the economic slowdown
- It is skipping the normal channel of parliamentary procedures

## WITH AN EYE ON CHINA, UNION CABINET CLEARS 7 ITBP BATTALIONS

### CONTEXT:

The Union Cabinet sanctioned seven new battalions and an operational border base with a fresh strength of **9,400 personnel** for the India-China LAC guarding force Indo-Tibetan Border Police (ITBP).

### Key-highlights:

- This would entail recruitment of **9,400 personnel for deployment in Arunachal Pradesh** where 47 new border outposts and **12 staging camps** are under construction.
- The outposts were sanctioned in January 2020. In all, there are **176 outposts** of the ITBP along the 3,488-km China border.
- The armies of India and China are engaged in a standoff in Ladakh since 2020.

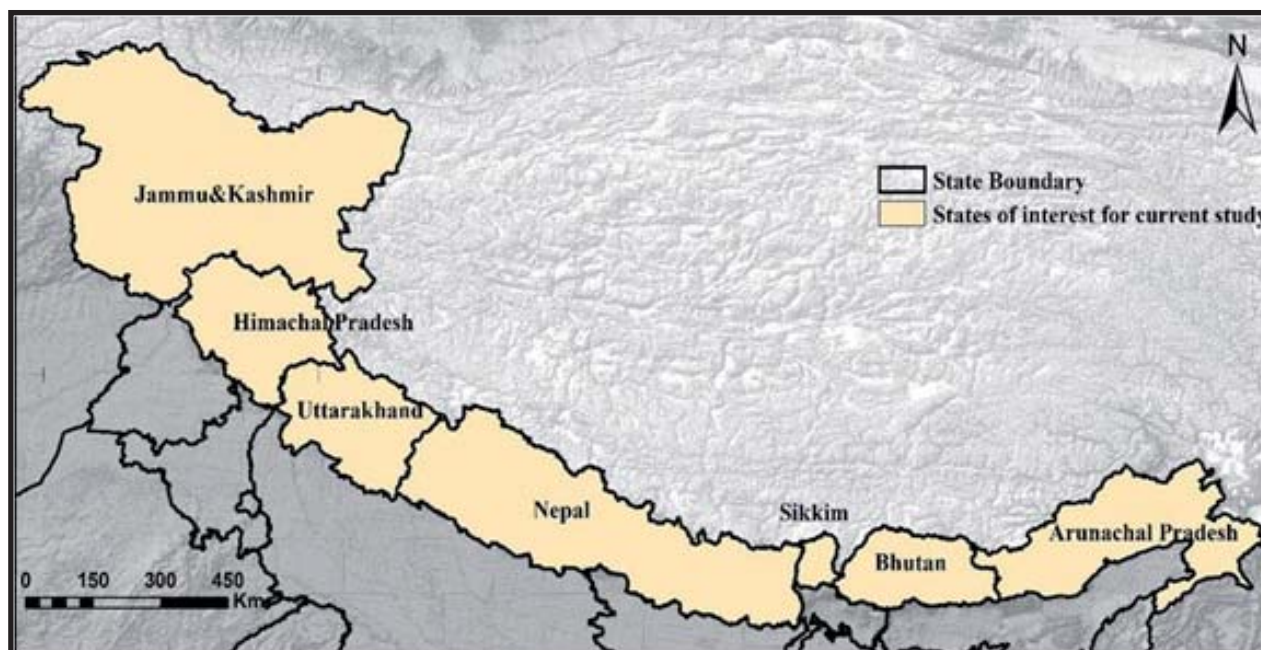
### About:

- Indo-Tibetan Border Police Force (ITBPF) is a **Central Armed Police Force** functioning under the **Ministry of Home Affairs, Government of India**.
- The ITBP was raised on 24th October 1962 during the India-China War and is a border-guarding police force specializing in high-altitude operations.
- Presently ITBP has been guarding India-China border in Jammu & Kashmir, Himachal Pradesh and Uttarakhand, Sikkim and Arunachal Pradesh states from the **Karakoram pass in Jammu Kashmir to Jechap La** in Arunachal Pradesh.
- The Force is also deployed for **Anti-Naxal operations** and other internal security duties.

### Central Armed Police Forces:

The **Ministry of Home Affairs** maintains seven CAPFs:

- The **Central Reserve Police Force (CRPF)**, assists in internal security and counterinsurgency.
- The **Central Industrial Security Force (CISF)**, protects vital installations (like airports) and public sector undertakings.
- The **National Security Guards (NSG)**, is a special counterterrorism force.
- Four border guarding forces, which are the **Border Security Force (BSF)**, **Indo-Tibetan Border Police (ITBP)**, **Sashastra Seema Bal (SSB)**, and **Assam Rifles (AR)**.

**Need:**

- The decision to raise additional battalions was taken keeping an eye on the need for effective monitoring in the border areas and the battalion and sector headquarter would be raised by 2025-26.
- New ITBP battalions were last raised in 2011 and the present decision has been in the pipeline since 2014.

**Impact:**

- The decision will increase the strength of the ITBP from the current 88,000 to 97,000, making it the fourth largest **Central Armed Police Force (CAPF)**.

## CLEAN ENERGY

**CONTEXT:**

In the Union Budget 2023-24, Green hydrogen, clean energy storage and transmission are the key drivers of the government's "Green Growth" priority sector.

**Key initiatives:**

- **National Green Hydrogen mission:** With an outlay of Rs.19,700 crore, the mission will facilitate the transition of the economy to low carbon intensity, reduce dependence on fossil fuel imports and make the country assume technology and market leadership
- **Energy transition investment:** The FM has announced an outlay of Rs.35, 000 crore for energy transition investment.
- **Battery storage capacity:** The government will support setting up of battery storage capacity of 4,000 MWH in India with viability gap funding. The aim is to

touch green hydrogen production of 5 million tonnes by 2030.

- **Green credit programme:** A green credit programme will be notified under the Environment Protection Act.
- **GOBARDhan scheme:** 500 new 'waste to wealth' plants under GOBARDhan (**Galvanizing Organic Bio-Agro Resources Dhan**) scheme will be established for promoting circular economy.
  - ▶ **CBG plants:** These will include 200 compressed biogas (CBG) plants, including 75 plants in urban areas, and 300 community or cluster-based plants at total investment of ₹ 10,000 crore.
  - ▶ **5% compressed biogas:** The government plans to introduce a 5 percent compressed biogas mandate for all entities marketing natural gas in India.
- **National apprenticeship scheme:** To provide support to 47 lakh youths in 3 years, a Direct Benefit Transfer under a pan India national apprenticeship scheme will be rolled out.

**Schemes launched:**

- **PM Vishwa Karma Kaushal Samman:** PM Vishwa Karma Kaushal Samman-package of assistance for traditional artisans and craftspeople has been conceptualised, will enable them to improve quality, scale & reach of their products, integrating with MSME value chain.
- **Free food scheme to continue till 2024:** From January 1, 2023, a scheme to supply free food grain to all **Antyodaya** and **priority households** for one year under **PM Garib Kalyan Ann Yojana** is underway.
- **Pradhan Mantri Awas Yojana:** The Budget 2023-

24 allocated Rs 79,000 crore for the Pradhan Mantri AwasYojana (PMAY), giving a further boost to the government's programme to provide housing to the urban poor.

- **MISHTI scheme:** The government will take up mangrove plantations along the coastline under the new MISHTI scheme. The Mishti scheme is aimed at preserving mangroves.
- **Atmanirbhar Clean Plant Programme:** The Rs 2,200 crore programmes to improve the availability of disease-free, quality planting material for high-value horticultural crops will raise their cultivation area from a low 15%.
- **Pradhan Mantri Kaushal VikasYojana 4.0:** The government will launch Pradhan Mantri Kaushal VikasYojana 4.0.
- **PM Azad Yojana:** The outlay for PM Azad Yojana is being increased by 66% to over Rs 79,000 crore.
- **Amrit Dharohar:** The scheme aims to encourage optimal use of wetlands, and enhance bio-diversity, carbon stock, eco-tourism opportunities and income generation for local communities.
- **National Apprenticeship Promotion Scheme:** To provide stipend support to 47 lakh youth in three years, Direct Benefit Transfer under a pan-India National Apprenticeship Promotion Scheme will be rolled out.
- **National Financial Information Registry:** It will be set up to serve as the **central repository of financial and ancillary information**. This will facilitate efficient flow of credit, promote financial inclusion, and foster financial stability.
- **Azadi Ka Amrit Mahotsav Mahila Samman Bachat Patra:** For commemorating Azadi Ka Amrit Mahotsav, a one-time new small savings scheme, Mahila Samman Savings Certificate, will be made available for a two-year period up to March 2025.
- **PM Vishwakarma KAushal Samman (PM VIKAS):** It is a package of assistance for traditional artisans and craftspeople. This will greatly benefit the Scheduled Castes, Scheduled Tribes, OBCs, women and people belonging to the weaker sections.

## E20 FUEL AND FUTURE OF GREEN ENERGY

### CONTEXT:

The Prime Minister is going to launch 20% ethanol gasoline named 'E20', unveiling a solar and conventional energy-powered cooking system to celebrate the India Energy Week in Bengaluru.

### India energy week:

- **E20 or flex-fuel vehicles** are an excellent way to reduce pollution without breaking the bank.
- Furthermore, the Prime Minister will launch the **Green Mobility Rally** to raise public awareness of green fuels and showcase vehicles powered by green energy.

### About E20 fuel:

- The number "20" in "E20" refers to the **percentage of ethanol** in the gasoline blend.
- Simply put, the higher the number, the higher the percentage of Ethanol in the gasoline.
- India's current **ethanol-to-petroleum mix is 10%**, the highest it has ever been.
- Because it is made from biomass, ethanol does not require crude oil.
- Ethanol is primarily produced from crops such as **corn and sugarcane**.
- India already produces significant quantities of grain and sugarcane. It may allow automobiles to use a higher proportion of Ethanol.

### What is ethanol blending?

- **Naturally Produced-** Ethanol is a biofuel, naturally produced by the fermentation of sugars by yeasts or by petrochemical processes like ethylene hydration.
- **Derived from agricultural products-** In ethanol blending, a blended motor fuel containing **ethyl alcohol** derived from agricultural products is blended with petrol specifically.
- **High in oxygen content-** Ethanol is high in oxygen content, allowing an engine to more thoroughly combust fuel.

