



# DHEERAN IAS ACADEMY™

(Specialized Institute for UPSC, TNPSC & Banking)

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## JANUARY – 2022 CURRENT AFFAIR NOTES COMPILATION

Telegram: <https://t.me/dheeranasacademy>

## SYLLABUS –UPSC EXAMINATION

### GENERAL STUDIES - 1

#### Art and Culture

**Syllabus:**

- Indian culture will cover the salient aspects of Art Forms, literature and Architecture from ancient to modern times.

#### History

**Syllabus:**

- Modern Indian history from about the middle of the eighteenth century until the present significant events, personalities, issues.
- The Freedom Struggle — its various stages and important contributors/contributions from different parts of the country.
- Post-independence consolidation and reorganization within the country.
- History of the world will include events from 18th century such as industrial revolution, world wars, redrawal of national boundaries, colonization, decolonization, political philosophies like communism, capitalism, socialism etc.— their forms and effect on the society.

#### Geography

**Syllabus:**

- Distribution of key natural resources across the world (including South Asia and the Indian sub-continent); factors responsible for the location of primary, secondary, and tertiary sector industries in various parts of the world (including India).
- Important Geophysical phenomena such as earthquakes, Tsunami, Volcanic activity, cyclone,. Geographical features and their location-changes in critical geographical features (including water-bodies and ice-caps) and in flora and fauna and the effects of such changes.

### GENERAL STUDIES - 2

#### Polity

**Syllabus:**

- Indian Constitution—historical underpinnings, evolution, features, amendments, significant provisions and basic structure.
- Functions and responsibilities of the Union and the States, issues and challenges pertaining to the federal structure, devolution of powers and finances up to local levels and challenges therein. Separation of powers between various organs dispute redressal mechanisms and institutions.
- Comparison of the Indian constitutional scheme with that of other countries. Parliament and State legislatures—structure, functioning, conduct of business, powers & privileges and issues arising out of these.
- Structure, organization and functioning of the Executive and the Judiciary—Ministries and Departments of the Government; pressure groups and formal/informal associations and their role in the Polity.
- Salient features of the Representation of People's Act.
- Appointment to various Constitutional posts, powers, functions and responsibilities of various Constitutional Bodies.
- Statutory, regulatory and various quasi-judicial bodies.
- Government policies and interventions for development in various sectors and issues arising out of their design and implementation.
- Development processes and the development industry —the role of NGOs, SHGs, various groups and associations, donors, charities, institutional and other stakeholders.

## Governance

### Syllabus:

- Important aspects of governance, transparency and accountability, e-governance applications, models, successes, limitations, and potential; citizens charters, transparency & accountability and institutional and other measures.
- Role of civil services in a democracy.

## Schemes

### Syllabus:

- Welfare schemes for vulnerable sections of the population by the Centre and States and the performance of these schemes; mechanisms, laws, institutions and Bodies constituted for the protection and betterment of these vulnerable sections.

## Society and Social Issues.

### Syllabus:

- Role of women and women's organization, population and associated issues, poverty and developmental issues, urbanization, their problems and their remedies.
- Effects of globalization on Indian society.
- Social empowerment, communalism, regionalism & secularism.
- Issues relating to development and management of Social Sector/Services relating to Health, Education, Human Resources.
- Issues relating to poverty and hunger.

## International Relation and organization

### Syllabus:

- India and its neighborhood- relations.
- Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.
- Effect of policies and politics of developed and developing countries on India's interests, Indian diaspora.
- Important International institutions, agencies and fora- their structure, mandate.

## GENERAL STUDIES – 3

### Economy

### Syllabus:

- Indian Economy and issues relating to planning, mobilization, of resources, growth, development and employment.
- Inclusive growth and issues arising from it.
- Government Budgeting.

### Agriculture

### Syllabus:

- Major crops-cropping patterns in various parts of the country, - different types of irrigation and irrigation systems storage, transport and marketing of agricultural produce and issues and related constraints; e-technology in the aid of farmers.
- Issues related to direct and indirect farm subsidies and minimum support prices; Public Distribution System- objectives, functioning, limitations, revamping; issues of buffer stocks and food security; Technology missions; economics of animal-rearing.
- Food processing and related industries in India- scope' and significance, location, upstream and downstream requirements, supply chain management.
- Land reforms in India.

## Infrastructure

### Syllabus:

- Effects of liberalization on the economy, changes in industrial policy and their effects on industrial growth.
- Infrastructure: Energy, Ports, Roads, Airports, Railways etc.
- Investment models.

## Science and technology

### Syllabus:

- Science and Technology- developments and their applications and effects in everyday life.
- Achievements of Indians in science & technology; indigenization of technology and developing new technology.
- Awareness in the fields of IT, Space, Computers, robotics, nano technology, bio-technology and issues relating to intellectual property rights.

## Environment

### Syllabus:

- Conservation, environmental pollution and degradation, environmental impact assessment.
- Disaster and disaster management.

## Defense and security

### Syllabus:

- Linkages between development and spread of extremism.
- Role of external state and non-state actors in creating challenges to internal security.
- Challenges to internal security through communication networks, role of media and social networking sites in internal security challenges, basics of cyber security; money-laundering and its prevention.
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## ART AND CULTURE

### JALLIKATTU

#### Issue:

With a steep rise in the daily cases of COVID-19, the district administration in Vellore, Tiruvannamalai, Ranipet and Tirupattur, have banned the conduct of Jallikattu events, ahead of Pongal festival, as part of safety measures.

#### Analysis of Background:

- Jallikattu (or sallikkattu) is also known as eru thazhuvuthal and mancuvirattu.
- It is a traditional event in which a bull (*Bos indicus*), such as the Pulikulam or Kangayam breeds, is released into a crowd of people, and multiple human participants attempt to grab the large hump on the bull's back with both arms and hang on to it while the bull attempts to escape.
- Participants hold the hump for as long as possible, attempting to bring the bull to a stop. In some cases, participants must ride long enough to remove flags on the bull's horns.
- Jallikattu is typically practised in the Indian state of Tamil Nadu as a part of Pongal celebrations on Mattu Pongal day, which occurs annually in January.

### THE JAGANNATH TEMPLE ACT

#### Issue:

Odisha state cabinet on Wednesday approved amendments to the Sri Jagannath Temple Act of 1954, simplifying issues pertaining to land owned by the Jagannath Temple.

#### Analysis of Background:

- Odisha state cabinet approved amendments to the Sri Jagannath Temple Act of 1954, simplifying issues pertaining to land owned by the Jagannath Temple.
- Following the amendment, the temple administration and concerned officials now have the power to sell or lease out temple land, without any approval from the state government.
- Earlier, people who had occupied or were in possession of the temple land for a long period of time had to approach the state government for sale or transfer of the land.

#### What is the Jagannath Temple Act, 1954?

- In the year 1806, the then British government had issued regulations for management of the Jagannath temple which was referred to as the Juggernaut temple by the colonial rulers.
- Under these regulations, pilgrims who visited the temple were expected to pay taxes. The British government was entrusted with appointing senior priests at the temple.



- It was only after India gained Independence that the state of Odisha formally introduced the Jagannath Temple Act in the year 1952, which came into effect in 1954.
- The Act contains provision on land rights of the temple, duties of the sevayat, administrative powers of the Shri Jagannath Temple Managing Committee, rights and privileges of the Raja of Puri and other persons connected with the management and administration of the temple.

#### **What does the recent amendment propose?**

- The recent amendment approved by the state cabinet now decentralizes the power to settle land related issues of the temple.
- The cabinet has delegated power to temple administration and concerned officials for sale and lease of land in name of Jagannath temple.
- Unlike earlier, no approval will be required from the state government for the process. Through the sale of land, used and unused, the temple will also generate additional corpus funds.

#### **Who can purchase land belonging to the temple?**

- Around 60,426 acres of land in the name of Lord Jagannath, has been identified in 24 districts across the state. Over 395 acres of land has been identified in West Bengal, Maharashtra, Madhya Pradesh, Andhra Pradesh, Chhattisgarh, and Bihar as well.
- But these lands have been occupied by people or even institutes like schools and hospitals for more than five decades. After the temple administration identified these lands, in 2003 it proposed that the occupants can buy the land or take it on lease from the temple rather than driving them away.
- So the land in this case can be bought by people who are already occupying land owned by the temple and have no land rights to claim ownership. The temple administration also allows sale of land which has remained unused to eligible persons for setting up of schools, hospitals, etc.

#### **Jagannath Temple: (Prelims)**

- The temple is believed to be constructed in the 12th century by King Anantavarman Chodaganga Deva of the Eastern Ganga Dynasty.
- Jagannath Puri temple is called 'YamanikaTirtha' where, according to the Hindu beliefs, the power of 'Yama', the god of death has been nullified in Puri due to the presence of Lord Jagannath.
- This temple was called the "White Pagoda" and is a part of Char Dham pilgrimages (Badrinath, Dwaraka, Puri, Rameswaram).
- There are four gates to the temple- Eastern 'Singhdwara' which is the main gate with two crouching lions, Southern 'Ashwadwara', Western 'VyaghraDwara and Northern 'Hastidwara'. There is a carving of each form at each gate.



- In front of the entrance stands the Aruna stambha or sun pillar, which was originally at the Sun Temple in Konark.
- Jagannath PuriYatras are the most famous Vaishnavite rituals observed in India and abroad.
- On the occasion, devotees pray to three deities – Lord Jagannath, Lord Balabhadra and Lordess Subhadra.

## KATHAK

### Issue:

Kathak legend Pandit Birju Maharaj has recently passed away.

### Analysis of Background:

#### About Kathak

- Kathak is one of the eight major forms of Indian classical dance.
- The origin of Kathak is traditionally attributed to the traveling bards in of ancient northern India known as Kathakars or storytellers.
- The term Kathak is derived from the Vedic Sanskrit word Katha which means “story”, and Kathakar which means “the one who tells a story”, or “to do with stories”.
- Wandering Kathakars communicated stories from the great epics and ancient mythology through dance, songs and music.



### Origin:

- Kathak dancers tell various stories through their hand movements and extensive footwork, their body movements and flexibility but most importantly through their facial expressions.

- It evolved during the Bhakti movement, particularly by incorporating the childhood and stories of the Hindu god Krishna, as well as independently in the courts of north Indian kingdoms.
- Kathak is unique in having both Hindu and Muslim gharanas and cultural elements of these gharanas.
- Kathak performances include Urdu Ghazals and commonly used instruments brought during the Mughal period.

#### **Major gharanas:**

- Kathak is found in three distinct forms, called “gharanas”, named after the cities where the Kathak dance tradition evolved – Jaipur, Banaras and Lucknow.
- While the Jaipur gharana focuses more on the foot movements, the Banaras and Lucknow gharanas focus more on facial expressions and graceful hand movements.

#### **Performance details:**

- It involves both Nritya (pure dance) and Nritya (expressive dance).
- Stylistically, the Kathak dance form emphasizes rhythmic foot movements, adorned with small bells (Ghungroo) and the movement harmonized to the music.
- The legs and torso are generally straight, and the story is told through a developed vocabulary based on the gestures of arms and upper body movement, facial expressions, neck movements, eyes and eyebrow movement, stage movements, bends and turns.
- The main focus of the dance becomes the eyes and the foot movements.
- The eyes work as a medium of communication of the story the dancer is trying to communicate. With the eyebrows the dancer gives various facial expressions.
- A Kathak performance can be solo, duo or team. In a technical performance, the speed and energy the dancers exchange with the audience increases in multiples, that is the tempo doubles or quadruples.

## **CHINTAMANI PADYA NATAKAM**

### **Issue:**

The Andhra Pradesh government has brought the curtains down on the popular Telugu play ‘Chintamani Padya Natakam’, which has enthralled people for almost 100 years.

### **Analysis of Background:**

#### **Chintamani Padya Natakam**

- It is a stage play penned by social reformer, writer and poet Kallakuri Narayana Rao about 100 years ago.
- In the play, the writer explains how people neglect their families by falling prey to certain social evils.
- It was aimed to create awareness on the Devadasi system and how the flesh trade was ruining many families at that particular period.

- Subbisetty, Chintamani, Bilvamangaludu, Bhavani Shankaram, and Srihari are some of the characters in the play.

#### **Performance:**

- The play is named after the main character, Chintamani, a woman born into a family involved in the flesh trade.
- The play focuses on how she attained salvation after repentance.
- Subbi Shetty, a character in the play, loses his wealth to Chintamani and his character is utilised in a way that engages the audience.
- Chintamani play is popular across the state. It has been performed at thousands of places.
- The play continues to engage the audience even today and has become a must stage play in villages during Dasara celebrations.

#### **Why it got banned?**

- Began as a social sermon, this play has been increasingly going vulgar.
- Subbi Shetty, who resembles a person of a transgender community, is used to portray the social group in a bad way.
- Obscene dialogues are added to the play in the name of creativity.

## **SOMNATH TEMPLE**

#### **Issue:**

Prime Minister Narendra Modi will inaugurate the new Circuit House at Somnath on 21st January, 2022.