### Advantages of E20 fuel:

- Biofuel is gaining popularity because it has the potential to significantly reduce pollution if used on a large enough scale.
- Imports meet approximately 85% of India's fuel needs. In India, using petrol with a 20% ethanol blend would result in significant cost savings for the country.
- New jobs will be created in the **original equipment manufacturing (OEM)**, component supplier, and aftermarket service provider sectors.
- The Indian government believes achieving its 20% ethanol in gasoline target will benefit the country's agricultural industry. The government claims that these measures will increase farmer income.

### Present utilisation of E20 Fuels in India:

- India's **Creta, Venue, and Alcazar SUVs** from Hyundai Motor are said to be capable of running on E20 gasoline as of the **2023 MY model year**.
- Tata Motors debuted two new **turbocharged petrol engines** at the Auto Expo 2023. (1.2-litre and 1.5-litre).
- Tata has stated that its vehicles longer than 4 metres will soon be equipped with E20 fuel-compatible engines.
- By April 2023, similar developments are planned for vehicles manufactured by **Mahindra, Maruti Suzuki, Kia, and others**.

### Ethanol Blended with Petrol (EBP) programme:

- EBP programme was launched by the government in 2003 to promote the use of alternative and environmental friendly fuels.
- This intervention also aimed to reduce import dependency for energy requirements, and give boost to the agriculture sector (supply of straw, additional income to farmers).
- Oil marketing companies (OMCs)** were mandated to sell ethanol blended petrol with percentage of ethanol up to 10 per cent. The government allowed procurement of ethanol produced from non-food feed stocks, like cellulosic and ligno-cellulosic materials, including petrochemical route.
- Ligno-cellulosic material:**
  - It describes the main constituents in most plants, namely cellulose, hemicelluloses, and lignin. Lignocellulose is a complex matrix, comprising many different polysaccharides, phenolic polymers and proteins.
  - Cellulose, the major component of cell walls of land plants, is a **glucan polysaccharide** containing large reservoirs of energy that provide real potential for conversion into biofuels.
  - It is the **non-starch based fibrous** part of plant material.

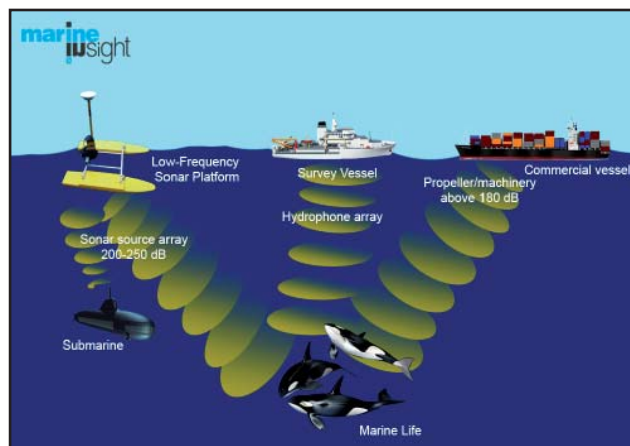
## UNDERWATER NOISE EMISSIONS POSE THREAT TO MARINE LIFE

### CONTEXT:

The rising man-made (anthropogenic) underwater noise emissions (UNE) from ships in the Indian waters are posing a threat to the life of marine mammals like Bottlenose Dolphin, Manatees, Pilot Whale, Seal, and Sperm Whale.

### Why sound is 'critical' for marine life?

- The main form of energy for multiple behavioural activities of marine mammals, which include mating, communal interaction, feeding, cluster cohesion and foraging, is based on sound.
- Sound is critical for communication, navigation, locating prey, avoiding predators and finding mates.



### Who are the major contributors to noise pollution?

- Human activities – known as **anthropogenically generated sounds** – are having a significant acoustic impact.
- Noise pollution, especially **from ships and other vessels, fishing boats, military activities, oil rigs and seismic surveys** is threatening the biodiversity.
- Continuous shipping movement** is identified to be a major contributor to the increase in the global ocean noise level.

### Noise pollution in Indian Ocean:

- The UNE or underwater sound pressure levels in the Indian waters are 102-115 decibels, relative to one **microPascal (dB re 1μ Pa)**.
- The East Coast level is slightly higher than that of the West. There is an increase by a significant value of about 20 dB re 1μPa.
- "The frequencies of ships' underwater self-noise and machinery vibration levels are overlapping the marine species' communication frequencies in the low-frequency range of less than 500 Hz. This is called **masking**."
  - Masking** could have led to a change in the migration route of the marine species to the shallow regions and also making it difficult for them to go back to the deeper water.



**Impact of noise pollution on marine life:**

- Changes in behaviours of mammal's underwater, masking, and stress.
- Impacts on reproduction, breeding and population
- Loss of hearing ability
- Injury and mortality

## IMPACT OF HIGHER TEMPERATURES ON WHEAT CROP

**CONTEXT:**

India has set up a panel of officials to assess the impact of rising temperatures on the wheat crop, as the weather office warned that above normal temperatures would prevail in key producing states.

**Important facts about the Crop:**

India is the **world's second biggest** wheat producer and **world's second-biggest consumer** of wheat.

- Wheat is the main cereal crop in India. In recent years, the major increase in the productivity of wheat has been observed in the **states of Haryana, Punjab and Uttar Pradesh**.
- **Climatic requirement:** Tropical and sub-tropical zones, temperate zone and the cold tracts (far north)
- **Soil:** Soils with a clay loam or loam texture, good structure and moderate water holding capacity are ideal for wheat cultivation.

**Indian Wheat Growing Zones:**

The entire wheat growing areas of the country has been categorized into 6 major zones as follows:

Zones	States/Regions Covered
<b>Northern Hill Zone(NHZ)</b>	Hilly areas of J&K (except Jammu, Kathua and Samba districts), Himachal Pradesh (except Una & Paonta valley), Uttarakhand (excluding Tarai region) & Sikkim.
<b>North Western Plains Zone(NWPZ)</b>	Punjab, Haryana, Western UP (except Jhansi Div), Rajasthan (excluding Kota & Udaipur div), Delhi, Tarai region of Uttarakhand, Una & Paonta valley of HP, Jammu, Samba & Kathua districts of J&K and Chandigarh.
<b>North Eastern Plains Zone(NEPZ)</b>	Eastern UP(28 dist), Bihar, Jharkhand, West Bengal, Assam, Odisha and other NE states (except Sikkim)
<b>Central Zone</b>	MP, Gujarat, Chattisgarh, Kota & Udaipur Div of Rajasthan & Jhansi Div of UP.
<b>Peninsular Zone</b>	Maharashtra, Tamil Nadu(except Nilgiris & Palani Hills), Karnataka & Andhra Pradesh
<b>Southern Hill Zone(SHZ)</b>	Nilgiris & Palani Hills of Tamil Nadu

**Why higher temperature is a concern for the crop?**

- The optimum temperature range for ideal germination of wheat seed is **20-25 degrees Celsius** though the seeds can germinate in the temperature range 3.5 to 35 c.
- Areas with a warm and damp climate are not suited for wheat growing.
- This higher day temperature might lead to **adverse effects** on wheat approaching the reproductive growth period, which is sensitive to temperature.
  - High temperature during flowering and maturing periods leads to loss in yield.

- The country grows only one wheat crop in a year, with planting in October and November, and harvesting from March.

## NORD STREAM & HAZARDOUS METHANE RELEASE

**CONTEXT:**

The leaking of the Nord Stream natural gas pipeline under the Baltic Sea is the biggest single event that led to the massive release of climate-damaging methane.

**About methane:**

- Methane is a rapidly accelerating part of the climate problem.
- It is the primary component of natural gas, and it warms the planet more than 80 times as quickly as a comparable volume of atmospheric CO<sub>2</sub> over a comparable amount of time.

Methane stays in the atmosphere for **only ten years**, unlike CO<sub>2</sub>, which persists for **hundreds or thousands** of years.

- **Sources of Methane:**

- ▶ Biological Sources
- ▶ Agriculture
- ▶ Paddy rice cultivation
- ▶ Emissions from Fuel and Industries

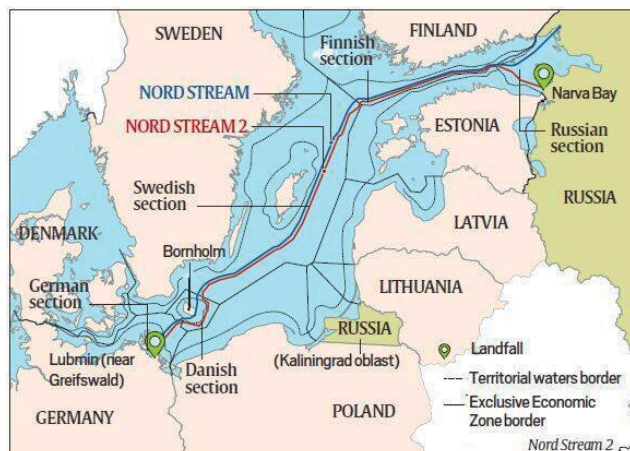
**What is Nord stream project?**

- Owned by the Russian energy giant, Gazprom, Nord Stream Pipeline is the longest subsea pipeline.
- It is an export gas pipeline that runs under the Baltic Sea carrying gas from Russia to Europe.
- The gas for Nord Stream comes mainly from the Bovanenkovo oil and gas condensate deposit in Western Siberia.
- Nord Stream consists **of two pipelines**, which have two lines each.
  - ▶ **Nord Stream 1** that runs from Vyborg in Russia to Lubmin in Germany was completed in 2011.
  - ▶ **Nord Stream 2** that runs from Ust-Luga in Russia to Lubmin in Germany was completed in 2021.
- Both the pipelines together can transport a combined total of 110 billion cubic metres of gas a year to Europe **for at least 50 years**.
- The Nord Stream crosses the **Exclusive Economic Zones (EEZs)** of several countries including Russia, Finland, Sweden, Denmark and Germany, and the territorial waters of Russia, Denmark, and Germany.
- While both pipelines are not currently running commercially, they had millions of cubic metres of gas stored in them.

**The leak event:**

- Two leaks were detected on the **Nord Stream 1 pipeline**, both in an area northeast of the Danish island of Bornholm.
- Sweden had reported **two separate underwater explosions**, very close to where the leaks occurred.

- **Possible causes of the leak-** The investigations have not yet revealed the cause behind the leaks.



- Possible causes range from technical malfunctions to a lack of maintenance, to even possibly sabotage (deliberate damage or destruction of equipment or property which belongs to the enemy).
- The **European Union (EU)** and **North Atlantic Treaty Organisation (NATO)** called the leaks acts of sabotage.
- Russia, which controls the pipeline, has not ruled out sabotage either.
- Ukraine said the leaks were likely the result of a terrorist attack carried out by Russia.
- Various European countries, such as Sweden and Denmark, have launched separate investigations into the matter.

**Concerns:**

- **Economic impact-** European gas prices immediately spiked after the reports of the leaks emerged.
  - ▶ As a result of the leak, all the stored gas is escaping.
  - ▶ The pipelines are unlikely to provide any gas to Europe through the forthcoming winter months.
  - ▶ Depending on the intensity of the damage caused by these ruptures, permanent closure of the Nord Stream lines was also a possibility.
- **Environmental impact-** Methane is a large component of natural gas and is also a potent greenhouse gas.
- It is the second-largest contributor to climate change after CO<sub>2</sub>.
- **Other impacts-** Vessels could lose buoyancy if they enter the area, and there might be a risk of leaked gas igniting over the water and in the air.

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**SECTION: B**  
**(CONTEMPORARY ISSUES**  
**BASED ESSAY)**

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## THE GREATEST ART OF LIFE IS HOW TO REMAIN PERPETUALLY INSPIRED AND MOTIVATED.

dil nâ-umîd to nahîñ nâkâm hî to hai

lambî hai gham kî shaam magar shaam hî to hai

.....I haven't lost hope, but just a fight, that's all;

the night of suffering lengthens, but it is just a night, that's all.

Faiz Ahmad Faiz

Motivation and inspiration are the fuel that fills people with hope and pessimism. It is a psychological stage which helps us to keep going amid all the difficulties. When people are motivated they see light even in the darkest condition. Motivation can come from anywhere, even a small creature such as 'Ant' can energize you to not to lose hope and keep struggling until you climb. People tend to lose hope while performing any duty or struggling to gain their goals in life but those who regain their faith are the ones who win in the end. It lightens up the hearth by removing doubts and anxieties for achieving our aim and making people much focused and goal oriented. We know what we are, but know not what we may be. In such a dilemma where we are not clear about our capabilities, the confidence and trust in oneself makes people constantly try without getting much affected by the circumstances. Inspiration and motivation blooms the heart even when the days are gloomy and nights are sad.

Source of motivation can be any including conscience, family, friends, teachers, spiritual leaders, mentors, leaders, experience, education etc. Baba Rao Ambedkar got the motivation to fight against the atrocities against Dalit through conscience and right knowledge. He faced the discrimination prevalent against Dalits by then and studied it thoroughly. The ideals of equality, liberty and freedom helped him to fight for the cause of the lower and marginalized sections. He was moved by the poor conditions of Dalits where they lived in inhumane conditions that were considered to do the jobs such as manual scavenging and were not even allowed to cross the paths of higher varnas and enter their temples. The plight of Scheduled caste made him bring the people out from the world of discrimination. Similarly, the discrimination the M K Gandhi faced while in Africa against Indians, Martin Luther King Jr. faced in America against Blacks, the subjugation faced by African peoples in the hands of their White masters moved Nelson Mandela to fight for the greater cause. The idea and greatness of these causes were in itself kept leaders to fight against and to bring justice to everyone.

A teacher helps her students to explore their weaknesses and strengths. She keeps them motivated towards achieving higher order thinking and character. She challenges them with new problems in the classroom

and engages their attention. This encourages them to find solutions by analyzing things critically. She equally appreciates the most intelligent and hardworking student of the class and the most non-serious and unmotivated one. A teacher motivates students by inculcating higher order thinking and instilling values such as discipline and hardwork. Students diversify their knowledge and confidence by taking inspiration from teachers. There is an axiome that goes like, "The mediocre teacher tells. The good teacher explains. The superior teacher demonstrates. The great teacher inspires." She inspires students by setting high standards in front of them and encouraging students by showing the right path and right knowledge of self and others.

A mother is the reflection of love and compassion, whereas a father is the symbol of sacrifice and hard work. They both inspire their children by being kind, merciful and empathetic. Children see their mother and father to seek motivation to achieve their goals. A mother works round the clock to make her children emotionally and physically fulfilling. A father acts as the role model for his childrens by being hardworking and sacrificing. Whether it is their examination, competition, or any other exam of life etc, parents do support their children unconditionally to achieve their dreams. They teach them to believe in themselves and have values of higher order. Faith and values such as truth, love, kindness helps people to work for the best in their entire lives irrespective of time, space and field.

To get defeated is a common thing. He who does not get defeated can never learn the taste of success. So, in order to enjoy success one must also learn what defeat looks like. So, real success is not about succeeding in everything one does, rather the courage which inspires people to get back after every fall also counts. The picture is not always rosy but those who constantly try and remain motivated are those who never look at the picture as dull and gloomy. On the other hand, those who do get demotivated easily can not stand in the battlefield so long. They might lose even before the war started. But those who keep fighting until the last moment are the real winners. They keep working without thinking about the outcomes and get lost in making the things even better. No obstacle including physical, emotional, psychological can defeat them from reaching the final

destination. The 'Tortoise' had lost the race with 'Hare', if not kept himself motivated during the race, despite knowing his shortcomings.

The lack of trust in self-capabilities, self-doubt, lack of clarity fills people with feelings that demotivates people to achieve their goals. The true aim of a man is to gain the values, knowledge and character of higher order that may stand still and keep head held high even in the grimmest situation of life. The real motive of a human being is to gain that stage where he does not require circumstances to motivate, any mentor to tell what is right and wrong rather all should come from within.

Allama Iqbal depicts the goal of a human by saying

**Khudi ko kar buland Itna ki har taqdeer se pehle  
Khuda bande se khud puche bata teri raza kya hai.**

We learn from our success as well as from our failure. For moving ahead in life and to get progress, it is imperative to remain firm. The greatness of cause, knowledge between right and wrong, by developing values of higher order, by being more focused and optimistic in every situation, by being more confident and trusting self, we may remain motivated without being deviated from our path. To inculcate these virtues, a person has to go through a range of self-control practices such as self-discipline, regulation of senses and progressive mindset.

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# **SECTION: C**

## **(PRELIMS)**

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### **CURRENT AFFAIRS**

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## EL NINO RETURNING IN 2023

### CONTEXT:

Recently, the world has experienced a rare three consecutive La Nina event since 2020 and it has been predicted that the coming El Nino can have consequences across the globe, including India.

- So, let us see its possible implications.

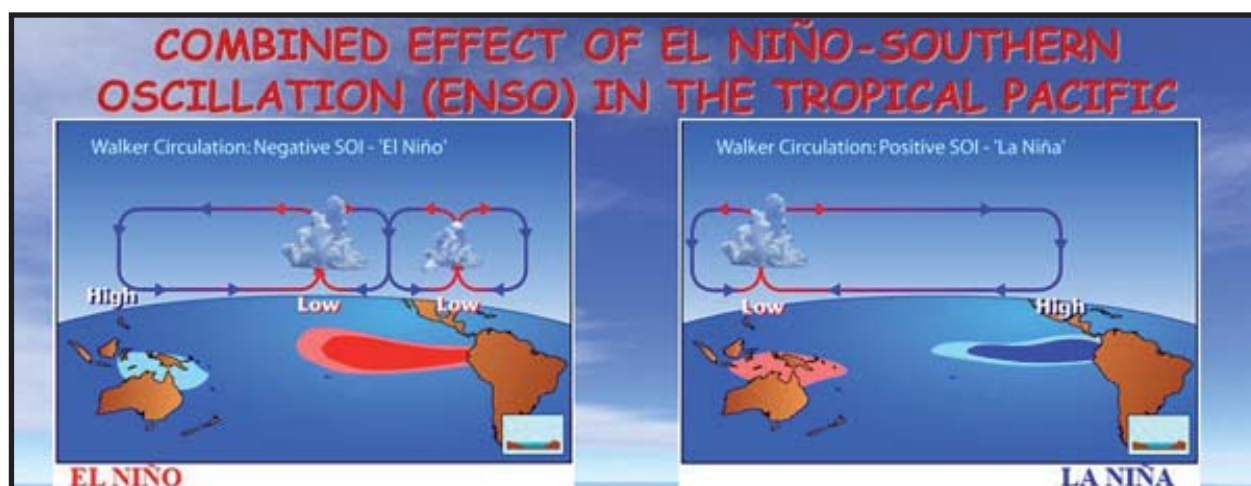
### The upcoming El Nino:

- The change in sea surface temperature associated with **El Nino Southern Oscillation (ENSO)** might seem marginal but is enough to disrupt weather patterns globally.
- It can affect even the large-scale circulation of air in the polar stratosphere i.e. **8km above the Earth**.

- The US **National Oceanic and Atmospheric Administration (NOAA)** has reported that the equatorial Pacific Ocean will return to its **neutral state between March and May of 2023**, and it is likely that **El Niño conditions** will develop during the **northern hemisphere's autumn and winter**.

### How El Nino Southern Oscillation (ENSO) Operates?

- The combined phases of La Nina and El Nino are termed **El Nino-Southern Oscillation (ENSO)**.
- The phenomenon **affects rainfall patterns, global atmospheric circulation, and atmospheric pressure** across the planet.
- In the neutral state, (neither El Niño nor La Niña) **trade winds blow east to west** across the surface of the tropical Pacific Ocean, bringing warm moist air and warmer surface waters towards the western Pacific and keeping the central Pacific Ocean relatively cool.