#### **Analysis of Background:**

- Somnath Temple is visited by lakhs of devotees from India and abroad every year. The need for the new Circuit House was felt as the existing government facility was located far off from the temple.
- The new Circuit House has been built at a cost of over Rs 30 crore and is located near the Somnath Temple. It is equipped with top class facilities including suites, VIP and deluxe rooms, conference room, auditorium hall etc.



- The Somnath temple, also called Somanatha temple or Deo Patan, is located in Prabhas Patan, Veraval in Gujarat, India.
- One of the most sacred pilgrimage sites for the Hindus, they believe it to be the first among the twelve Jyotirlinga shrines of Shiva.
- It was reconstructed several times in the past after repeated destruction by several Muslim invaders and rulers.
- After India's independence, those ruins were demolished and the present Somnath temple was reconstructed in the Māru-Gurjara style of Hindu temple architecture.
- The contemporary Somnath temple's reconstruction was started under the orders of the first Home Minister of India Vallabhbhai Patel and completed in May 1951 after his death.
- Presently the Prime Minister of India Narendra Modi is the chairman of Shree Somnath Mandir trust.

## STATUE OF EQUALITY

### Issue:

Sri Ramanuja's statue to be unveiled by Prime Minister Modi on Feb 5.

### Analysis of Background:

- The Statue of Equality is a monument in India dedicated to the 11th-century Vaishnavite Saint Bhagavad Ramanuja, commemorating 1000 years since his birth.
- It will be inaugurated by Indian Prime Minister Narendra Modi on 5th February, 2022.
- The statue is constructed on an estimated 34 acres in Hyderabad, India.
- It consists of a 216 foot tall statue of Ramanuja and is surrounded by 108 Divyadesams (model temples) and includes an educational gallery.
- The monument will be surrounded by 108 "DivyaDesams" of Sri Vaishnavite tradition (model temples) like Tirumala, Srirangam, Kanchi, Ahobhila, Badrinath, Muktinath, Ayodhya, Brindavan, Kumbakonam and others.
- The idols of deities and structures were constructed in the shape at the existing temples.
- The statue was built by Aerosun Corporation in China before being shipped to India.
- It is made of panchaloha, a combination of gold, silver, copper, brass and titanium.
- The statue relies on donations to fund its construction.

- It is the second largest in the world in sitting position of the saint.
- The base building, which is 16.5 metres tall, has a meditation hall where a 54-inch statue of Sri Ramanuja made of 120 kg gold, representing the years he lived, will be inaugurated by President Ramnath Kovind. The deity at the inner sanctorum is meant for daily worship by people.

#### **Ramanuja:**

- Ramanuja or Ramanujacharya was an Indian philosopher, Hindu theologian, social reformer, and one of the most important exponents of the Sri Vaishnavism tradition within Hinduism.
- He was born in 1017 CE in Tamil Nadu. He was also referred to as Ilaya Perumal which means the radiant one.
- His philosophical foundations for devotionalism were influential to the Bhakti movement.
- Ramanuja's guru was YadavaPrakasa, a scholar who was a part of the more ancient AdvaitaVedānta monastic tradition.
- Sri Vaishnava tradition holds that Ramanuja disagreed with his guru and the non-dualistic AdvaitaVedānta, and instead followed in the footsteps of Tamil Alvārs tradition, the scholars Nāthamuni and Yamūnachārya.
- Ramanuja is famous as the chief proponent of Vishishtadvaita sub school of Vedānta, and his disciples were likely authors of texts such as the Shatyayaniya Upanishad.
- Ramanuja himself wrote influential texts, such as bhasya on the Brahma Sutras and the Bhagavad Gita, all in Sanskrit.
- His Vishishtadvaita (qualified non-dualism) philosophy has competed with the Dvaita (theistic dualism) philosophy of Madhvacharya, and Advaita (non-dualism) philosophy of ĀdiShankara, together the three most influential Vedantic philosophies of the 2nd millennium.
- Ramanuja's philosophical foundation was qualified monism, and is called Vishishtadvaita in the Hindu tradition.
- His theories assert that there exists a plurality and distinction between atman (soul) and Brahman (metaphysical, ultimate reality), while he also affirmed that there is unity of all souls and that the individual soul has the potential to realize identity with the Brahman.
- After a long pilgrimage, Ramanuja settled in Shrirangam, where he organized temple worship and founded centres to disseminate his doctrine of devotion to the god Vishnu and his consort Shri (Lakshmi).

**His Writings:**

The Sri Vaisnava tradition attributes Sanskrit texts to Ramanuja –

- **Vedarthasangraha**(literally, “Summary” of the “Vedas meaning”),
- **Sri Bhashya** (a review and commentary on the Brahma Sutras),
- **Bhagavad Gita Bhashya** (a review and commentary on the Bhagavad Gita),
- minor works titled **Vedantadipa, Vedantasara, GadyaTrayam** (which is a compilation of three texts called the Saranāgati Gadyam, Sriranga Gadyam and the Srivaikunta Gadyam), and **Nitya Grantham**.

## HISTORY

### MAYAN CIVILIZATION COLLAPSE

**Issue:** The mystery behind Maya civilisation’s sudden fall from glory still eludes us. Scientists have long suspected that drought pushed its people towards starvation.

**Analysis of Background:**

- The Maya civilisation originated in the **Yucatan Peninsula**. Known for its **monumental architecture** and an **advanced understanding of mathematics and astronomy**, it flourished **between 600 and 800 AD**.
- But then, suddenly, between **800 and 950 AD**, many of the southern cities were abandoned. This period is called the **collapse of the Classic Maya civilisations**, puzzling modern-day scientists.
- Scientists think that this period saw significant droughts. This seeded a theory: The Maya people faced starvation because of their dependence on drought-sensitive crops such as corn, beans and squash.





## VEER BAAL DIWAS

### Issue:

Prime Minister has declared that December 26 shall henceforth be marked as Veer Baal Diwas to pay homage to the courage of the Sahibzades, four sons of Guru Gobind Singh, the last Sikh guru.

### What is the legend of Sahibzades?

- The word “Sahibzada” means “son” in Punjabi and is a term commonly used to refer to the 4 sons of Guru Gobind Singh, the tenth Sikh Guru.
- The week of 21 to 27 December is celebrated as the Sacrificial Week in memory of the four Sahibzadas who made sacrifices for the protection of Sikhism and Hinduism.
- Sahibzada Ajit Singh, Jujhar Singh, Zorawar Singh and Fateh Singh got martyrdom while saving their religious faiths against forceful conversion.

### Their martyrdom: A backgrounder story:

- After the establishment of the Khalsa Panth, Guru Gobind Singh left the fort of Sri Anandpur Sahib with his family on 20-21 December 1704 to fight the invasion by Aurgangzeb.
- The elder sahibzade Ajit Singh, Jujhar Singh stayed with Guru ji, while the younger sons Zorawar Singh and Fateh Singh were with Mata Gujri ji.
- Subedar Wazir Khan of Sirhind arrested the two Sahibzades subsequently and lured them for religious conversion.
- In the end, it was announced to get them elected in the living walls.
- The rest two sahibzades got assassinated in the battle of Chamkaur (1705).

### Implications of their martyrdom:

- When the news of this reached Guruji, he wrote a zafarnama (letter of victory) to Aurangzeb, in which he warned Aurangzeb that the Khalsa Panth was ready to destroy your empire.
- Baba Banda Singh Bahadur took revenge for the martyrdom of Guruji’s Sahibzadas.
- He punished Wazir Khan for his deeds in Sirhind and established Sikh hegemony over the entire area.
- The result of this sacrifice was that later a large Sikh empire emerged under the leadership of Maharaja Ranjit Singh.

### A historic event in Indian History

- This event is an important part of Indian history and the occasion of their martyrdom is remembered and commemorated both with great vigor and sorrow.
- The names of Sahibzades are reverently preserved and are recalled every time **Ardas** (prayer) of supplication is recited at a congregation or privately by an individual.

## AMAR JAWAN JYOTI AND ITS RELOCATION

### Issue:

The iconic Amar Jawan Jyoti (AJJ) at India Gate was extinguished as a part of its merger with the flame at the National War Memorial (NWM). This has sparked a political controversy.

### Analysis of Background:

#### Amar Jawan Jyoti:

- The eternal flame at the AJJ underneath India Gate in central Delhi was an iconic symbol of the nation's tributes to the soldiers who have died for the country in various wars and conflicts since Independence.
- Established in 1972, it was to mark India's victory over Pakistan in the 1971 War, which resulted in the creation of Bangladesh.
- The then PM Indira Gandhi had inaugurated it on Republic Day 1972, after India defeated Pakistan in December 1971.
- The key elements of the Amar Jawan Jyoti included a black marble plinth, a cenotaph, which acted as a tomb of the Unknown Soldier.
- The plinth had an inverted L1A1 self-loading rifle with a bayonet, on top of which was a soldier's war helmet.

#### How the eternal flame was kept burning:

- For 50 years the eternal flame had been burning underneath India Gate, without being extinguished.
- But on Friday, the flame was finally put off, as it was merged with another eternal flame at the National War Memorial.
- Since 1972, when it was inaugurated, it used to be kept alive with the help of cylinders of liquefied petroleum gas, or LPG.
- One cylinder could keep one burner alive for a day and a half.
- In 2006 that was changed. Though a project that cost around Rs 6 lakh the fuel for the flames was changed from LPG to piped natural gas, or PNG.
- It is through this piped gas that the flame marking the tribute to Indian soldiers had been kept alive eternally.

#### Why was it placed at India Gate:

- The India Gate, All India War Memorial, as it was known earlier, was built by the British in 1931.
- It was erected as a memorial to around 90,000 Indian soldiers of the British Indian Army, who had died in several wars and campaigns till then.
- Names of more than 13,000 dead soldiers are mentioned on the memorial commemorating them.
- As it was a memorial for the Indian soldiers killed in wars, the Amar Jawan Jyoti was established underneath it by the government in 1972.

**Reasons for its relocation:**

- The correct perspective is that the flame will not be extinguished, but just moved to be merged with the one at the National War Memorial.
- The flame which paid homage to the soldiers killed in the 1971 War, does not even mention their name, and the India Gate is a “symbol of our colonial past”.
- The names of all Indian martyrs from all the wars, including 1971 and wars before and after it are housed at the National War Memorial.
- Hence it is a true tribute to have the flame paying tribute to martyrs there.
- Further, it can also be seen as part of the government’s redevelopment of the entire Central Vista, of which India Gate, the AJJ and the National War Memorial are parts of.

**What else is planned with the extinguish:**

- The canopy next to the India Gate will get a statue of the Netaji Subhash Chandra Bose.
- The new statue will be 28 feet high.
- Till the statue is completed, a hologram statue of Bose will be placed under the canopy, which he will unveil on January 23.
- The canopy used to have a statue of King George V, which was removed in 1968.

**Why Netaji?**

- January 23 this year marks his 125th birth anniversary.
- From this year onwards, Republic Day celebrations will start on January 23, as opposed to the usual practice of starting it on January 24, to mark the birth anniversary of Bose.
- It will end on January 30, the day Mahatma Gandhi was assassinated.
- The government had earlier announced that Bose’s birth anniversary would be celebrated as Parakram Divas.

**What is the National War Memorial and when was it made?**

- The National War Memorial, which is around 400 meters from India Gate was inaugurated in February 2019, in an area of around 40 acres.
- It was built to commemorate all the soldiers who have laid down their lives in the various battles, wars, operations and conflicts of Independent India.
- There are many independent memorials for such soldiers, but no memorial existed commemorating them all at the national level.
- Discussions to build such a memorial had been ongoing since 1961, but it did not come up.

# The Four Chakras of the Armed Forces

The National War Memorial complex is dedicated to the sacrifices made by India's jawans post independence. It will host a retreat ceremony in the evening and also serve as a venue for ceremonies of the armed forces. Entry to the memorial is free of charge



## PARAM YODHA STHAL

A section dedicated to 21 Param Vir Chakra awardees is adjacent to the National War Memorial. Each of the brave soldiers has been honoured with a bronze bust in this park



**₹176 crore**  
Cost of the project

**600**

Number of trees in the Rakshak Chakra

## RAKSHAK CHAKRA

**Circle of Protection:** This circle is covered with rows of trees with each tree representing the soldiers who stand guard to protect the country

## TYAG CHAKRA

**Circle of Sacrifice:** The names of 25,942 martyrs have been engraved on this circular wall of honour. The wall symbolizes the formation of a Chakravyuh



## AMAR CHAKRA

**Circle of Immortality:** This circle has the Obelisk, which houses the Eternal Flame. This flame symbolizes the immortality of the spirit of the fallen soldiers



## VEERTA CHAKRA

**Circle of Bravery:** This section is a covered gallery that exhibits six bronze murals depicting the heroic actions of the armed forces



**40 acres**

Total area of the war memorial

**15m**

Height of the obelisk in the Amar Chakra

AMIT BANDRE

## Its architecture

- The architecture of the memorial is based on four concentric circles.
- Largest is the Raksha Chakra or the Circle of Protection which is marked by a row of trees, each of which represent soldiers, who protect the country.
- The Tyag Chakra, the Circle of Sacrifice, has circular concentric walls of honour based on the Chakravyuh.
- The walls have independent granite tablets for each of the soldiers who have died for the country since Independence.