## TURKEY & ITS RELATION TO EARTHQUAKES

### CONTEXT:

Recently, Turkey witnessed a 7.8 magnitude earthquake which is one of the most powerful earthquakes in the past two decades with more than 1,300 people killed and thousands still believed to be trapped under rubble.

### What makes Turkey a hotbed of seismic activity?

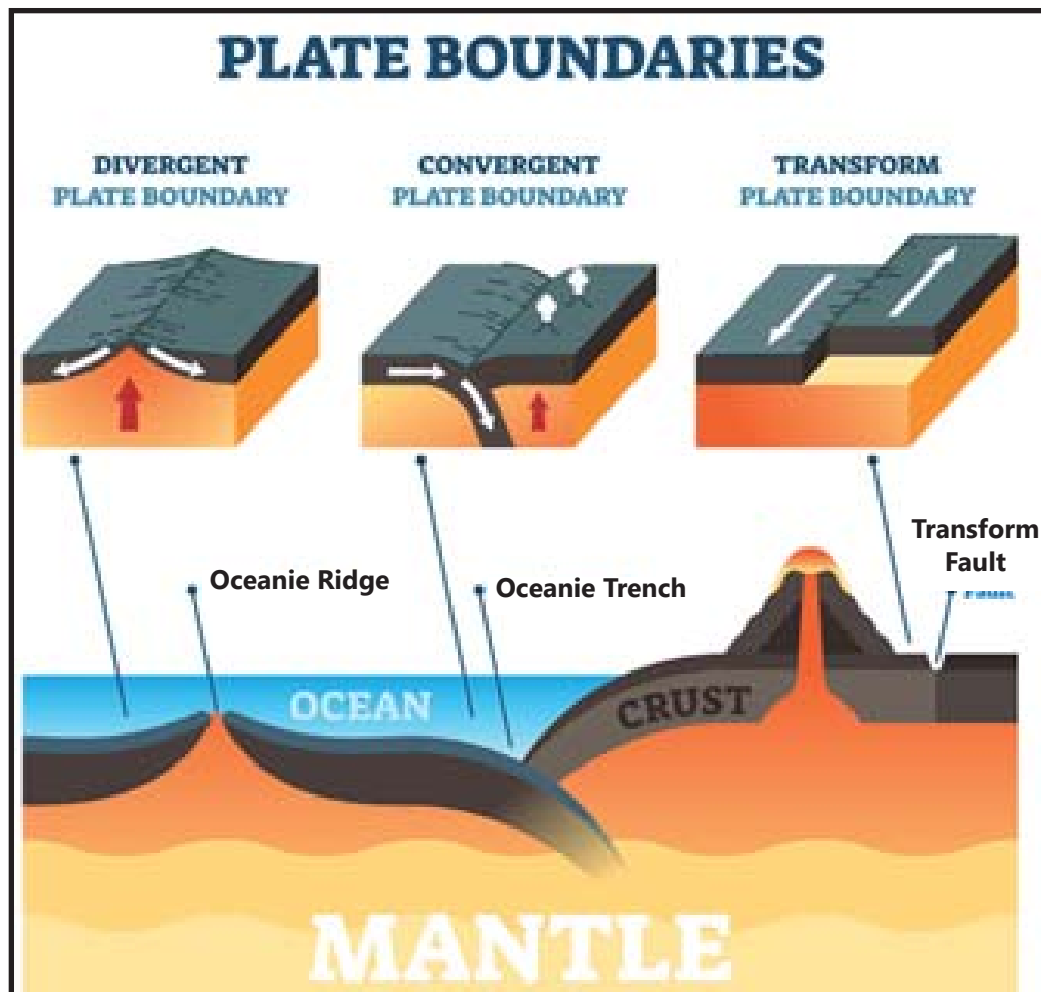
- Turkey is frequently shaken by earthquakes.
- Turkey's proneness to earthquakes comes from its **tectonic location**.

- Turkey, a hotbed of seismic activity, sits on the **Anatolian Plate**, which borders two major faults as it grinds northeast against Eurasia.

### Tectonic plates:

- The Earth's outermost layer comprises some **15 major slabs**, called **tectonic plates**.
- The boundaries between these plates are a system of **faults – fractures** between two blocks of rocks. Any sudden movement along these faults can cause earthquakes.
- The **North Anatolian fault** traverses the country from **west to east**, and the East Anatolian fault, rests in the country's south-eastern region.
  - The **North Anatolian fault (NAF) line**, the meeting point of the Eurasian and Anatolian tectonic plates — is known to be "**particularly devastating**".

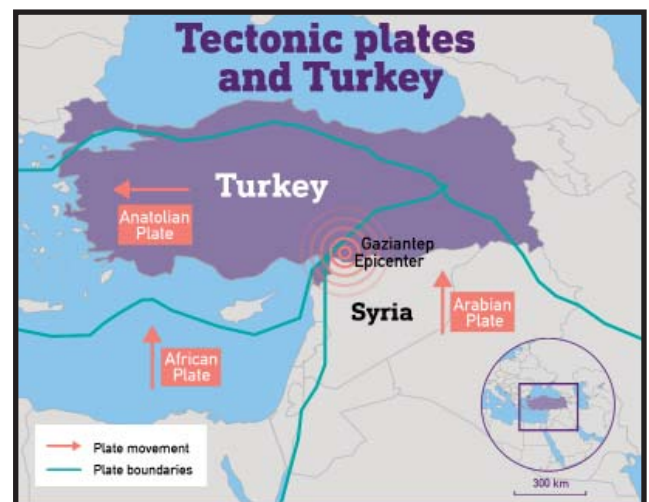




- The NAF, one of the best-understood fault systems in the world, stretches from the south of **Istanbul to north-eastern Turkey** and has caused catastrophic earthquakes in the past.

#### About Earthquake:

- An earthquake is the shaking of the surface of the Earth, resulting from the sudden release of energy in the Earth's lithosphere that creates seismic waves.
- Earthquake is the form of energy of wave motion transmitted through the surface layer of the earth.
- It may be due to **faulting, folding, plate movement, volcanic eruptions and anthropogenic factors** like dams and reservoirs.



#### The location:

- Turkey is a country that occupies a unique geographic position, lying partly in Asia and partly in Europe.
- Throughout its history it has acted as both a barrier and a bridge between the two continents.
- Turkey is situated at the crossroads of the Balkans, Caucasus, Middle East, and eastern Mediterranean.
- It is among the larger countries of the region in terms of territory and population, and its land area is greater than that of any European state.
- The country has a north-south extent that ranges from about 300 to 400 miles (480 to 640 km), and it stretches about 1,000 miles from west to east.
- The capital is Ankara, and its largest city and seaport is Istanbul.

Turkey is bounded on the north by the **Black Sea**, on the northeast by **Georgia and Armenia**, on the east by **Azerbaijan and Iran**, on the southeast by **Iraq and Syria**, on the southwest and west by the **Mediterranean Sea and the Aegean Sea**, and on the northwest by **Greece and Bulgaria**.

## LEPAKSHI MURALS IN VEERABHADRASWAMY TEMPLE

### CONTEXT:

The Archaeological Survey of India (ASI) is making all arrangements to ensure a proposed hour-long trip of G-20 delegates to the Lepakshi Sri Veerabhadraswamy temple, highlighting Indian culture and architecture.

### About Lepakshi Temple:

- Lepakshi temple is located in Andhra Pradesh, built during the era of the **Vijayanagara Empire**.
- The temple is famous for its three shrines, which are dedicated to-
  - Lord Vishnu,
  - Lord Shiva,
  - Lord Veerabhadra.

### Mural Painting:

- Lepakshi Veerabhadra Temple complex has **India's highest sculptural wealth and mural paintings**.
- **Asia's biggest mural painting**-Veerabhadra Swamy (measuring 24x18 feet), a hanging pillar in the dancing hall and the biggest monolithic bull in the country.



- The Veerabhadra Temple was constructed by two brothers, **Viranna and Virupanna**.

- **Architectural style:** The temple is built in the **Vijayanagar architectural style** and has beautiful sculptures adorning the walls.
- It is one of the **finest & oldest temples** in India.
- It is situated atop the **Kurmasailam (tortoise-shaped) hill**.
- There is a huge **Nandi bull** made from a single granite stone.
- Lepakshi has many **murals from the Vijayanagara Era** and the famous sculpture of the **snake on the Nagalinga**.
- The original structure is said to have been built by **Sage Agastya** and finds mention in the **Skanda Purana** as one of the **108 Saivaite pilgrimage centres** of ancient India.
- The entire temple complex was believed to be rebuilt by **Virupanna, and his brother Veeranna** under the rule of **Vijayanagara king Achyuta Devaraya**.



- The main shrine, the **70-pillared nrutya mantapa**, the detailed and beautiful carvings on them depicts gods and artists playing musical instruments and dancers in various poses and mudras.
- The high ceiling is filled with long panels of fresco paintings.

### About the Archaeological Survey of India:

- The ASI is the premier organization for the **archaeological research and protection** of the cultural heritage of the country.
- The prime objection of ASI is to maintain the archaeological sites, ancient monuments and remains of national importance.
- **Headquarters:** New Delhi
- **Established by:** Alexander Cunningham (1861)
- It regulates all archaeological activities as per the provisions of the **Ancient Monuments and Archaeological Sites and Remains Act, of 1958**. It also regulates the **Antiquities and Art Treasure Act, of 1972**.
- It functions under the aegis of the **Union Ministry of Culture**.

## ARTICLE 105 OF CONSTITUTION

### CONTEXT:

Recently, in a letter to Rajya Sabha, the Congress President cited Article 105 of the Constitution that deals with the privileges and powers of parliamentarians, to protest against the expunction of parts of his speech.

### What is Article 105 of the Constitution of India?

- Article 105 pertains to the **powers, privileges, etc.** of Parliament, its members and committees.
- Article 194** protects the privileges and powers of the houses of legislature, their members and committees in the states.
- Simply put, Members of Parliament are exempted from any **legal action** for any statement made or act done in the course of their duties.
  - For example**, a defamation suit cannot be filed for a statement made in the House.
- This immunity extends to certain **non-members** as well, such as the Attorney General for India or a Minister who may not be a member but speaks in the House.
- In cases where a Member oversteps or exceeds the contours of admissible free speech, the Speaker or the House itself will deal with it, as opposed to the court.

### What are the rules for expunging a speech?

- The speech of MPs is **subject to the discipline of the Rules of Parliament**, "good sense" of its Members, and the control of proceedings by the Speaker.
- These checks ensure that MPs cannot use "defamatory or indecent or undignified or unparliamentary words" inside the House.

#### Unparliamentary Words:

- '**Unparliamentary Expressions**', a bulky volume of book has been published by the Lok Sabha secretariat.
- The book lists words that are considered offensive and unparliamentary in most countries but also has words which are relatively harmless yet classified undignified.

## ALL INDIA SURVEY ON HIGHER EDUCATION (AISHE) 2020-21

### CONTEXT:

The Union Ministry of Education has released data from the All India Survey on Higher Education (AISHE), 2020-2021, which showed a **7.5% increase** in student enrolments across the country as compared to 2019-20.

### Key highlights of the survey:

- The data shows that **total student enrolments** reached 4.13 crore.
- The rise in distance education:**
  - The survey also revealed that in the year when the COVID-19 pandemic began, there was a **7% rise in enrolments** in distance education programmes.
- Increase in enrolment of students from weaker sections of society:**
  - There were **2 lacks more SC students** enrolled in 2020-21 compared to the previous survey.
  - About **3 lacks more ST students** and **6 lack more OBC students** getting enrolled for higher education.
- Overall enrolment reduced:**
  - While the increase was noted in **absolute numbers** compared to 2019-20, the **proportion of SC students dropped to 14.2% in 2020-21 from 14.7% the previous year.**
  - The **proportion of OBC students** also dropped to 35.8% in 2020-21 from 37% the previous year.
- Data for minority communities:**
  - The proportion of **Muslim students** enrolling on **higher education dropped** from 5.5% in 2019-20 to 4.6% in 2020-21.
  - Also the proportion of '**other minority students**' dropped from 2.3% to 2% in the year 2020-21.
- Women participation:**
  - Female enrolment in **higher education programmes** had increased to 49% of total enrolments in 2020-21 compared to 45% the previous year.
- The Gross Enrolment Ratio:** For all enrolments (as per the 2011 Census) increased by over 2 points to 27.3.

The **highest enrolment** was seen at the **undergraduate level**, which accounted for 78.9% of all enrolments, followed by **postgraduate level courses**, which accounted for 11.4% of the year's total enrolments.

### The popular courses:

- **At Undergraduate level:** The highest enrolment at the undergraduate level was in the Arts stream, followed by science and Engineering.
- **At Postgraduate level:** At this level, the highest number of enrolment was in the Social science stream.
- **At STEM platform:** The overall figures for STEM enrolments (at all levels of higher education) showed that women lagged behind men, who accounted for over 56% of enrolments in these fields.
- **At PhD level:** The most popular course was in the field of **Engineering and Technology**, followed by Science.

### The Listing for Institutions:

- During 2020-21, the number of Universities has increased by 70, and the number of Colleges has increased by 1,453.
- The maximum increase came in **State public universities** and **State private universities**, increasing to 17 and 38 respectively,
- The number of universities increased followed by a rise of 14 in the **number of Institutes of National Importance** and an increase of 3 in the **number of Central Universities**.

### Data for Teachers:

- The number of teachers increased across **higher education institutes**, but the **SC and ST teachers** continued to be under-represented.
- **At the All-India level:**
  - 2% of teachers belong to the General category;
  - 2% to OBC
  - 1% to SC and
  - 5% to the ST category
- **Minority community teachers:** About 5.6% of teachers come from a **Muslim minority group** and 8.8% are from other minority groups.
- **Women representation:** There were **75 female teachers for every 100 males** across institutes in the country.
- **The teacher-pupil ratio:**
  - It was at 27 for all universities, colleges and standalone institutions and at 24 if only regular mode is considered.
  - It concluded that the best teacher-pupil ratio was found in States like **Tamil Nadu and Karnataka**.

## SUPREME COURT INCOME TAX ORDER ON SIKKIM

### CONTEXT:

Political parties in Sikkim, including the ruling party, have been protesting against the Supreme Court's observation that 'Sikkimese Nepalis were immigrants' while allowing exemption from income tax to all 'old settlers' cutting across ethnic lines.

### Background:

- Before 1990, the **Sikkim Income Tax Manual (SITM)** was promulgated by the **Ruler of Sikkim or Chogy** in 1948, as applicable.
- This implied that there was no discrimination between April 1, 1990, and April 1, 2008.

**Sikkimese women** who had the benefit of the exemption were deprived of the same with effect from April 1, 2008, as of IT Act of 1961.

- The **Association of the Old Settlers of Sikkim** challenged the **constitutional validity** of the definition of the term 'Sikkimese' under **Section 10 (26AAA)**, as it excluded **Indians who settled in Sikkim** before April 26, 1975, the day Parliament approved the merger of Sikkim with India.

### About the case:

There are **three types of residents in Sikkim** namely;

- The original habitats like the **Bhutia-Lepchas**
- The **migrants from Nepal** and other countries and
- The **old settlers of Indian Origin**

- Answering a review petition filed, the apex court said that under the **Sikkim Income Tax Manual, 1948**, "all persons engaged in business were subjected to tax irrespective of their origin."
- Therefore, there was no difference made out between the original inhabitants of Sikkim, namely, the **Bhutia-Lepchas**, and the persons of **foreign origin settled in Sikkim** like the **Nepalis or persons of Indian origin** who had settled down in Sikkim generations back.
- The Supreme Court held that the **benefit of tax exemption** provided in **Section 10 (26AAA)** shall be extended to **all Sikkimese people**.
- Before this judgment, the tax exemption excluded "**old Indian settlers**", who had permanently settled in



Sikkim before the merger of the state into the Indian union on **April 26, 1975**, even if their names were recorded in the register maintained under the '**Sikkim Subjects Regulations, 1961**'.

### What does the Section 10 (26AAA) say?

- The objective behind **Section 10 (26AAA)** is to reduce the taxpayer's burden by providing exemptions.
- This section describes the income that **does not form a part of the total income** while calculating the tax for an individual, also known as "exempted income".
- The petitioners challenged the proviso (applicable to **married Sikkimese women**) and Explanation to Section 10 (26AAA), which elaborated on **the type of income falling** under the category, along with a **definition of 'Sikkimese'**.
- Under the Explanation to **Section 10 (26AAA)**, the definition of 'Sikkimese' is confined to:
  - Individuals **whose name is recorded** in the register maintained under the Sikkim Subjects Regulation, 1961 read with the Sikkim Subject Rules, 1961, immediately before the **26th day of April 1975**;
  - The **73,000-odd individuals** whose names were included in the **Register of Sikkim Subjects** by virtue of Government of India Orders of August 1990 and April 1991; and
  - Any individual whose name does not appear in the Register of Sikkim Subjects, but it is established beyond doubt that the name of such individual's **father or husband or paternal grandfather or brother** from the same father has been recorded in that register.

**Section 10 (26AAA)** was inserted into the **IT Act, 1961** by the **Finance Act, 2008** with retrospective effect from April 1, 1990, the date on which the IT Act was made applicable in Sikkim.

### Sikkim and inclusion in India:

- The present erstwhile monarchy in Sikkim started in the year 1642 with the coronation of **Phuntsog Namgyal** as the Chogyal or king. The king was also a consecrated Buddhist priest.
- The country was frequently attacked by the **Gorkha army of Nepal**. Initially, the British establishment in India had good relations with Sikkim.
- Relations with the British deteriorated and finally in 1861, the British acquired the **regions of Darjeeling and the Terai**.
- The **Treaty of Tumlong** in 1861 made Sikkim a protectorate of the British.
- After India's independence in 1947, the guarantees

of independence that Sikkim had acquired from the British were transferred to the new Indian government.

- Sikkim was finally admitted to the Union of India on 16<sup>th</sup> May 1975 as the country's 22<sup>nd</sup> State.

## 'GUILTY BY ASSOCIATION' DOCTRINE

### CONTEXT:

The Supreme Court has decided to reconsider for its 2011 judgments that ruled that mere membership of a banned organisation cannot be a crime, observing that there was no challenge to the law when the doctrine of "guilt by association" was rejected nor was the Union government heard before the verdict.

### What is Guilty by Association mean?

- Guilt by association, also known as the **association fallacy**, is officially defined as "guilt ascribed to someone not because of any evidence, but because of their association with an offender."
- In this particular context, an individual can face criticism or backlash as a result of their likeness to an existing group or entity.
- Conversely, honour by association describes a situation where someone is lauded as a result of their affiliation with groups that are perceived in a positive light.

### Government's plea against the judgement:

- The solicitor general of India, representing the Union government, argued that the **2011 judgments** failed to consider a raft of **significant considerations**, including the legislative intent and the fact that Parliament, in its wisdom, has engrafted certain provisions to keep the security of the nation intact.

### Unlawful Activities (Prevention) Act:

- It is an Indian law aimed at prevention of unlawful activities associations in India.
- Its main objective was to make powers available for dealing with activities directed against **the integrity and sovereignty of India**.
- The most recent amendment of the law, the **Unlawful Activities (Prevention) Amendment Act, 2019** (UAPA2019) has made it possible for the Union Government to designate individuals as terrorists without following any formal judicial process.
- UAPA is also known as the **Anti-terror law**.

- The **right to form an association** cannot be an unbridled right, and when it affects **sovereignty and integrity** of the country, restrictions will be reasonable. The law is preventive in nature and not just punitive.

## PUISNE JUDGE & ROLE

### CONTEXT:

While recommending names for appointment as judges of the Supreme Court, the Collegium headed by the Chief Justice of India mentioned that it had taken into consideration the seniority of Chief Justices and senior Puisne Judges.

### What does 'Puisne' used for judges mean?

- The term originates from France, which means '**later born**' or '**younger**'.
- The English word that means '**small**' or '**undersized**'.
- Puisne is almost always used in the context of judges, and essentially denotes seniority of rank.
- The term Puisne judge is used in '**common law countries**' to refer to judges **who are ranked lower in seniority, i.e.,** any judge other than the Chief Justice of that court.