- As of today, there are 26,466 names of such soldiers on these granite tablets etched in golden letters.
- A tablet is added every time a soldier is killed in the line of duty.
- The final is the Amar Chakra, the Circle of Immortality, which has an obelisk, and the Eternal Flame.
- Busts of the 21 soldiers who have been conferred with the highest gallantry award of the country, Param Vir Chakra, are also installed at the memorial.

#### Prelims View:

- **Details:** Amar Jawan Jyoti, Netaji, India Gate Architecture.

## INDIA GATE

#### Issue:

The government has put out the eternal flame of the Amar Jawan Jyoti underneath India Gate and merged it with the one instituted at the National War Memorial in 2019 a few hundred meters away.

#### Analysis of Background:

- The India Gate, All India War Memorial, as it was known earlier, was built by the British in 1931. It was erected as a memorial to around 90,000 Indian soldiers of the British Indian Army, who had died in several wars and campaigns till then.
- India Gate, formerly known as the All-India War Memorial, was designed by Sir Edwin Lutyens and inaugurated by Lord Irwin, then Viceroy of India, in 1931. It was erected as a memorial to around 90,000 Indian soldiers of the British Indian Army, who had died in several wars and campaigns till then.
- The foundation stone of India's largest war graves and memorials to soldiers killed in the First World War was laid down on 10 February 1921 by the Duke of Connaught.
- The names of more than 13,000 dead soldiers are mentioned on the 42-m-tall memorial, built in an architectural style that is often compared to the Arc de Triomphe in Paris.
- It stands as a memorial to 90,000 soldiers of the British Indian Army who died in between 1914 and 1921 in the First World War, in France, Flanders, Mesopotamia, Persia, East Africa, Gallipoli and elsewhere in the Near and the Far East, and the Third Anglo-Afghan War.
- The Amar Jawan Jyoti was built under its arch to commemorate India's victory in the Indo-Pak War of 1971.
- The structure is inspired by the 18th century Mahabalipuram pavilion and had statue of King George V until 1947.



## ABIDE WITH ME

### Issue:

A day after the eternal flame at Amar Jawan Jyoti was shifted to the National War Memorial, the government has dropped Abide With Me, the sombre highpoint of the conclusion of the Republic Day celebrations.

### Analysis of Background:

- Penned in the pre-modern world by Henry Francis Lyte, a Scottish Anglican minister and son of a naval captain, the hymn, which is known for its simplicity and sombre theme, is often sung to English composer William Henry Monk's evocative tune Eventide, and has been a fixture in the Indian Beating Retreat ceremony since 1950.
- It is always the last piece to be played by the brass bands before the troops recede up Raisina Hill to the tune of poet Allama Iqbal's Saare jahan se achha.
- Played at dusk, this is also the last piece before the retreat buglers bring down the Indian flag.
- In 2020, reports had emerged about the hymn being dropped from the Beating Retreat Ceremony and being replaced by poet Bankim Chandra Chatterjee's Vande Mataram. Following criticism, the hymn was played in 2020 and retained in 2021.

### View of Gandhi:

- Abide With Me was one of Mahatma Gandhi's personal favourites. The Father of the Nation first heard the piece played by Mysore Palace Band, and could not forget its tenderness and serenity.
- At Sabarmati Ashram in Ahmedabad, the ashram bhajanavali — the first and probably the only cross-religion hymnal anywhere — with the bhajans 'Vaishnav Jan Toh' and the well-known Ram Dhun by Tulsidas, 'Raghupati Raghav Raja Ram' in it, Abide With Me, along with Lead Kindly Light, was put together under Gandhi's watch.

### Aye Mere Watan Ke Logon:

- Abide With Me has been replaced by Kavi Pradeep's seminal piece Aye Mere Watan Ke Logon, which was written in the wake of the Sino-Indian War, and went on to become a tableau of Indian nationalism.
- The song was first sung on January 27, 1963. Composed by C Ramachandra and sung by Lata Mangeshkar, it was first performed at Delhi's National Stadium in a fundraiser organised by the film industry for Indian war widows.

### Issue:

Mysore King Tipu Sultan is at the centre of a controversy in Mumbai with the BJP claiming that Congress leader and Mumbai Suburban Minister Aslam Shaikh is planning to name a playground in the Muslim dominated Malwani locality after the 17th century ruler.

### Analysis of Background:

- Tipu Sultan also known as the Tiger of Mysore, was the ruler of the Kingdom of Mysore based in South India and a pioneer of rocket artillery.
- He introduced a number of administrative innovations during his rule, including a new coinage system and calendar, and a new land revenue system which initiated the growth of the Mysore silk industry.
- He expanded the iron-cased Mysorean rockets and commissioned the military manual Fathul Mujahidin.
- He deployed the rockets against advances of British forces and their allies during the Anglo-Mysore Wars, including the Battle of Pollilur and Siege of Srirangapatna.
- Tipu Sultan and his father used their French-trained army in alliance with the French in their struggle with the British.
- He won important victories against the British in the Second Anglo-Mysore War and negotiated the 1784 Treaty of Mangalore with them after his father died from cancer in December 1782 during the Second Anglo-Mysore War.
- Tipu's conflicts with his neighbours included the Maratha–Mysore War which ended with the signing of the Treaty of Gajendragad.
- The treaty required that Tipu Sultan pay 4.8 million rupees as a one-time war cost to the Marathas, and an annual tribute of 1.2 million rupees in addition to returning all the territory captured by Hyder Ali.



## GEOGRAPHY

### PANGONG TSO

#### Issue:

China is constructing a bridge in eastern Ladakh connecting the north and south banks of Pangong Tso (lake), which will significantly bring down the time for the People's Liberation Army (PLA) to move troops and equipment between the two sectors.

#### Analysis of Background:

##### About:

- On the north bank, there is a PLA garrison at Kurnak fort and on the south bank at Moldo, and the distance between the two is around 200 km.
- The new bridge between the closest points on two banks, which is around 500 m, will bring down the movement time between the two sectors from around 12 hours to three or four hours.
- The bridge is located around 25 km ahead of the Line of Actual Control (LAC), the source stated.
- The bridge is in China's territory and the Indian Army would have to now factor this in its operational plans, the source noted.
- India holds one-third of the 135-km-long boomerang-shaped lake located at an altitude of over 14,000 feet. The lake, a glacial melt, has mountain spurs of the Chang Chenmo range jutting down, referred to as fingers.
- The north bank, which has much higher differences in perception of the LAC than the south bank, was the initial site of the clashes in early May 2020, while tensions on the south bank flared up later in August.
- The Indian Army got tactical advantage over the PLA on the south bank in August-end by occupying several peaks lying vacant since 1962, gaining a dominating view of the Moldo area. On the north bank too, the Indian troops set up posts facing PLA positions on the ridge-lines of Finger 4.



## Prelims View:

- Map: Pangong Tso, Hot Spring.

## WESTERN DISTURBANCES

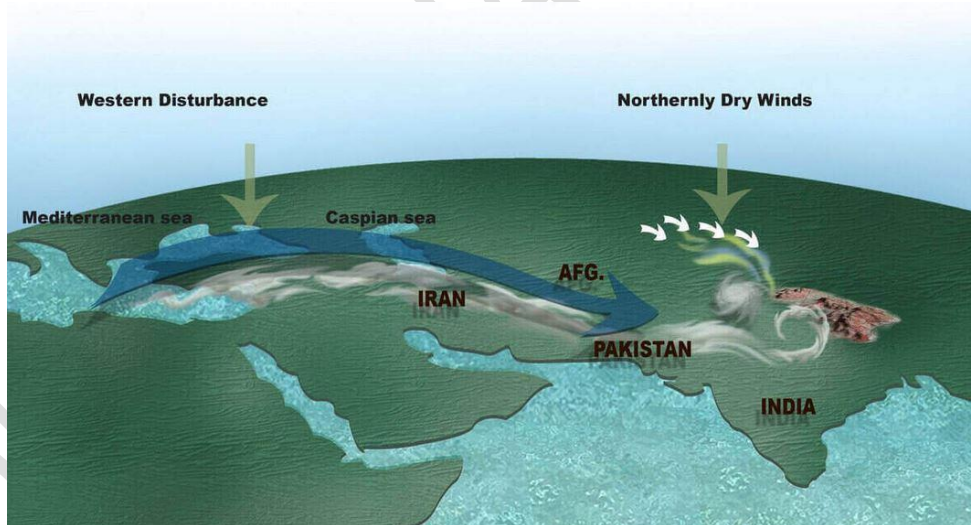
### Issue:

Under the influence of two consecutive western disturbances, New Delhi is in for a wet spell.

### Analysis of Background:

#### Western Disturbances

- A western disturbance is an extratropical storm originating in the Mediterranean region that brings sudden winter rain to the northwestern parts of the Indian subcontinent.
- It is a non-monsoonal precipitation pattern driven by the westerlies.
- The moisture in these storms usually originates over the Mediterranean Sea, the Caspian Sea and the Black Sea.
- Extratropical storms are global phenomena with moisture usually carried in the upper atmosphere, unlike their tropical counterparts where the moisture is carried in the lower atmosphere.
- In the case of the Indian subcontinent, moisture is sometimes shed as rain when the storm system encounters the Himalayas.
- Western disturbances are more frequent and strong in the winter season.



#### Impact: Winter Rainfall and Extreme Cold

- Western disturbances, specifically the ones in winter, bring moderate to heavy rain in low-lying areas and heavy snow to mountainous areas of the Indian Subcontinent.
- They are the cause of most winter and pre-monsoon season rainfall across northwest India.
- An average of four to five western disturbances forms during the winter season.

**Significance:**

- Precipitation during the winter season has great importance in agriculture, particularly for the rabi crops.
- Wheat among them is one of the most important crops, which helps to meet India's food security.

**Prelims View:**

1. Western disturbances originate point.
2. Before reach India it passes which are countries?
3. Impact of western disturbances in India.

**MULLAPERIYAR DAM ISSUE****Issue:**

The Supreme Court has told Tamil Nadu and Kerala that it was not there to “administer the dam” when a supervisory committee was already in place to examine the issue of safety of the Mullaperiyar Dam and the management of its water level.

**Analysis of Background:****Mullaperiyar Dam**

- It is a **masonry gravity dam** on the Periyar River in Kerala.
- It is located on the **Cardamom Hills** of the Western Ghats in Thekkady, Idukki District.
- It was constructed between 1887 and 1895 by John Pennycuick (who was born in Pune) and also reached in an agreement to divert water eastwards to the Madras Presidency area.

- It has a height of 53.6 m (176 ft) from the foundation, and a length of 365.7 m (1,200 ft).

#### Operational issue:

- The dam is located in Kerala but is operated and maintained by Tamil Nadu.
- The catchment area of the Mullaperiyar Dam itself lies entirely in Kerala and thus not an inter-State river.
- In November 2014, the water level hit 142 feet for first time in 35 years.
- The reservoir again hit the maximum limit of 142 feet in August 2018, following incessant rains in the state of Kerala.
- Indeed, the tendency to store water to almost the full level of reservoirs is becoming a norm among water managers across States.

#### The dispute: Control and safety of the dam

- Supreme court judgment came in February 2006, has allowed Tamil Nadu to raise the level of the dam to 152 ft (46 m) after strengthening it.
- Responding to it, the Mullaperiyar dam was declared an 'endangered' scheduled dam by the Kerala Government under the disputed Kerala Irrigation and Water Conservation (Amendment) Act, 2006.
- For Tamil Nadu, the Mullaperiyar dam and the diverted Periyar waters act as a lifeline for Theni, Madurai, Sivaganga, Dindigul and Ramnad districts.
- Tamil Nadu has insisted on exercising the unfettered colonial rights to control the dam and its waters, based on the 1886 lease agreement.

#### Rule of Curve issue

- A rule curve or rule level specifies the storage or empty space to be maintained in a reservoir during different times of the year.
- It decides the fluctuating storage levels in a reservoir.
- The gate opening schedule of a dam is based on the rule curve. It is part of the "core safety" mechanism in a dam.
- The TN government often blames Kerala for delaying the finalization of the rule curve.

#### Prelims View:

1. **Map:** Periyar River and its tributary, Cardamom Hill
2. What is rule curve?

### MEKEDATU RESERVOIR

#### Issue:

The 'Mekedatu march' had been launched by the Congress on January 9 for implementation of a project to build a reservoir on the Cauvery at Mekedatu near the Tamil Nadu border.

### Analysis of Background:

- The proposed reservoir, which aims to supply drinking water to Bengaluru and surrounding regions, has been challenged in the Supreme Court by Tamil Nadu on the ground that it would eat into the state's share of Cauvery water as adjudicated by the court in 2018.
- Proposed by Karnataka, the project envisages a reservoir near Ontigondlu, about 1.5 km from Mekedatu (which literally means goat's leap) in Ramanagara district of south Karnataka at the confluence of the Cauvery and Arkavathi rivers.
- It is 4 km from the Tamil Nadu border and 100 km from Bengaluru.