### Which are common law countries?

- Common law is the body of law **created by judges** through their written opinions, rather than through **statutes or constitutions** (statutory law).
- Common law, which is used interchangeably with 'case law', is based **on judicial precedent**.
- The United Kingdom (UK) and the Commonwealth countries, including India, are common law countries.

### Is a "Puisne judge" in India the same as in the UK?

- In the UK, Puisne judges are judges other than those holding distinct titles.

**For the United Kingdom, the Supreme Court of Judicature Act, of 1877** defined a "Puisne judge" as any judge of the High Court besides the Lord Chancellor, the Lord Chief Justice of England, and the Master of the Rolls.

- In India, all judges have the same judicial powers. As the Seniormost judge of a court, the Chief Justice has an **additional administrative role**.
- In India, there is a reference to a Puisne judge only while considering the **order of seniority** for appointments, elevations to High Courts, etc. Still, it does not have a bearing on the exercise of a judge's judicial power.

## DISPUTE SETTLEMENT SCHEME

### CONTEXT:

The Government has proposed quick settlement of contractual disputes to promote ease of doing business as announced in Union Budget 2023-24.

### Background:

- The Government has appreciated that special efforts are required to clear the backlog of old disputes and litigation.
- Such cases are not only holding back fresh investment but are also reducing the **ease of doing business** with the Government.
- Therefore, after due study of the past cases, the government intends to bring one time settlement scheme called "**Vivad se Vishwas II (Contractual Disputes)**" to effectively settle pending disputes.

### About the scheme:

- **Aim:** The scheme is aimed at **bringing quick finality** to certain contractual disputes in which Government of India or its agencies is a litigant.
- **The salient features of the proposed scheme are as under:**
- The scheme will apply to disputes where one of the parties is either the Government of India or its following bodies:
  - ▶ All Autonomous Bodies of the Government of India;
  - ▶ Public sector banks and public sector financial institutions;
  - ▶ All Central Public Sector Enterprises;
  - ▶ Union Territories, National Capital Territory of Delhi and all agencies/ undertakings thereof; and
  - ▶ All organisations, where Central Government like Metro Corporations, where Government of India has shareholding of 50%; however, these bodies can opt out of the scheme at their discretion, with approval of the Board of Directors.
- Only disputes involving above entities where the claims for proceedings (either to Court or for Arbitration or Conciliation) were submitted by the contractor.
- Disputes, where claims are **raised against procuring entities** as above along with some other party (State Government or private party), shall not be eligible under the scheme.
- Disputes having only financial claims against the procuring entities will be settled through this scheme.

- The Scheme will be applicable to all **contractors/suppliers** who wish to participate.
- In case **Central Public Sector Enterprises (CPSEs) etc.** are the contractors/ suppliers in a particular contract, they are also eligible to submit their claims under the scheme.
- The Scheme proposes a **graded settlement** terms depending on pendency level of the dispute.
- It is proposed to cover only for cases involving **domestic arbitration** and cases under international arbitration are not eligible to be settled under this scheme.
- The scheme will be implemented through Government **e-Marketplace (GeM)**, which shall provide an online functionality for the same.
- The draft scheme document also provides a broad functionality that the **GeM portal** shall provide to implement the scheme.
- The draft scheme also contains a **draft settlement agreement** between the litigating parties to bring finality to the contractual dispute settlement.

## VIBRANT VILLAGES PROGRAMME

### CONTEXT:

The Cabinet approved the Vibrant Villages Programme (VVP) for the financial years 2022-23 to 2025-26.

### About:

- The scheme was announced in the **2022-23 Budget**.
- **Type:** Centrally sponsored scheme
- **Allocation:** Rs.4,800 crore
- **Objective:** development of villages on the northern border, thus improving the quality of life of people living in identified border villages.
- Vibrant Village Action Plans will be created by the district administration with the help of gram panchayats and 100% saturation of Central and State schemes will be ensured.
- The scheme will provide funds for development of essential infrastructure and creation of livelihood opportunities in 19 districts and 46 border blocks in four States and one Union Territory along the "northern land border of the country"
- In the first phase, 663 villages will be covered. In all, 2,966 villages in Ladakh, Himachal Pradesh, Uttarakhand, Sikkim and Arunachal Pradesh are proposed to be covered.

### Key-outcomes:

- Key outcomes that have been attempted are,
  - connectivity with all-weather road, drinking water, 24x7 electricity — solar and wind energy
  - mobile and Internet connectivity
  - tourist centres
  - multi-purpose centres and health and wellness centres
- There will not be an overlap with the **Border Area Development Programme (BADP)**.

### Border Area Development Programme (BADP)

- The **Department of Border Management, Ministry of Home Affairs** has been implementing the Border Area Development Programme (BADP) through the State Governments as part of a comprehensive approach to Border Management.
- It is a **100% centrally funded programme**.

## TAX ON TOBACCO PRODUCTS

### CONTEXT:

The GST system for tobacco taxation is hindering efforts in regulating consumption and protecting public health.

### Taxation of tobacco products in India:

- Sugar, **rum and tobacco** are widely consumed and is a good candidates for taxation.
- However, research in India has shown that tobacco taxes have not **increased significantly** since the implementation of the **Goods and Services Taxation (GST)** over five years ago.
- Despite cigarettes accounting for only 15% of tobacco users, they generate **80% or more of tobacco taxes**.
- In India, the share of **central excise duty in total tobacco taxes** decreased substantially from pre-GST to post-GST for;
  - **Cigarettes** (54% to 8%),
  - **Bidis** (17% to 1%), and
  - **Smokeless tobacco** (59% to 11%).
- A large part of the **compensation cess** as well as the **National Calamity Contingent Duty (NCCD)**, currently applied to tobacco products is specific.

NCCD is levied as a duty of excise on **certain manufactured goods** specified under the Seventh Schedule of the **Finance Act, 2001**.

### GST regime for tobacco:

- The GST rates on certain smokeless tobacco ingredients such as **tobacco leaves, tendu leaves, betel leaves, areca nuts, etc.** have either **zero or 5%-18% GST**.
- The current **six-tiered tax structure** for cigarettes is complex and creates opportunities for cigarette companies to avoid taxes legally by manipulating cigarette lengths and filters for similarly named brands.
- **Smokeless tobacco products** in India are taxed ineffectively due to their small retail pack size (often 1/2 gram or less) which keeps the price low.

### Why do tobacco products have fewer taxes?

- **Tobacco manufacturers in the informal sector:** Many smokeless tobacco and bidi manufacturers operate in the informal sector, which reduces the tax base on these products.
  - ▶ While these exemptions are intended to **protect small businesses**, the public health rationale requires that they not be extended to businesses that produce or distribute tobacco products.
- **End to the monopoly of States:** After GST, States can no longer raise taxes on tobacco, which hinders their ability to increase revenue and regulate consumption.

- ▶ While a uniform tax across the country is good, not increasing it at the national level at regular intervals harms public health.

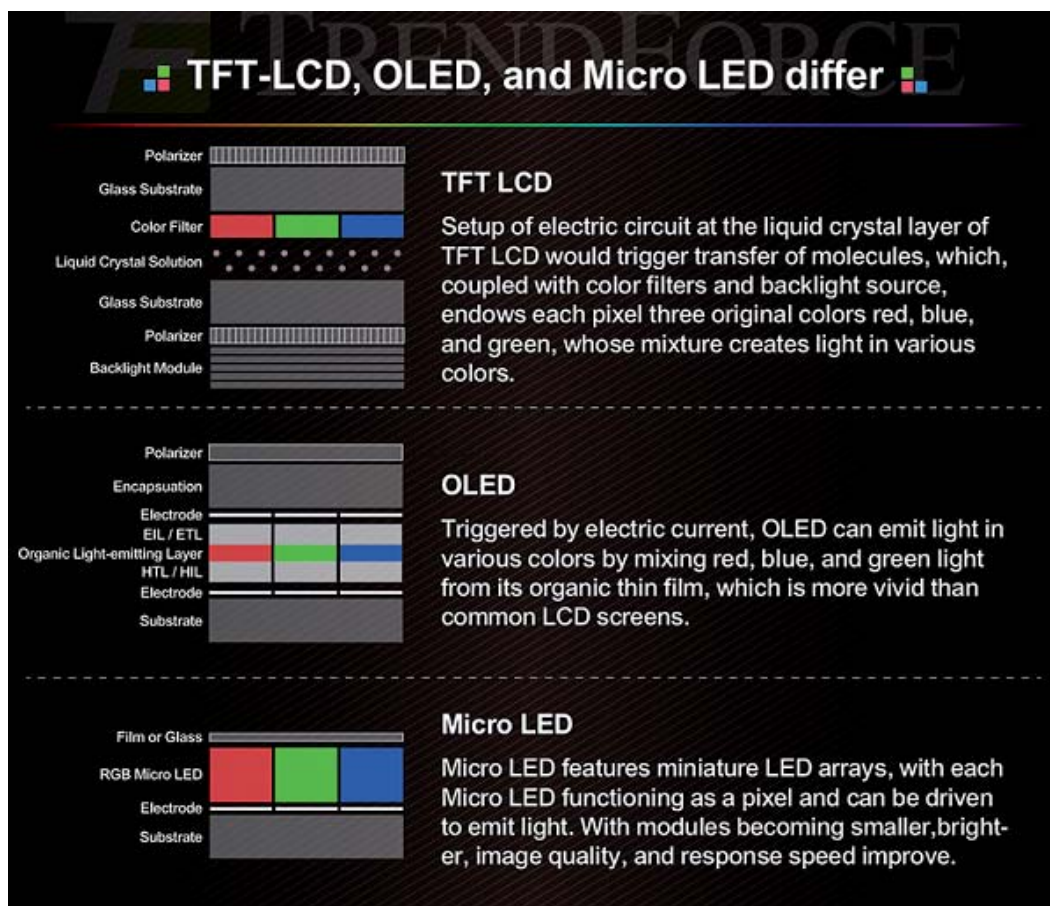
## MICROLED TECHNOLOGY

### CONTEXT:

Apple is currently working on to shift to microLED display technology and plans to implement the same on future watch models starting in 2024.