### Prelims View:

1. Map: Mekedatu dam, River Cauvery and its tributary.

## SIACHEN

### Issue:

We are “not averse” to demilitarisation of the Siachen glacier but the pre-condition is Pakistan has to accept the Actual Ground Position Line (AGPL), Army chief General Manoj Naravane said.

### Analysis of Background:

- The Siachen Glacier is a glacier located in the eastern Karakoram range in the Himalayas, just northeast of the point NJ9842 where the Line of Control between India and Pakistan ends.
- The glacier lies between the Saltoro Ridge immediately to the west and the main Karakoram range to the east. The Saltoro Ridge originates in the north from the Sia Kangri peak on the China border in the Karakoram range.
- The entire Siachen Glacier, with all major passes, is currently under the administration of India since 1984. Pakistan controls the region west of Saltoro Ridge, far away from the glacier.
- The glacier's melting waters are the main source of the Nubra River in the Indian region of Ladakh, which drains into the Shyok River. The Shyok in turn joins the 3000 kilometre-long Indus River which flows through Pakistan. Thus, the glacier is a major source of the Indus.
- At 76 km long, it is the longest glacier in the Karakoram and second-longest in the world's non-polar areas.
- Siachen and Sir Creek have long been termed “low hanging fruits” in the past for resolution between India and Pakistan and the two countries have held 13 rounds of Defence Secretary-level talks on Siachen, the last one in June 2012.



### Prelims View:

- Map: Siachen Glacier location, Karakoram mountain range, Nubra, Shyok River.



## TONGA VOLCANO ERUPTION

### Issue:

A distant undersea volcano has erupted in spectacular fashion near the Pacific nation of Tonga sending large tsunami waves reaching the shore.

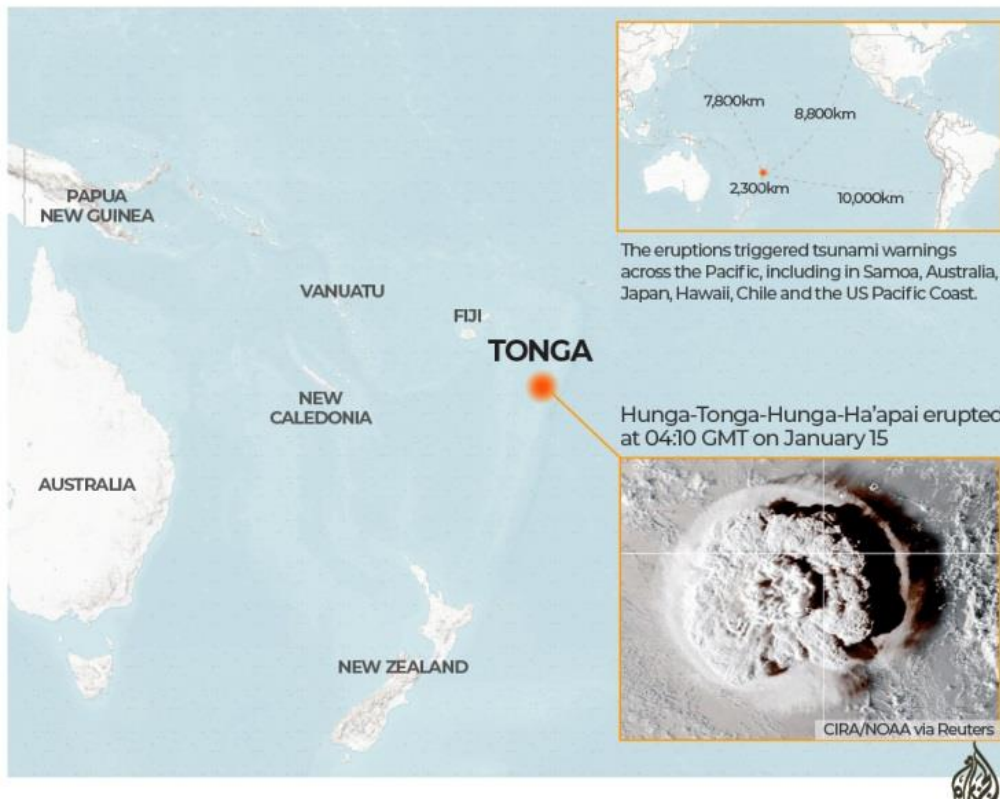
### Analysis of Background:

#### Hunga Volcano:

- The Hunga-Tonga-Hunga-Ha'apai volcano has erupted regularly over the past few decades.
- It consists of two small uninhabited islands, Hunga-Ha'apai and Hunga-Tonga, poking about 100m above sea level 65km north of Tonga's capital Nuku'alofa.
- But hiding below the waves is a massive volcano, around 1800m high and 20 kilometres wide.
- During events in 2009 and 2014/15 hot jets of magma and steam exploded through the waves. But these eruptions were small, dwarfed in scale by the January 2022 events.
- Researchers suggest this is one of the massive explosions the volcano is capable of producing roughly every thousand years.

## Tonga volcano eruption

An **underwater volcano in the South Pacific** erupted on Saturday, causing **significant damage** and sending plumes of smoke 20km into the air.



### Impact of the eruption

- The ash plume is already about 20km high.



- Most remarkably, it spread out almost concentrically over a distance of about 130km from the volcano, creating a plume with a 260km diameter, before it was distorted by the wind.
- The eruption also produced a tsunami throughout Tonga and neighbouring Fiji and Samoa.
- Shock waves traversed many thousands of kilometres, were seen from space, and recorded in New Zealand some 2000km away.
- All these signs suggest the large Hunga caldera has awoken.

#### **Why is it so explosive even after being underwater?**

- If magma rises into sea water slowly, even at temperatures of about 1200 degrees Celsius, a thin film of steam forms between the magma and water.
- This provides a layer of insulation to allow the outer surface of the magma to cool.
- But this process doesn't work when magma is blasted out of the ground full of volcanic gas.
- When magma enters the water rapidly, any steam layers are quickly disrupted, bringing hot magma in direct contact with cold water.
- Volcano researchers call this 'fuel-coolant interaction' and it is akin to weapons-grade chemical explosions.
- Extremely violent blasts tear the magma apart. A chain reaction begins, with new magma fragments exposing fresh hot interior surfaces to water, and the explosions repeat, ultimately jetting out volcanic particles and causing blasts with supersonic speeds.

#### **Prelims View:**

1. Map: Hunga-Tonga-Hunga-Ha'apai volcano.
2. What is Convective current?

## **RED SEA**

### **Issue:**

Yemeni rebels seizing a UAE flagged ship with seven Indians in the Red Sea.

### **Analysis of Background:**

#### **About Red sea:**

- Red Sea is a seawater inlet of the Indian Ocean, lying between Africa and Asia.
- Its connection to the ocean is in the south, through the Bab el Mandeb strait and the Gulf of Aden.
- To its north lie the Sinai Peninsula, the Gulf of Aqaba, and the Gulf of Suez (leading to the Suez Canal).
- It is underlain by the Red Sea Rift, which is part of the Great Rift Valley.
- It is the world's northernmost tropical sea, and has been designated a Global 200 ecoregion.
- The elongated and narrow-shaped basin extends between the Mediterranean Sea, to the north-west, and the Indian Ocean, to the south-east.
- It is surrounded by desert or semi-desert areas, with no major freshwater inflow.
- The Red sea acquired its present shape over the past 4 to 5 million years, by slow seafloor spreading, a fact that makes it a geologically recent opening and one of the youngest oceanic zones on Earth.



#### Prelims View:

- Map: Red sea Bordering Countries.

## NUSANTARA

### Issue:

Indonesia's parliament passed a law approving the relocation of its capital from slowly sinking Jakarta to a site 2,000 kilometres away on the jungle-clad Borneo island that will be named "Nusantara".

### Analysis of Background:

- The House of Representatives vote provides the legal framework for the move, which was first tipped by President Joko Widodo in April 2019, citing rising sea levels and severe congestion on densely populated Java island.
- Home to more than 30 million people in its greater metro area, Jakarta has long been plagued by serious infrastructure problems and flooding exacerbated by climate change.

- The new capital will cover about 56,180 hectares in East Kalimantan province on the Indonesian part of Borneo.



**Prelims View:**

- Map: Jakarta, Kalimantan province - Borneo island, Malacca strait.

**Map: Israel**



**Prelims View:**

1. Bordering Countries of isreal.

2. Which are countries located around Mediterranean sea?
3. Place: Dead sea, Golan height, Gaza Strip, Jerusalem, Sinai peninsula.

## BOMB CYCLONE

### Issue:

'Bomb cyclone' hits eastern U.S., triggers transport chaos, outages

### Analysis of Background:

- A bomb cyclone is a large, intense midlatitude storm that has low pressure at its center, weather fronts and an array of associated weather, from blizzards to severe thunderstorms to heavy precipitation.
- It becomes a bomb when its central pressure decreases very quickly—by at least 24 millibars in 24 hours.
- When a cyclone “bombs,” or undergoes bombogenesis, this tells us that it has access to the optimal ingredients for strengthening, such as high amounts of heat, moisture and rising air. Most cyclones don't intensify rapidly in this way.
- Bomb cyclones put forecasters on high alert, because they can produce significant harmful impacts.
- The U.S. Eastern Seaboard is one of the regions where bombogenesis is most common. That's because storms in the midlatitudes—a temperate zone north of the tropics that includes the entire continental U.S.—draw their energy from large temperature contrasts.
- Along the U.S. East Coast during winter, there's a naturally potent thermal contrast between the cool land and the warm Gulf Stream current.
- Over the warmer ocean, heat and moisture are abundant. But as cool continental air moves overhead and creates a large difference in temperature, the lower atmosphere becomes unstable and buoyant. Air rises, cools and condenses, forming clouds and precipitation.
- Intense cyclones also require favorable conditions above the surface. Particularly strong upper-level winds, also known as “jet streaks,” and high-amplitude waves embedded within storm tracks can help force air to rise.
- When a strong jet streak overlies a developing low-pressure system, it creates a feedback pattern that makes warm air rise at an increasing rate. This allows the pressure to drop rapidly at the center of the system. As the pressure drops, winds strengthen around the storm. Essentially, the atmosphere is trying to even out pressure differences between the center of the system and the area around it.

## Polity and Governance

### HATE SPEECH

#### Issue:

A recent religious conclave held in Haridwar witnessed inflammatory and provocative speeches by proponents of Hindutva, many of them leaders of religious organisations

#### Analysis of Background:

- There is no specific legal definition of 'hate speech'.
- Provisions in law criminalise speeches, writings, actions, signs and representations that foment violence and spread disharmony between communities and groups and these are understood to refer to 'hate speech'.
- The Law Commission of India, in its 267th Report, says: "Hate speech generally is an incitement to hatred primarily against a group of persons defined in terms of race, ethnicity, gender, sexual orientation, religious belief.
- Thus, hate speech is any word written or spoken, signs, visible representations within the hearing or sight of a person with the intention to cause fear or alarm, or incitement to violence."
- In general, hate speech is considered a limitation on free speech that seeks to prevent or bar speech that exposes a person or a group or section of society to hate, violence, ridicule or indignity.
- Sections 153A and 505 of the Indian Penal Code are generally taken to be the main penal provisions that deal with inflammatory speeches and expressions that seek to punish 'hate speech'.
- The Law Commission has proposed that separate offences be added to the IPC to criminalise hate speech quite specifically instead of being subsumed in the existing sections concerning inflammatory acts and speeches.
- Similar proposals to add sections to the IPC to punish acts and statements that promote racial discrimination or amount to hate speech have been made by the P. Bezbaruah Committee and the T.K. Viswanathan Committee.
- At present, the Committee for Reforms in Criminal Laws, which is considering more comprehensive changes to criminal law, is examining the issue of having specific provisions to tackle hate speech.

#### Prelims View:

1. What is Hate Speech?
2. What is sec 153A?
3. Difference : Defamation / Decent / Hate Speech.

## EWS QUOTA

### Issue:

A government committee report in the Supreme Court has said that “income” is a “feasible criterion” for defining the “Economically Weaker Sections” (EWS) in society, and the annual family income of ₹8 lakh is a “reasonable” threshold to determine EWS in order to extend reservation in admissions and jobs.

### Analysis of Background:

#### About:

- The committee did not agree with the notion that the Union government had “mechanically adopted” ₹8 lakh as a number because it was also used for the OBC creamy layer cut-off.
- It said the income criterion for EWS was “more stringent” than the one for the OBC creamy layer.
- Firstly, EWS’s criteria relates to the financial year prior to the year of application whereas the income criterion for the creamy layer in OBC category is applicable to gross annual income for three consecutive years.
- Secondly, in case of OBC creamy layer, income from salaries, agriculture and traditional artisanal professions are excluded from the consideration whereas the ₹8 lakh criteria for EWS includes all sources, including farming.
- The report is the result of the Supreme Court’s repeated grilling of the government, since October, to explain how it zeroed in on the figure of ‘₹8 lakh’ as the annual income criterion to identify EWS among forward classes of society for grant of 10% reservation in National Eligibility-cum-Entrance Test (NEET) medical admissions under the All India Quota (AIQ) category.
- The Supreme Court’s query was significant as the One Hundred and Third Constitutional Amendment of 2019, which introduced the 10% EWS quota, is itself under challenge before a larger Bench. The Amendment is under question for making economic criterion as the sole ground for grant of reservation benefits.
- The Centre had then formed an expert committee comprising Ajay Bhushan Pandey, former Finance Secretary; professor V.K. Malhotra, Member Secretary, ICSSR; and Sanjeev Sanyal, Principal Economic Adviser to the Government of India. The committee had submitted its report on December 31.