### What is microLED display technology?

- The basis of microLED technology are sapphires. A sapphire can shine on its own forever. A microLED screen is filled with such small but strong light.
- The picture in a microLED screen is generated by several **individual light-emitting diodes**.
- A microLED is as small as cutting a centimetre of hair into 200 smaller pieces. Each of these microLEDs are semiconductors that receive electric signals.
- Once these microLEDs are gathered, they form a module. Several modules are then combined to form screens.





**Benefits:**

- MicroLED displays are brighter, have better colour reproduction and provide better viewing angles.
- MicroLEDs have limitless scalability, as they are resolution-free, bezel-free, ratio-free, and even size-free.
- The screen can be freely resized in any form for practical usage.

## ISRO LAUNCHES NEW ROCKET SSLV-D2

**CONTEXT:**

The Indian Space Research Organisation (ISRO) launched the second edition of the Small Satellite Launch Vehicle (SSLV-D2) from the first launch pad of Satish Dhawan space centre at Sriharikota, Andhra Pradesh.

**Key-highlights of the launch:**

- It placed the Indian Space Research Organisation (ISRO) earth observation satellite **EOS-07** and two co-passenger satellites — **Janus-1** and **AzaadiSat2** — developed by start-ups, in a 450-km circular orbit around the Earth.
- The objectives of the SSLV-D2 mission are the demonstration of a designed payload capacity of

SSLV in low-Earth orbit, and the injection of an Earth Observation Satellite and two passenger satellites into a 450.7-kilometre circular orbit.

**About SSLV:**

- SSLV is a three-stage launch vehicle configured with three solid propulsion stages and a terminal stage.
  - ▶ A **solid propulsion rocket stage** uses **solid propellants** as the fuel.
  - ▶ The terminal stage is a **liquid propulsion-based Velocity Trimming Module (VTM)**.
- The key features of SSLV are
  - ▶ low cost, flexibility in accommodating multiple satellites
  - ▶ 'launch on demand' feasibility
  - ▶ low turnaround time (the time taken to complete a process)
  - ▶ minimal launch infrastructure requirements
  - ▶ increased production rate from industries
- Also, SSLV has the minimum launch pad occupancy, which means that integration of the vehicle and subsequent launch can be completed within 24 hours.
- SSLV has multiple satellite mounting options for **nanosatellites, micro satellites, and mini satellites**. The launch vehicle can carry a single satellite weighing up to 500 kilograms to a 500-kilometre planar orbit.

**EOS-07:**

- EOS-07 is 156.3 kg satellite designed, developed and realized by ISRO.
- EOS-07's primary mission objective would be to gather data for Geographic Information Systems (GIS) applications, such as cartography, regulation of use of coastal land, urban and rural management, and many more.

**Janus-1:**

- Janus-1 is a technology demonstrator satellite built by United States-based Antaris and its Indian partners XDLINKS and Ananth Technologies.
- It is a standardised satellite bus on which multiple payloads can be attached just like lego blocks. This will enable companies to quickly and cheaply launch their payloads.
- A satellite bus is the main structure of a satellite on which the payloads — which can be used for multiple applications such as earth observation, signal monitoring, or ship tracking — rest.

**AzaadiSat2:**

- The payloads have been built by 750 girl students from across India. A similar satellite by SpaceKidzIndia was launched aboard SSLV-D1 in August last year.
  - ▶ The payloads remain the same — LoRa amateur radio, a sensor to measure radiation levels in space, and sensors to measure the health of the satellite such as temperature, reset count, and inertial data — but this second satellite has an additional feature.
- **SpaceKidzIndia** — which aims to promote space awareness among children — has made the satellite expandable: the 8-unit satellite will have a spring mechanism-based external frame, which will open up once the satellite is in orbit.
  - ▶ After the frame opens up, the satellite will become four times its size.

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### Maru Mahotsav 2023



**Context:** Maru Mahotsav or the Jaisalmer Desert Festival celebrated in Rajasthan during the month of February every year.

#### About the event:

- This year the event will be organised from **February 2 to 5**.
- It is a **four-day long annual** event.
- Along the way, groups of artists performed folk dances like **Kalbelia, Horse, Kachhi Ghodi, Gair** etc.
- In this culture festival, **Celebrities Night, events on the sandy dunes of Pokhran Khudi**.
- A bevy of popular personalities, including Milind Gaba, Aastha Gill, Sawai Bhatt will perform at the event.

### Dar es Salaam Declaration



**Context:** The inaugural countries leading the **Global Alliance to End AIDS in Children** together with community representatives, UN agencies, stakeholders and partners gathered in **Dar es Salaam**, Tanzania to discuss on progress and the plans to end AIDS in Children by 2030.

#### About:

- The Joint **United Nations Programme on HIV and AIDS (UNAIDS)**, the **United Nations Children's Fund (UNICEF)**, the **World Health Organization (WHO)** and partners have brought together the Global Alliance for Ending AIDS in Children by 2030.
- **Objective:** to ensure that no child living with HIV is denied treatment by 2030 – and to prevent new infant HIV infections.
- The alliance was announced at the **International AIDS Conference in Montreal, Canada**.

### Paris Club



**Context:** The Paris Club, an **informal group of creditor nations**, will provide **financial assurances** to the International Monetary Fund on Sri Lanka's debt.

#### About:

- The Paris Club is a group of **mostly western creditor countries** that grew from a 1956 meeting in which Argentina agreed to meet its public creditors in Paris.
- **Objective:** To find sustainable **debt-relief solutions** for countries those are unable to repay their bilateral loans.
- It describes itself as a forum where official creditors meet to solve payment difficulties faced by debtor countries.
- **The members are:** Australia, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Israel, Japan, Netherlands, Norway, Russia, South Korea, Spain, Sweden, Switzerland, the United Kingdom and the United States.
- All 22 are members of the group called **Organisation for Economic Co-operation and Development (OECD)**.

## US India Business Council (USIBC)



**Context:** USIBC working to support plans to promote a free open and prosperous Indo-Pacific region.

### About USIBC:

- **Founded in:** 1975
- The U.S.-India Business Council aims to create an inclusive bilateral trade environment between India and the United States

### The Indo-Pacific Region

- The Indo-Pacific is a biogeographic region, comprising the Indian Ocean and the **western and central Pacific Ocean**, including the **South China Sea**.
- The US, India and several other world powers have been talking about the need to ensure a free, open and thriving Indo-Pacific in the backdrop of China's rising military manoeuvring in the resource-rich region.

## AI for live transcript of court hearings



**Context:** In a first, the Supreme Court launched the use of Artificial Intelligence and technology powered by **Natural Language Processing** on a trial basis to provide live transcriptions of court hearings.

### About:

- A screen displaying the live transcription of court proceedings, which faces the lawyers, has been placed in courtroom number.
- The SC also intends to publish transcripts of oral arguments on its website.
- This service is being provided **by TERES**, which has been providing similar services during arbitration proceedings.
- More recently, it had also provided transcription services during the Delhi Arbitration Weekend held **from 17 to 19 February**.

## India's first Marine Spatial Planning (MSP) Framework



**Context:** India's first Marine Spatial Planning (MSP) framework has been launched in Puducherry.

### About:

- Marine Spatial Planning (MSP) framework aims to balance growth alongside sustainable management of ocean resources and coastal environment preservation.
- The framework is a part of the **Indo-Norway Integrated Ocean Initiative**.
- **Puducherry and Lakshadweep** were chosen as coastlines to pilot the MSP initiative that grew out of a 2019 memorandum of understanding that envisaged India and Norway collaborating on implementing MSP in the oceanic space.



## DHARA 2023



**Context:** DHARA which stands for **Driving Holistic Action for Urban Rivers**, the annual meeting of the members of the River Cities Alliance (RCA) was recently organised by the National Mission for Clean Ganga (NMCG) in association with National Institute of Urban Affairs (NIUA) in Pune.

**About River Cities Alliance (RCA):**

- **Launched in:** 2021
- **Objective:** to provide the member cities with a platform to discuss and exchange information on aspects that are vital for sustainable management of urban rivers, sharing best practices and supporting innovation.
- The Alliance is **open to all** river cities of India. Any river city can join the Alliance at any time.
- **River Cities Alliance (RCA)** started with **30 cities** in 2021 and currently has 95 cities as members across India.

## Sarva dawa Sevan campaign



**Context:** Union Ministry of Health and Family Welfare launched a nationwide '**Sarva Dawa Sevan**' or Mass Drug Administration (MDA) campaign.

- **Aim:** To eliminate Lymphatic Filariasis (LF) by 2027
- The World Health Organization target year for elimination of lymphatic filariasis (LF) is 2030.

**About LF:**

- Lymphatic filariasis, commonly known as **elephantiasis**, is a **neglected tropical disease**.
- It impairs the lymphatic system and can lead to the abnormal enlargement of body parts, causing pain, severe disability and social stigma.
- Lymphatic filariasis is caused by infection with parasites classified as **nematodes (roundworms)** of the family Filariodidae. There are 3 types of these thread-like filarial worms:
  - **Wuchereria bancrofti**, which is responsible for 90% of the cases
  - **Brugia malayi**, which causes most of the remainder of the cases
  - **Brugia timori**, which also causes the disease

## Follow on Public Offer (FPO)



**Context:** Under FPO, a company that is already listed on a stock exchange, issues new shares to existing investors or shareholders.

**About:**

- Follow on Public Offer is a process whereby a company that is already listed on a stock exchange, issues new shares to existing investors or shareholders.
- It is also known as a secondary offering. In other words, FPO allows a company to raise additional funds through the issuance of new shares.
- **FPO is different from Initial Public Offer (IPO).**
  - IPO is the first sale of shares to the public while FPO is Follow on Public Offer. FPO typically occurs after the company has completed an IPO.

**52 Avian species observed in Ladakh**

- FPO also allows investors to increase their stake in a company.
- It also provides an opportunity to new investors to buy stakes in a company.

**Context:** Fifty-two avian species were observed in the '**Asian Waterbird Census-2023**' conducted in the Union Territory of Ladakh.