#### Prelims View:

1. What is 103 Constitution Amendment Act?
2. What is Mandal Case?
3. What is Art 14, Art 15, Art 16?



## THE CITIZENSHIP (AMENDMENT) ACT (CAA), 2019.

**Issue:** The Ministry of Home Affairs (MHA) has sought another extension from parliamentary committees to frame the rules of the Citizenship (Amendment) Act (CAA), 2019.

### Analysis of Background:

#### What is Citizenship Amendment Act (CAA), 2019?

- The act is sought to **amend the Citizenship Act, 1955** to make Hindu, Sikh, Buddhist, Jain, Parsi, and Christian illegal migrants from Afghanistan, Bangladesh, and Pakistan, eligible for citizenship of India.
- In other words, it intends to make it easier for non-Muslim immigrants from India's three Muslim-majority neighbours to become citizens of India.
- Under The Citizenship Act, 1955, one of the requirements for citizenship by naturalization is that the applicant must have resided in India during the last 12 months, as well as for 11 of the previous 14 years.
- The amendment relaxes the second requirement from 11 years to 6 years as a specific condition for applicants belonging to these six religions, and the aforementioned three countries.
- It exempts the members of the six communities from any criminal case under the Foreigners Act, 1946 and the Passport Act, 1920 if they entered India before December 31, 2014.

#### Key feature: Defining illegal migrants:

- Illegal migrants cannot become Indian citizens in accordance with the present laws.
- Under the CAA, an illegal migrant is a foreigner who: (i) enters the country without valid travel documents like a passport and visa, or (ii) enters with valid documents, but stays beyond the permitted time period.
- Illegal migrants may be put in jail or deported under the Foreigners Act, 1946 and The Passport (Entry into India) Act, 1920.

#### Exceptions:

- The Bill provides that illegal migrants who fulfil four conditions will not be treated as illegal migrants under the Act. The conditions are:
  1. they are Hindus, Sikhs, Buddhists, Jains, Parsis or Christians;
  2. they are from Afghanistan, Bangladesh or Pakistan;
  3. they entered India on or before December 31, 2014;



4. they are not in certain tribal areas of Assam, Meghalaya, Mizoram, or Tripura included in the Sixth Schedule to the Constitution, or areas under the “Inner Line” permit, i.e., Arunachal Pradesh, Mizoram, and Nagaland.

#### **Controversy with the Act:**

- **Country of Origin:** The Act classifies migrants based on their country of origin to include only Afghanistan, Pakistan and Bangladesh.
- **Other religious minorities ignored:** It is unclear why illegal migrants from only six specified religious minorities have been included in the Act.
- **Defiance of purpose:** India shares a border with Myanmar, which has had a history of persecution of a religious minority, the Rohingya Muslims.
- **Date of Entry:** It is also unclear why there is a differential treatment of migrants based on their date of entry into India, i.e., whether they entered India before or after December 31, 2014.

#### **Way forward:**

- India is a constitutional democracy with a basic structure that assures a secure and spacious home for all Indians.
- Being partitioned on religious grounds, India has to undertake a balancing act for protecting the religious minorities in its neighbourhood.
- These minorities are under constant threat of persecution and vandalism.
- India needs to balance the civilization duties to protect those who are prosecuted in the neighbourhood.

## **PERSONAL DATA PROTECTION BILL**

#### **Issue:**

The Joint Committee report on the Bill has failed to provide robust draft legislation ensuring the privacy of citizens.

#### **Analysis of Background:**

##### **About the Personal Data Protection Bill:**

- The Puttaswamy judgment held that the right to privacy is a fundamental right.
- The **Puttaswamy judgment** and the Justice **B.N. Srikrishna committee report** led to the Personal Data Protection Bill of 2019.
- The Joint Committee report on the Bill has failed to provide a robust draft legislation ensuring the privacy of citizens.

#### **Issues with the Joint Committee report on Personal Data Protection Bill**

- **Division into Government and private domains:** The report has divided the digital world into two domains — government and private.
- This division is based on the **presumption** that the question of right to privacy emerges only where operations and activities of private entities are concerned.
- **Exemption to government and government agencies:** Clause 12 of the Bill **provides exemptions for the government** and government agencies and **Clause 35 exempts government agencies from the entire Act itself.**
- Clause 12, which says personal data can be processed without consent for the performance of any function of the state, **is an umbrella clause** that does not specify which ministries or departments will be covered.
- **The issue with the defining harm:** The Bill says, “harm includes any observation or surveillance that is not **reasonably expected** by the data principal”.
- This means if you install any software in your computer and the software violates the principle of privacy and data get leaked, the **complaint of the data principal will not be legally tenable** as the defence will be that ‘once you have installed the software, you should have reasonably expected this level of surveillance’.
- The government can use these provisions **as a means of control and surveillance.**
- The Committee has **failed to provide formidable firewalls** to protect the privacy of individuals and has also carved out a mechanism for government control over personal data.
- **Against the Supreme Court judgement:** The provisions are ultra vires of the judgment on privacy.
- **Inclusion of non-personal data harms the economy:** By **including non-personal data** within the ambit of the Bill, the Joint Committee has put a huge **compliance burden** on the economy.
- This will hit the MSME sector and small businesses harder as technical processes involving data-sharing are very expensive.
- The government-constituted panel headed by S. Gopalkrishnan also **opposed the idea of including non-personal data** in the Bill.
- **Mandatory data localisation**, it is estimated, will squeeze the economy by 0.7-1.7%.
- **Hamper the smooth cross-border flow of data:** This may also invite similar measures by other sovereign countries which will hamper smooth cross-border flow of data.

#### **Concerns with the Data Protection Authority:**

- For compliance with the provisions of the Act, **a data protection authority (DPA)** has to be appointed.

- It is doubtful whether a single authority will be able to discharge so many functions in an efficient manner.
- **Concern with appointment:** Unlike the Justice Srikrishna committee report which provided for a judicial overlook in the appointments of the DPA, the Bill entrusts the executive with the appointments.
- Although the Joint Committee **report expanded the committee**, the power to appoint the panelists vests with the Central government.
- **Lack of independence:** Clause 86 says, “Authority should be bound by the directions of the Central Government under all cases and not just on questions of policy”.
- This weakens its independence and **gives the government excessive control.**
- **Violation of federalism:** There is internal data flow and the States are key stakeholders in the process.
- Even if the proposed central authority issues directions to allow processing of data on the grounds of ‘public order’, it is important to note that **‘public order’ is an entry in the State List.**

## CENTRAL VISTA PROJECT

### Issue:

The redevelopment of central vista avenue in New Delhi, where the Republic Day parade is scheduled to be held, has been delayed by a couple of days due to heavy rainfall.

### Analysis of Background:

#### Central Vista Project

- The project aims to renovate and redevelop 86 acres of land in Lutyens’s Delhi.
- In this, the landmark structures of the government, including Parliament House, Rashtrapati Bhavan, India Gate, North Block and South Block, etc. stand.
- This dream project of redeveloping the nation’s administrative heart was announced by the Ministry of Housing and Urban Affairs back in September 13, 2019.

This project has three main parts:

1. New parliament building
  2. New secretariat complex to bring all the central govt ministries in one place
  3. Development of the Rajghat and the area around it
- This project will involve demolition of some non-heritage buildings in the area, and construction of new buildings in place of them.

### Why need this Project?

The most significant aspect of the project is the construction of a new parliament building. There are several reasons for needing a new building.

- Due to increased population, which has almost quadrupled since independence, there is a need to increase the number of Lok Sabha constituencies through delimitation.
- Similarly, the central hall of the parliament, used to hold joint sessions, actually does not have enough seats for the MPs of both houses.
- During joint sessions, temporary chairs are placed on the aisles so that all the members can sit.
- This is certainly not a dignified scene for the parliament of the largest democracy in the world.
- The infrastructure of the parliament was also antiquated, as they were added at various times as and when required.

Due to these reasons, a pressing need was felt to construct a new parliament building.

### Significance of the project

- **Modernising parliament's facilities:** The new Parliament building will be India's first purpose-designed parliament, equipped with state-of-the-art infrastructure to meet all needs of an expanded parliament.
- **Improving productivity and efficiency:** All ministries of the government will be consolidated in one place and will be served by highly energy-efficient and sustainable infrastructure.
- **Strengthening cultural and recreational facilities:** The National Museum will be relocated and conceptualized to present the rich heritage and achievements of the nation.
- **Providing modern and secure infrastructure:** A modern, secure, and appropriately equipped executive enclave is proposed to house executive offices and facilities.
- **Providing residential facilities for the PM:** Modern and secure residential facilities for the vice president and the PM are proposed to the north of North Block and south of South Block respectively.
- **Cultural significance:** The overall objective of works planned on the Central Vista is to ensure environmental sustainability, restore the vista's architectural character, protect its heritage buildings, expand and improve public space, and to extend its axis.

## HATE SPEECH IN THE TIME OF FREE SPEECH

### Issue:

The growing incidence of hate speeches, especially those targeting minorities, in combination with the judicial ambiguity has provided an opportunity to chart legislative reforms.

## Analysis of Background:

### Current legal provisions to deal with hate speech

- **Not defined in legal framework:** Hate speech is **neither defined in the Indian legal framework** nor can it be easily reduced to a standard definition due to the myriad forms it can take.
- The Supreme Court, in *Pravasi Bhalai Sangathan v. Union of India* (2014), described hate speech as “an effort to marginalise individuals based on their membership in a group” and one that “seeks to delegitimise group members in the eyes of the majority, reducing their social standing and acceptance within society.”
- The Indian Penal Code illegalises speeches that are intended to promote enmity or prejudice the maintenance of harmony between different classes.
- Specifically, sections of the IPC, such as 153A, which penalises promotion of enmity between different groups.
- 153B, which punishes imputations, assertions prejudicial to national integration;
- 505, which punishes rumours and news intended to promote communal enmity, and
- 295A, which criminalises insults to the religious beliefs of a class by words with deliberate or malicious intention.
- Summing up various legal principles, in *Amish Devgan v. Union of India* (2020), the Supreme Court held that “hate speech has no redeeming or legitimate purpose other than hatred towards a particular group”.
- Lack of established legal standard: Divergent decisions from constitutional courts expose the lack of established legal standards in defining hate speech, especially those propagated via the digital medium.

### Suggestions:

- The Law Commission of India, in its 267th report, recommended the insertion of two new provisions to criminalise and punish the propagation of hate speech.
- The 189th Report of the Parliamentary Standing Committee on Home Affairs, in 2015, recommended the incorporation of separate and specific provisions in the Information Technology Act to deal with online hate speech.
- Specialised legislation for social media: Much of the existing penal provisions deal with hate speech belong to the pre-Internet era.
- The need of the hour is specialised legislation that will govern hate speech propagated via the Internet and, especially, social media.
- Recognise hate speech as reasonable restriction to free speech: Taking cue from best international standards, it is important that specific and durable legislative provisions that combat hate speech, especially that which is propagated online and through social media.
- Ultimately, this would be possible only when hate speech is recognised as a reasonable restriction to free speech.

### Prelims View:

1. What is hate speech?

## 2. Known : Art 19

### TRANSGENDER PRISONERS

#### Issue:

The Ministry of Home Affairs (MHA) has written to all States to ensure separate accommodation for transgender persons in prisons.

#### Analysis of Background:

- It also advised the States and the Union Territories that the prison admission register may be suitably revised to include “transgender” as a category other than male and female gender.
- It also asked that similar provision may be made in the Prison Management System in maintaining electronic records.
- The government enacted the Transgender Persons (Protection of Rights) Act in 2019 and the advisory was sent to ensure their safety and to protect them against any form of exploitation in the context of prisons and correctional facilities.
- However, while making provision for a separate enclosure for transgender prisoners, due care may be taken by the prison authorities that this may not result in their complete isolation or propagate social stigma among such prisoners.
- There should also be adequate preservation of right to privacy and dignity in regard to separate toilets for transmen and transwomen as well as shower facilities.
- It said the physical search of a transgender person may be conducted by a person of their preferred gender or by a trained medical professional or a paramedic.
- The person conducting the search must ensure the safety, privacy and dignity of the person being searched. At the stage where the search procedure requires stripping, it must be done in a private room or partition.

### INTER-STATE RIVER WATER DISPUTES

#### Issue:

Karnataka CM has said irrigation projects are bogged down by river water sharing disputes and asked the Centre to ‘revisit the Inter-State River Water Disputes (IWRD) Act since the law is creating more disputes than resolving them’.

#### Analysis of Background:

##### About IWRD Act

- The IWRD Act, 1956 aims to resolve the water disputes that would arise in the use, control and distribution of an interstate river or river valley.
- Article 262 of the Indian Constitution provides a role for the Central government in adjudicating conflicts surrounding inter-state rivers that arise among the state/regional governments.



- This act is confined to states of India and not applicable to union territories.
- Only concerned state governments are entitled to participate in the tribunal adjudication and non-government entities are not permitted.

#### **Constitution of Tribunal:**

- Whenever the riparian states are not able to reach amicable agreements on their own in sharing of an interstate river waters, section 4 of IRWD Act provides for a Tribunal.
- The tribunal shall not only adjudicate but also investigate the matters referred to it by the central government and forward a report setting out the facts with its decisions.
- The tribunal responsibility is not limited to adjudication of issues raised by the concerned states and but investigation of other aspects such as water pollution, water quality deterioration, flood control etc.

#### **Time-frame for dispute resolution:**

- The tribunals have been allotted three years to arrive at a final decision, extendable by two years.
- The 2002 Amendment to the ISWD Act specified a one-year limit on the timeline allowed to carry out the process of dispute resolution.

#### **Active tribunals in India:**

- Ravi & Beas Water Tribunal (1986) – Punjab, Haryana, Rajasthan
- Krishna Water Disputes Tribunal II (2004) – Karnataka, Telangana, Andra Pradesh, Maharashtra
- Mahadayi Water Disputes Tribunal (2010) – Goa, Karnataka, Maharashtra
- Vansadhara Water Disputes Tribunal (2010) – Andra Pradesh & Odisha
- Mahanadi Water Disputes Tribunal (2018) – Odisha & Chattisgarh

#### **Need for the IWRD Act:**

- **Major inter-state river basins:** India has 25 major river basins, with most rivers flowing across states.
- **Equitable distribution of water:** As river basins are shared resources, a coordinated approach between the states is necessary for the preservation, equitable distribution and sustainable utilization of river water.
- **Hydro-politics:** Much recently, interstate rivers in India have become sites of contestations, fuelled by conflicting perceptions of property rights, flawed economic instruments for food security.
- **Sustainability:** This has led to a lack of an integrated ecosystems approach, and the prevalence of reductionist hydrology for water resource development.

#### **Prelims View:**

1. What is Art 262?
2. Details: Inter-state river water dispute Act 1956.

## SUPREME COURT UPHOLDS VALIDITY OF OBC QUOTA IN NEET ADMISSIONS

### Issue:

The Supreme Court has pronounced its decision upholding the constitutional validity of providing 27% quota to Other Backward Classes (OBC) in NEET All India Quota (AIQ) seats for UG and PG medical courses.

### Analysis of Background:

#### What is the issue?

- The petitioners, several NEET aspirants, had argued that since the top court had limited reservation to 50% in the Indira Sawhney judgment, the government should have first applied to the court before tinkering with the quota calculations.
- The court further confirmed that there was no need for the Centre to have got the prior consent of the Supreme Court before introducing OBC quota in the AIQ seats under NEET.
- The court reasoned that material affluence of certain individual members of a socially backward group or 'creamy layer' could not be used against the entire group to deny it the benefits of reservation.

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#### What is the background of this case?

- The government introduced OBC/EWS quota before the counselling of NEET counselling.
- The candidates applying for NEET PG were not provided any information on the distribution of the seat matrix.
- Such information is provided by the counselling authority only after the counselling session is to begin.

**Key observations of the Apex Court:**

- The SC has held that reservation is not at odds with merit.
- It observed that 'merit' could not be narrowed to the limit of success in open competitive exams.
- Merit of a person is a sum total of "lived experiences" and his or her struggle to overcome cultural and social setbacks, observed the SC.

**Why is this a landmark judgment?**

- Merit cannot be reduced to narrow definitions of performance in an open competitive examination, which only provides formal equality of opportunities, said the SC.
- Current competencies are assessed by competent examinations but are not reflective of excellence, capability and potential of an individual.

**Major justifications for Reservations:**

- Exams did not reflect how social, economic and cultural advantages that accrued to certain classes contributed to their success in them, the court noted.
- Examinations are not a proxy for merit.
- Merit should be socially contextualized and re-conceptualized.
- Reservation is not at odds with merit but furthers its distributive impact, Justice Chandrachud observed.

**Constitutionality of the decision:**

- The court held that the power of the State governments to provide reservations under Article 15 (4) and (5) of the Constitution was not an "exception" to Article 15 (1).
- It enshrines the mandate that "the State shall not discriminate against any citizen on grounds only of religion, race, caste, sex, and place of birth or any of them".
- The court held that the power of the State government to craft reservations for the OBC amplified the principle of "substantive equality" manifested through Article 15 (1).

**Prelims View:**

1. Known: Art 14, Art 15, Art 16.
2. What is Mandal case 1992?
3. Details: 103<sup>rd</sup> Constitution amendment act?

## IAS OFFICERS AND CENTRAL POSTING

### Issue:

The Centre has proposed to amend the rules for central deputation of IAS officers.

### Analysis of Background:

- The Centre has proposed amendments to the IAS (Cadre) Rules in order to exercise greater control in central deputation of IAS officials, which has often been at the centre of tussles between the Centre and the states.

### What is current rule on deputation?

- Central deputation in the Indian Administrative Service is covered under Rule-6 (1) of the IAS (Cadre) Rules-1954, inserted in May 1969.
- It states: "A cadre officer may, with the concurrence of the State Governments concerned and the Central Government, be deputed for service under the Central Government or another State Government or under a company, association or body of individuals, whether incorporated or not, which is wholly or substantially owned or controlled by the Central Government or by another State Government. Provided that in case of any disagreement, the matter shall be decided by the Central Government and the State Government or State Governments concerned shall give effect to the decision of the Central Government."
- As on January 1, 2021, out of around 5,200 IAS officers in the country, 458 were on central deputation.

### What are the proposed amendments?

Four amendments are proposed to Rule 6.

- One of the major changes proposed is if the State government delays posting a State cadre officer to the Centre and does not give effect to the Central government's decision within the specified time, "the officer shall stand relieved from cadre from the date as may be specified by the Central government."
- Presently, officers have to get a no-objection clearance from the State government for Central deputation.
- The other change proposed is the Centre will decide the actual number of officers to be deputed to the Central government in consultation with the State and the latter should make eligible the names of such officers.
- According to existing norms, States have to depute the All India Services (AIS) officers, including the Indian Police Service (IPS) officers, to the Central government offices and at any point it cannot be more than 40% of the total cadre strength.

- The third proposed amendment says that in case of any disagreement between the Centre and the State, the matter shall be decided by the Central government and the State shall give effect to the decision of the Centre “within a specified time.”
- The fourth change proposed is that in specific situation where services of cadre officers are required by the Central government in “public interest” the State shall give effect to its decisions within a specified time.

The DoPT is the cadre controlling authority of IAS officers. Similar letters have been sent for deputation of Indian Police Service and Indian Forest Service Officers (IFoS) after approval from the Ministry of Home Affairs (MHA) and the Environment Ministry respectively.

In 2020, the DoPT, to ensure that more officers come to the Centre, changed norms and made it mandatory for IAS officers from the 2007 batch onwards to mandatorily serve for two years in Central deputation within first 16 years of their service if they wanted to be empanelled for a joint secretary rank in the future.

#### **How are officers sent on central deputation today, and how could the amendments affect it?**

- The Centre asks every year for an “offer list” of officers of the All India Services (IAS, IPS and Indian Forest Service) willing to go on central deputation, from which it selects officers.
- While Rule 6(1) says that in case of disagreement, the state shall give effect to the decision of the Centre, this has not been possible in several cases of conflict.
- Even the proposed amendment leaves the state with an escape route by stating that the number of officers to be sent on deputation shall be decided by the central government “in consultation with the State Government concerned”.
- And while the Centre mandates the state governments to provide a list of officers, the officer too must be willing, with Rule 6(2) stating: “no cadre officer shall be deputed to any organisation or body of the type referred to in item (ii), except with his consent”.
  - Item (ii) covers certain kinds of organisations.
  - Before any officer of the AIS is called for deputation to the Centre, his or her concurrence is required. The Establishment Officer in the DoPT invites nominations from the State governments. Once the nomination is received, their eligibility is scrutinised by a panel and then an offer list is prepared, usually with the State government on board.

## OBC RESERVATION IN LOCAL BODIES

### Issue:

No 27% OBC quota in local body elections without triple test: SC

### Analysis of Background:

- Apex court's latest order in *Rahul Ramesh Wagh v. State of Maharashtra & Ors.* Makes it mandatory that the principles laid down by the Supreme Court for providing reservation to obcs in local bodies shall be scrupulously followed across the country.
- The present political quandary harks back to the five-judge Constitution Bench decision in *Krishnamurthy (Dr.) V. Union of India (2010)* wherein the Supreme Court had interpreted Article 243D(6) and Article 243T(6), which permit reservation by enactment of law for backward classes in panchayat and municipal bodies respectively, to hold that barriers to political participation are not the same as that of the barriers that limit access to education and employment.
- Though reservation to local bodies is permissible, the top court declared that the same is subject to empirical finding of backwardness in relation to local bodies as fulfilled through the three tests as follows:
  - "1) To set up a dedicated Commission to conduct contemporaneous rigorous empirical inquiry into the nature and implications of the backwardness qua local bodies, within the State;
  - 2) To specify the proportion of reservation required to be provisioned local body-wise in light of recommendations of the Commission, so as not to fall foul of over breadth;
  - 3) And in any case such reservation shall not exceed aggregate of 50% of the total seats reserved in favour of SCs/STs/OBCs taken together."
  - The 50% ceiling specifically relied on the ratio of the historic *Indra Sawhney* judgment (1992).

### **Vikas Krishnarao Gawali v. State of Maharashtra & Ors. (2021)**

- The 2010 judgment was not acted upon and the constitutionality of the enacted reservation was challenged. This resulted in the 2021 judgment of a three-judge Bench of the Supreme Court.
- In the above case, the Supreme Court read down the provision of the Maharashtra Zilla Parishads and Panchayat Samitis Act, 1961, which mandated for 27% reservation to OBCs in local bodies.
- The court observed that the reservation for OBCs was just a "statutory dispensation to be provided by the State legislations" and is different from the "constitutional" provisions which mandate reservation to the Scheduled Castes and Tribes (SC/ST).



- While insisting on the triple test, the court observed that the reservation in favour of OBCs in the concerned local bodies can be notified to the extent that it does not exceed 50% of the total seats reserved in favour of SCs/STs/OBCs taken together.
- The Supreme Court quashed notifications issued by the Maharashtra Election Commission, which provided more than 50% reservation to OBCs and SC/STs in some local bodies.

#### Prelims View:

1. What is 73<sup>rd</sup> and 74<sup>th</sup> Constitution amendment act?
2. What is 141th Constitution Amendment Act?

## SUSPENSION OF MLAS VS JUDICIAL REVIEW

### Issue:

- Some legislators were suspended for one year by the Maharashtra Assembly for alleged disorderly conduct.
- The unusually long period of suspension has been questioned by the Supreme Court, which is hearing a challenge to the Assembly's action.

### Analysis of Background:

#### Suspending MLAs:

- Each state has their individual rules for the conduct of assembly. These rules provides for the suspension of MLAs.
- Under Rule 53 of the Maharashtra Legislative Assembly Rules, 1960, only the Speaker has the power to suspend MLAs indulging in unruly behavior.
- Therefore, the motion to suspend cannot be put to vote as this would allow the Government to suspend as many Members of Opposition as it sees fit.

#### Constitutional ground behind this suspension

- The Court referred to Article 190 (4) of the Constitution which says that if for a period of 60 days, a member of a House, without its permission, is absent; the House may declare his or her seat vacant.
- Suspension of MLAs beyond this period would lead to their disqualification.

#### What did the Supreme Court observe?

- Suspension of the MLAs would amount to punishing the constituencies as a whole.
- Each constituency has equal amount of right to be represented in the House, observed the court.
- The apex court observed that any state cannot create a constitutional void, a hiatus situation for any constituency.
- It said the House cannot suspend a member beyond 59 days.

#### What does the State government say?

- Counsel for the State government has argued that there is no limitation on the power of the legislature to punish for breach of privilege or disorderly conduct in the course of its proceedings.
- Once the power to punish a member for disorderly conduct is recognized, there can be no judicial review of the manner in which it is exercised.
- Further, during suspension, a member continues to hold office, but only loses their voice in the legislature.

## INHERITANCE OF DAUGHTERS

### Issue:

The case involved a dispute over the property of one Marappa Gounder who died in 1949 leaving behind a daughter Kupayee Ammal who also died issueless in 1967.

### Analysis of Background:

- The Supreme Court ruled that the property of a man who had died without executing a will and is survived only by a daughter will devolve upon the daughter and not others such as his brother.
- It said “right of a widow or daughter to inherit the self-acquired property or share received in partition of a coparcenary property of a Hindu male dying intestate is well recognised not only under the old customary Hindu Law”, and added “if a property of a male Hindu dying intestate is a self-acquired property or obtained in partition of a co-parcenary or a family property, the same would devolve by inheritance and not by survivorship, and a daughter of such a male Hindu would be entitled to inherit such property in preference to other collaterals”.
- The court also said that if a female Hindu dies intestate without leaving any issue, then the property inherited by her from her father or mother would go to the heirs of her father whereas the property inherited from her husband or father-in-law would go to the heirs of the husband.
- In case a female Hindu dies leaving behind her husband or any issue, then Section 15(1)(a) of the Hindu Succession Act will come into operation and the properties left behind including the properties which she inherited from her parents would devolve simultaneously upon her husband and her issues.