**About:**

- **Organised by:** The GoI-UNDP Himalaya project and department of wildlife protection had organised the census between **January 17 and January 19** in collaboration with Ladakh biodiversity council.
- The observations were recorded on the **eBird app**, which is an online database of bird observations providing scientists, researchers, and amateur naturalists with real-time data about bird distribution and abundance.
- The **total number of species** recorded across all the birding sites was 35, out of which 13 species were waterbird.
- The project was organised in and around two important **hot springs of eastern Ladakh** -- Chumathang, and Puga, along with other important birding sites such as **Tso Kar, and Shey and Phey villages along the banks of Indus River**.

**The waterbird census:**

- The International Waterbird Census is a monitoring programme operating in 143 countries to collect information on the numbers of waterbirds at wetland sites.
- India is also a part of this monitoring programme under the Asian water bird census.

**Global Climate Resilience Fund**

**Context:** Hillary Clinton (Former US secretary of state) announced a **Global Climate Resilience Fund of 50 million dollars** for **women to fight climate change** in association with the Self Employed Women's Association (SEWA) founded by late activist Ela Bhatt.

**About:**

- The fund will empower women and communities to fight climate change and help provide new livelihood resources and education
- Climate change-related heat poses an additional challenge to women workers in informal sectors and the Global Climate Resilience Fund will assist in addressing this challenge.

Hillary Clinton visited salt pan workers in the **Little Rann of Kutch near Kuda village** in Gujarat's Surendranagar district and learnt from them the process of salt production and hardships faced by them.

### Antarctica's 'Doomsday Glacier'



**Context:** Antarctica's "Doomsday Glacier" is melting rapidly in unexpected ways, according to new research.

#### About:

- Thwaites Glacier is nicknamed as the Doomsday Glacier.
- The Thwaites Glacier is roughly the size of Florida and is located in West Antarctica.
- Part of what holds it in place is an ice shelf that juts out onto the surface of the ocean.
- The shelf acts like a cork, holding the glacier back on the land and providing an important defense against sea level rise.

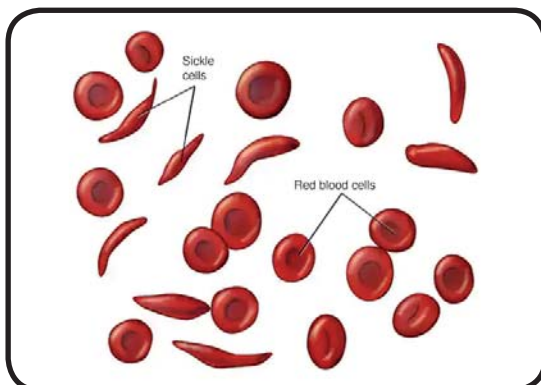
### Exercise Topchi 2023



**Context:** This year's edition of Exercise Topchi was recently conducted.

- Indigenously manufactured weapon systems were the highlight of the Indian Army's 'Exercise Topchi'.
- Exercise Topchi is an annual firepower demonstration and training exercise.
- This edition of "Exercise Topchi" showcased the integrated employment of firepower and surveillance assets to include guns, mortars, rockets, drones, and aviation assets.
- In line with the 'Atmanirbhar Bharat', the highlight of the exercise was display and firing by indigenously manufactured artillery equipment viz K-9 Vajra, Dhanush, Indian field gun (IFG)/ light field gun (LFG) system and Pinaka multi-barrel rocket launchers.

### Sickle Cell Disease



**Context:** In **Union Budget 2023-24**, the government has announced a mission to eliminate **Sickle cell Anaemia by 2047**.

#### What is Sickle Cell Disease (SCD)?

- **SCD** is a **chronic single gene disorder** causing a debilitating systemic syndrome characterized by **chronic anaemia, acute painful episodes, organ infarction and chronic organ damage** and by a significant reduction in life expectancy.
- **Symptoms:**
- **Chronic Anaemia:** leading to fatigue, weakness, and paleness.
- **Painful episodes** (also known as sickle cell crisis): these can cause sudden and intense pain in the bones, chest, back, arms, and legs.
- **Delayed growth and puberty**
- **Government Initiatives to Tackle SCD:**
  - Government has released **technical operational guidelines for prevention and control of hemoglobinopathies in 2016** including sickle cell anaemia.
  - Integrated centers have also been established in **22 tribal districts for treatment and diagnosis**.
  - The **State Haemoglobinopathy Mission** has been established in **Madhya Pradesh** to address the challenges in screening and management of the disease.



## NASA-ISRO partnership satellite 'NISAR'



Context: Recently, the Joint project of National Aeronautics and Space Administration (NASA) and the Indian Space Research Organisation (ISRO), called **NISAR**, got a send-off ceremony at the American space agency's Jet Propulsion Laboratory (JPL) in Southern California.

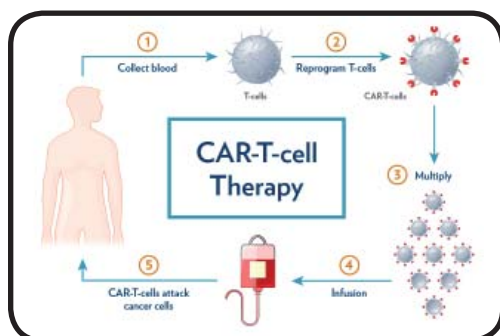
### About NISAR:

- NISAR stands for **NASA-ISRO Synthetic Aperture Radar**.
- It is an **Earth observation satellite**.
- The **2,800 kilograms** satellite consists of **both L-band and S-band synthetic aperture radar (SAR)** instruments, which makes it a dual-frequency imaging radar satellite.
- NASA has provided the **L-band radar, GPS, a high-capacity solid-state recorder** to store data, and a payload data subsystem.
- And the ISRO has provided the **S-band radar, the GSLV launch system** and spacecraft.
- Another important component of the satellite is its **large 39-foot stationary antenna reflector**
- It is made of a **gold-plated wire mesh**, the reflector will be used to focus the radar signals emitted and received by the upward-facing feed on the instrument structure.

### The mission

- NISAR will observe subtle changes in **Earth's surfaces**, helping researchers better understand the causes and consequences of such phenomena.
- It will **spot warning signs of natural disasters**, such as volcanic eruptions, earthquakes and landslides.
- The satellite will also;
  - **Measure groundwater levels,**
  - **Track flow rates of glaciers and ice sheets,** and
  - **Monitor the planet's forest and agricultural regions,** which can improve our understanding of carbon exchange.
- ISRO will use NISAR for a variety of purposes including **agricultural mapping, and monitoring of glaciers in the Himalayas, landslide-prone areas and changes in the coastline.**

## Chimeric antigen receptor (CAR) T-cell therapy



**Context:** According to a study, long-term response to autologous **anti-CD19 chimeric antigen receptor T-cells** in relapsed or refractory '**B cell acute lymphoblastic leukemia**'.

### About:

- A type of treatment in which a patient's T cells (a type of immune system cell) is changed in the laboratory so they will attack **cancer cells**.
- T cells are taken from a patient's blood. Then the gene for a special receptor that binds to a certain protein on the **patient's cancer cells** is added to the T cells in the laboratory.

### Joint military exercise "DUSTLIK"



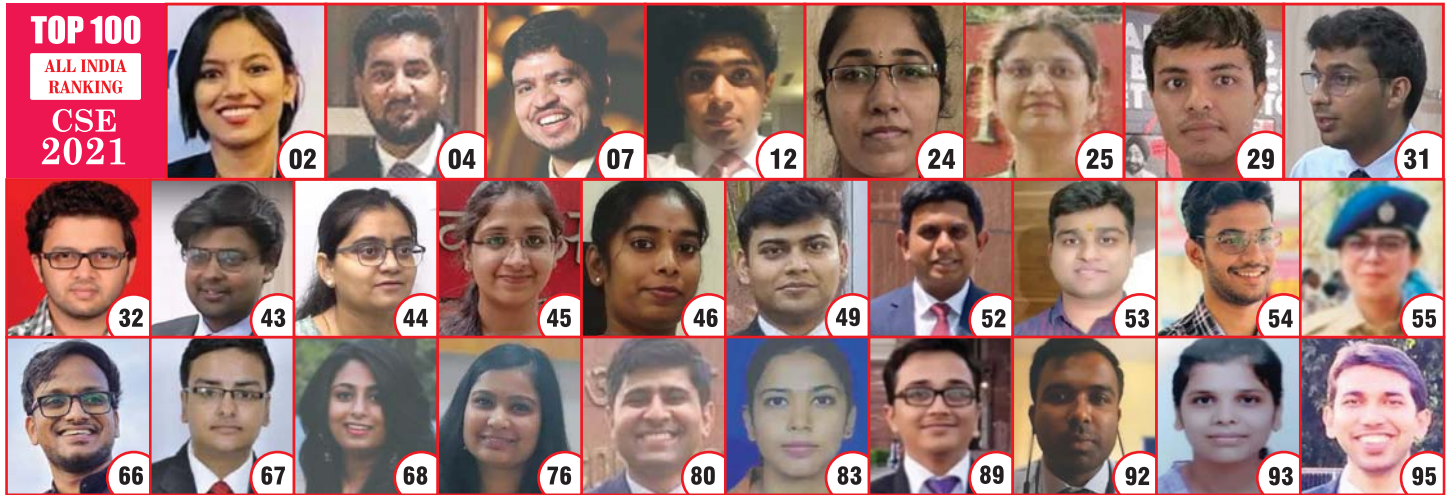
- The special receptor is called a **chimeric antigen receptor (CAR)**.
- Large numbers of the CAR T cells are grown in the laboratory and given to the patient by infusion.
- Chimeric antigen receptor T-cell therapy is used to treat **certain blood cancers, and it is being studied in the treatment of other types of cancer**.
- Also called **CAR T-cell therapy**.

**Context:** The fourth edition of "DUSTLIK", the joint military exercise between the Indian Army and the Uzbekistan Army started on in Pithoragarh, Uttarakhand.

- The first edition of the exercise was conducted in Uzbekistan in November 2019.
  - **First edition-** Uzbekistan's Chirchiq Training Area.
  - **Second edition-** Foreign Training Node in Ranikhet, Uttarakhand
  - **Third edition-** Yangiariq, Uzbekistan
- **Objective:** to enhance cooperation, understanding, and interoperability between the two armies.

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