### How did the court reach the conclusion?

- Tracing the sources of customary Hindu law on inheritance, the court discussed Mitakshara law and looked into among others to ‘Vyavastha Chandrika’, a digest of Hindu Law by ShyamaCharan Sarkar VidyaBhushan which quoted ‘Vrihaspati’ as saying ‘the wife is pronounced successor to the wealth of her husband; in her default, the daughter. As a son, so does the daughter of a man proceed from his several limbs. How then, should any other person (b) take her father’s wealth?’.

- The SC also noted that the book quoted Manu as saying “the son of a man is even as himself, and the daughter is equal to the son. How then can any other inherit his property, notwithstanding the survival of her, who is, as it were, himself.”

#### **Hindu Succession Act, 1956:**

- The Mitakshara school of Hindu law codified as the Hindu Succession Act, 1956 governed succession and inheritance of property but only recognised males as legal heirs.
- It applied to everyone who is not a Muslim, Christian, Parsi or Jew by religion. Buddhists, Sikhs, Jains and followers of Arya Samaj, BrahmoSamaj, are also considered Hindus for this law.
- In a Hindu Undivided Family, several legal heirs through generations can exist jointly. Traditionally, only male descendants of a common ancestor along with their mothers, wives and unmarried daughters are considered a joint Hindu family. The legal heirs hold the family property jointly.

#### **Mitakshara School vs Dayabhaga school of law:**

- The Dayabhaga and The Mitakshara are the two schools of law that **govern the law of succession of the Hindu Undivided Family under Indian Law.**
- The Dayabhaga School of law is observed in Bengal and Assam, in all other parts of India the Mitakshara School of law is observed. The Mitakshara School of law is subdivided into the Benares, the Mithila, the Maharashtra and the Dravida schools.
- The two main interpreters who wrote on Mitakshara and Dayabhaga Schools were Vijnaneshwar and Jeenuvahan respectively.
- In the **Mitakshara School**, the allocation of inherited property was based on the **law of possession by birth** and a man could leave his self-acquired property to which he willed. The joint family property went to the group known **as coparceners**, i.e. those who belonged to next three generations and also the joint family property by partition could be, at any time, converted into **separate property**. Therefore in Mitakshara School, **Sons had an exclusive right by birth in joint family property.**
- The property is inherited in the Dayabhaga School after the death of the person who was in possession of it. **The doctrine of son’s birth right** and the devolution of property by survivorship had **limited space** in Dayabhaga School.
- It is establish that in the **Mitakshara School neither the father nor** any other coparcener could **normally disaffect** the joint family property. Under the **Dayabhaga School** there is **no such constraint** and each coparcener has **complete right of separation** of his exclusive share in the joint family property. To put it simply, **Mitakshara** was based on the ‘**principle of ownership by birth**, and **Dayabhaga** on principle of **ownership by death**’.
- In the Dayabhaga Scheme the division of property was very simple. If a man died intestate, his supposed the property was divided uniformly between his sons. If he has share in the

common property with the brothers then the property (a share equal to his own) of the brothers would be put apart and his share would be 4 separated between the sons.

- The law of succession in the Dayabhaga School was based on the **principle of religious value** or **divine profit**. The law of inheritance in the Mitakshara School was based on the rule of blood-relationship.
- The Mitakshara School did not give complete result to the principle, and restricted it by two supplementary rules:
  1. **females are excluded from inheritance**
  2. **importance of agnates over cognates .**

This means that in case of a death of a Hindu man leaving behind a son and a daughter, the latter would be excluded totally and the former would get the entire property. In case he leaves behind a son's son and a daughter's son, the former should succeed to the entire property and the latter would be excluded.

- The Mitakshara school of Hindu **law codified as the Hindu Succession Act, 1956** governed succession and inheritance of property but **only recognised males as legal heirs**. The law applied to everyone who is not a Muslim, Christian, Parsi or Jew by religion. Buddhists, Sikhs, Jains and followers of Arya Samaj, BrahmoSamaj are also considered Hindus for the purposes of this law.

#### **Prelims View:**

- Known: Mitakshara School vs Dayabhaga school of law

## **A FESTIVAL TO SALUTE INDIA'S VIBRANT DEMOCRACY**

### **Issue:**

This year we are celebrating our 73rd Republic Day. The Constitution has been our guiding force in the journey of the nation as a mature democracy among comity of nations.

### **Analysis of Background:**

- The Constituent Assembly undertook intensive deliberations over a period of two years, 11 months and 18 days spread over 11 sessions, during which the Constitution of India took shape.
- Our Constituent Assembly played a dual role after Independence, given the insurmountable task of nation-building.
- Our Constituent Assembly had performed the functions of the provisional Parliament of India in the interval between the time our Constitution was enforced and the day when the new Parliament was formed following the first General Elections (October 25, 1951-February 21, 1952).
- The Constituent Assembly of India acted as the first Parliament of independent India.

### **Role of the Parliament:**

- Representative institutions and democratic traditions have always been an integral part of our rich heritage
- Our Parliament has been playing a pivotal role in the all-round development of the nation by adopting many parliamentary devices for ensuring free and fair discussions and dialogue.
- We have to ensure that our institutions and governance ensure inclusivity and the participation of our population in our developmental journey, particularly our women, Scheduled Castes, Scheduled Tribes and all other marginalised sections become equal partners in our growth story.

### **Ensuring the best legislative practices:**

- Repository of the proceedings: To ensure that best legislative practices are shared, a national portal is being planned to serve as a repository of the proceedings of Parliament and all State/Union Territory legislatures in the country.
- Research support is being provided to Members to help them participate better and meaningfully in matters brought before Parliament.
- Review of the laws to make them relevant: It is also time in the journey of our nation to take stock and review laws that were enacted during the pre-Independence era so as to make them more relevant to our current requirements and future challenges.

### **Prelims View:**

1. Difference b/w democracy and republic?
2. Known: Art 79,80,81.
3. Constitution of India – adopted and came into force date.
4. Who are members of Constitution Assembly?

## **PADMA AWARDS**

### **Issue:**

The central government has announced the names of Padma awardees for this year.

### **Analysis of Background:**

#### **What are Padma awards?**

- The Padma awards are the highest civilian honor of India after the Bharat Ratna.
- They are announced every year on the eve of Republic Day.
- The awards are given in three categories:
  1. Padma Vibhushan (for exceptional and distinguished service)
  2. Padma Bhushan (distinguished service of higher order) and
  3. Padma Shri (distinguished service)

- The award seeks to recognize achievements in all fields of activities or disciplines where an element of public service is involved.

**Note:** During the years 1978 and 1979 and 1993 to 1997, Padma awards were not announced.

#### Who are the awardees?

- The awards are given in certain select categories which include Art, Social Work, Public Affairs, Science & Engineering, Trade & Industry, Medicine, Literature & Education, Civil Service and Sports.
- Awards are also given for propagation of Indian culture, protection of human rights, wild life protection among others.

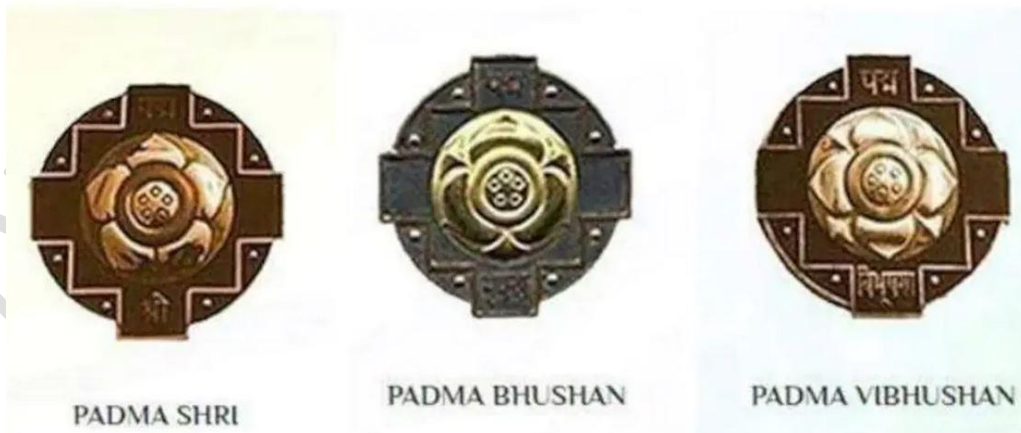
#### Its constitution

- The PADMA Awards were instituted in 1954 along with Bharat Ratna.
- At that time only Padma Vibhushan existed with three sub-categories – Pahela Varg, Dusra Varg and Tisra Varg.
- These were subsequently renamed as Padma Vibhushan, Padma Bhushan and Padma Shri vide Presidential Notification issued on January 8, 1955.

#### Particulars of the awards:

- The awardees do not get any cash reward but a certificate signed by the President apart from a medallion which they can wear at public and government functions.
- The awards are, however, not a conferment of title and the awardees are expected to not use them as prefix or suffix to their names.
- A Padma awardee can be given a higher award only after five years of the conferment of the earlier award.

## Padma Awards



#### Terms of awarding:

- Not more than 120 awards can be given in a year but this does not include posthumous awards or awards given to NRIs and foreigners.



- The award is normally not conferred posthumously.
- However, in highly deserving cases, the Government could consider giving an award posthumously.

#### **Who is eligible for Padma awards?**

- All persons without distinction of race, occupation, position or sex are eligible for these awards.
- However, government servants including those working with PSUs, except doctors and scientists, are not eligible for these awards.
- The award seeks to recognize works of distinction and is given for distinguished and exceptional achievements or service in all fields of activities and disciplines.
- According to Padma awards selection criteria, the award is given for “special services” and not just for “long service”.
- It should not be merely excellence in a particular field, but the criteria has to be ‘excellence plus’.

#### **Who nominates the awardees?**

- Any citizen of India can nominate a potential recipient.
- One can even nominate one’s own self. All nominations are to be done online where a form is to be filled along with details of the person or the organisation being nominated.
- An 800-word essay detailing the work done by the potential awardee is also to be submitted for the nomination to be considered.
- The government also writes to various state governments, governors, Union territories, central ministries and various departments to send nominations.

#### **Who selects the awardees?**

- All nominations received for Padma awards are placed before the Padma Awards Committee, which is constituted by the Prime Minister every year.
- The Padma Awards Committee is headed by the Cabinet Secretary and includes Home Secretary, Secretary to the President and four to six eminent persons as members.
- The recommendations of the committee are submitted to the Prime Minister and the President of India for approval.
- The antecedents of the selected awardees are verified using the services of central agencies to ensure nothing untoward has been reported or come on record about them.
- A final list is then prepared and announced.

#### **Is the recipient’s consent sought?**

- There is no provision for seeking a written or formal consent of the recipient before the announcement of the award.
- However, before the announcement, every recipient receives a call from the Ministry of Home Affairs informing him or her about the selection.
- In case the recipient expresses a desire to be excluded from the award list, the name is removed.

### **Prelims View:**

1. What is Padma Award?
2. Who are eligible for this award?
3. Who Nominate the Nominee's for honoring the award?
4. Who give Padma award to selected nominee?

## **CORRUPTION PERCEPTIONS INDEX (CPI), 2021**

### **Issue:**

The 2021 Corruption Perception Index by Transparency International places India 85th on a list of 180 countries, one position above last year.

### **Analysis of Background:**

#### **Corruption Perceptions Index (CPI)**

- The CPI is an index which ranks countries “by their perceived levels of public sector corruption, as determined by expert assessments and opinion surveys.”
- The CPI generally defines corruption as an “abuse of entrusted power for private gain”.
- The index is published annually by the non-governmental organisation Transparency International since 1995.
- The index ranks 180 countries and territories by their perceived levels of public sector corruption according to experts and business people.
- It uses a scale of 0 to 100 to rank CPI, where 0 is highly corrupt and 100 is very clean.

#### **What kind of corruption does the CPI measure?**

The data sources used to compile the CPI specifically cover the following manifestations of public sector corruption:

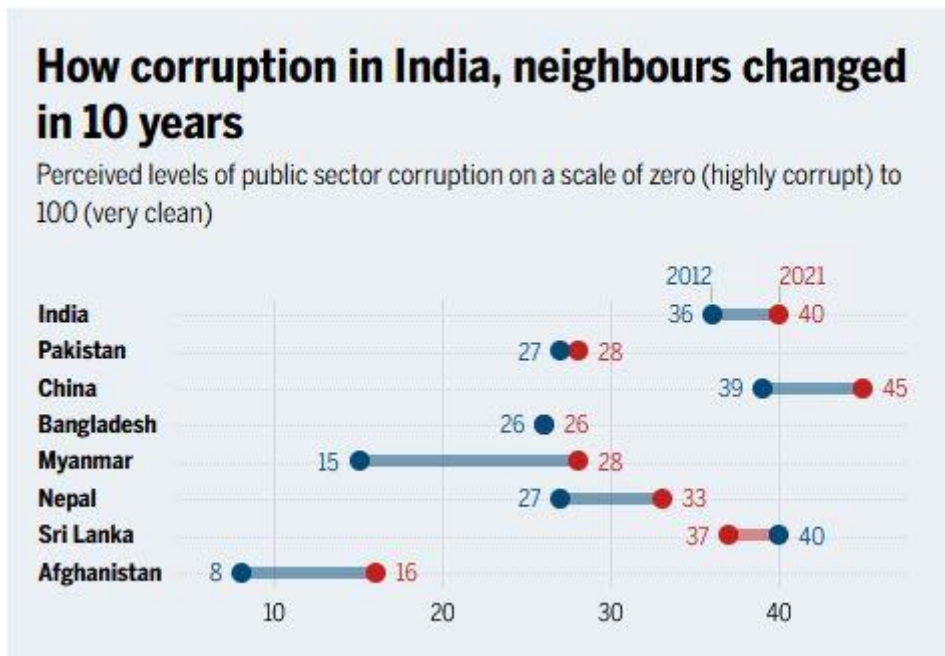
- Bribery,
- Diversion of public funds,
- Officials using their public office for private gain without facing consequences,
- Ability of governments to contain corruption in the public sector,
- Excessive red tape in the public sector which may increase opportunities for corruption,
- Nepotistic appointments in the civil service,
- Laws ensuring that public officials must disclose their finances and potential conflicts of interest,
- Legal protection for people who report cases of bribery and corruption,
- State capture by narrow vested interests,
- Access to information on public affairs/government activities.

The CPI does not cover:

- Citizens' direct perceptions or experience of corruption
- Tax fraud
- Illicit financial flows

- Enablers of corruption (lawyers, accountants, financial advisors etc)
- Money-laundering
- Private sector corruption
- Informal economies and markets

#### Highlights of the 2021 Report:



- The top-performing countries were Denmark, Finland and New Zealand — all having a corruption perceptions score of 88 — followed by Norway, Singapore and Sweden, all of them scoring 85.
- In contrast, the worst-performing countries were South Sudan with a corruption perceptions score of 11, followed by Syria (13), Somalia (13), Venezuela (14) and Afghanistan (16).

#### India's performance:

- In 2021, India ranked 86th with the same CPI score of 40.
- The report highlighted concerns over the risk to journalists and activists who have been victims of attacks by the police, political militants, criminal gangs and corrupt local officials.
- Civil society organizations that speak up against the government have been targeted with security, defamation, sedition, hate speech and contempt-of-court charges, and with regulations on foreign funding.

#### Prelims View:

1. What is corruption Perceptions Index?
2. Details: What is India rank? And Compare it with nearby countries.

3. Which parameters are not covered in CPI?

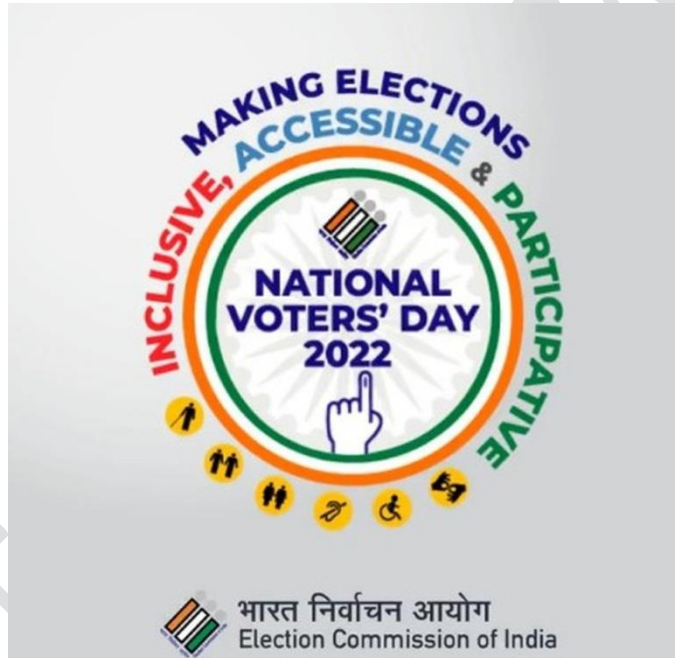
## NATIONAL VOTERS' DAY

### Issue:

The 12th National Voters' Day was celebrated across the country today on January 25, 2021.

### Analysis of Background:

- **Date of celebration:** January 25 (to mark the Foundation day of Election Commission of India, which was established on 25th January 1950).
- **Background:** It is celebrated every year since 2011.
- **Objective:** To encourage, facilitate and maximize the enrolment, especially for the new voters; to spread awareness among voters for promoting informed participation in the elections.



### Prelims View:

What is 61<sup>st</sup> Constitution Amendment Act?

## STATES MUST DECIDE ON SC/ST QUOTA IN PROMOTIONS: SUPREME COURT

### Issue:

The Supreme Court has refused to lay down the criteria for determining the inadequacy of representation for granting reservation in promotions for Scheduled Caste and Scheduled Tribe candidates in government jobs.

## Analysis of Background:

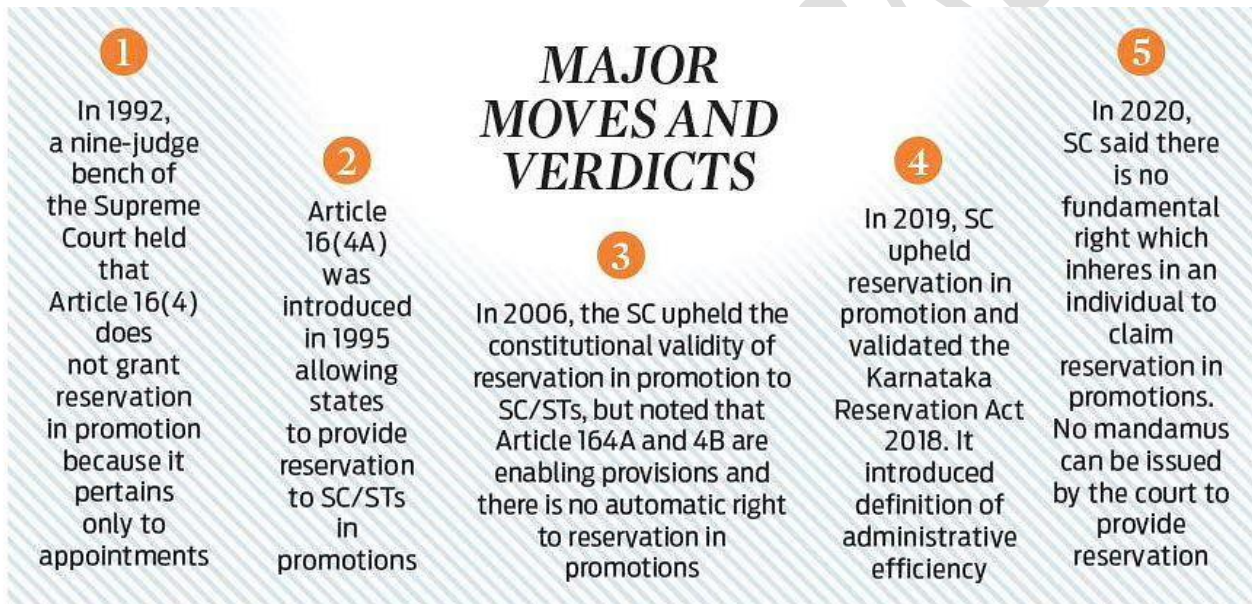
### What did the court held?

- The court stuck firm by the decisions of its Constitution Benches in the Jarnail Singh and M. Nagaraj case that the question of adequate representation of SC/ST communities ought to be left to the respective States to determine.
- It held 'cadre', and not class or group or the entire service, as the unit for the purpose of collection of quantifiable data for giving promotion quotas.

### Why such decision?

- Determination of inadequate representation depends upon myriad factors of states which this Court cannot envisage.
- Laying down of criteria for determining the inadequacy of representation would result in curtailing the discretion given to the State governments.

### Quota in Promotions: A timeline



### What was the case?

- The Union government has been pressing for reservation in promotion proportionate to the population of SCs and STs as per a 1995 judgment by the top court in the RK Sabharwal case.
- It wants it to be left open to the Centre and states to decide on promotional avenues for SCs and STs.
- It claims that the condition regarding the collection of quantifiable data to show the inadequacy of representation of SCs/STs is "vague".
- Advocates representing the general category have contended that the reservation cannot be for an indefinite period and that it must stop as soon as the upper ceiling has been reached.



- Further, they have emphasized that reservation in promotion should be cadre-based only after quantifiable data is collected and the creamy layer has been excluded.

#### **Defying the need for quantifiable data**

- Attorney General sought to convince the court that the roster system, based on the proportionate population of SCs/STs, has been working quite well in all government departments.
- The condition of collecting quantifiable data on inadequacy of representation of SCs/STs may not be required at all.
- He urged that there is no need to verify any further or collect quantifiable data after the roster system.

#### **What is the Nagaraj Case?**

- Article 16(4A) of Indian Constitution allows reservations to SCs and STs in promotions, as long as the government believes that they are not adequately represented in government services.
- In 2006, a Constitution bench's ruling in the M Nagaraj case made it incumbent upon the state to collect quantifiable data showing inadequacy of representation in public employment.
- This was to be done in addition to maintaining overall administrative efficiency.

#### **Related amendments:**

- **77th Amendment:** It introduced Clause 4A to the Constitution, empowering the state to make provisions for reservation in matters of promotion to SC/ST employees if the state feels they are not adequately represented.
- **81st Amendment:** It introduced Clause 4B, which says unfilled SC/ST quota of a particular year, when carried forward to the next year, will be treated separately and not clubbed with the regular vacancies of that year to find out whether the total quota has breached the 50% limit set by the Supreme Court.
- **82nd Amendment:** It inserted a proviso at the end of Article 335 to enable the state to make any provision for SC/STs "for relaxation in qualifying marks in any examination or lowering the standards of evaluation, for reservation in matters of promotion to any class or classes of services or posts in connection with the affairs of the Union or of a State".
- **85th Amendment:** It said reservation in the promotion can be applied with consequential seniority for the SC/ST employee.

#### **Why such demand for quotas in promotion?**

- The Attorney General has said that it is tough for a member of the SC/ST to reach the 'Group A' category jobs.
- The time has come for the apex court to firm up and draw the basis for reservation in promotions for SC/ST candidates to fill up vacancies in top jobs.



- The Bench referred to records filed before it to note that there was low representation of SC/ST category in Group A jobs.
- Instead of improving the situation in the Group A ranks, the court said, efforts are on to ensure adequate representation in Groups B and C.
- This was not fair, it remarked.

#### **Prelims View:**

1. What is Art 16?
2. Known: 77<sup>th</sup>, 81<sup>st</sup>, 85<sup>th</sup> Constitution Amendment Act
3. Mandal Case, Nagaraj case

## **POLLUTION-UNDER-CONTROL (PUC) CERTIFICATE**

### **Issue:**

Delhi govt will soon make PUC certificate mandatory for fuel at filling stations.

### **Analysis of Background:**

#### **What is PUC Certificate?**

- The PUC certificate is a document that any person driving a motor vehicle can be asked to produce by a police officer in uniform authorized by the state government.
- These issue certificates if a vehicle is found complying with the prescribed emission norms.
- Since the Motor Vehicles (Amendment) Act, 2019 came into force, PUC certificate has been made mandatory.
- A PUC certificate contains information such as the vehicle's license plate number, PUC test reading, date on which the PUC test was conducted and the expiry date.

#### **How is a pollution control check carried out?**

- The computerized model for pollution check was developed by the Society of Indian Automobile manufacturers.
- A gas analyzer is connected to a computer, to which a camera and a printer are attached.
- The gas analyzer records the emission value and sends it to the computer directly, while the camera captures the license plate of the vehicle.
- Subsequently, a certificate may be issued if the emission values are within the limits.

#### **Fines for non-compliance**

- The test costs between Rs 60 and Rs 100.
- The validity of the test is one year for BS IV vehicles and three months for others.

- The fine for PUC violations has now gone up to Rs 10,000; it used to be Rs 1,000 for the first offence and Rs 2,000 for subsequent violations before the amendments came into force.

## SOCIETY AND SOCIAL ISSUES

### NAI TALIM

#### Issue:

Addressing the Silver Jubilee Celebrations of Mahatma Gandhi International Hindi University, Wardha, the Vice President of India, Venkaiah Naidu recalled that the "Nai Talim" proposed by Mahatma Gandhi in Wardha in 1937 laid emphasis on making mother tongue as the medium of instruction in addition to free compulsory education and skill training to the students.

#### Analysis of Background:

##### About:

- Nai Talim is a concept of basic education system by Mahatma Gandhi.
- Basic Education is a principle which states that knowledge and work are not separate. Mahatma Gandhi promoted an educational curriculum with the same name based on this pedagogical principle.
- The three pillars of Gandhi's pedagogy were its focus on the lifelong character of education, its social character and its form as a holistic process.
- For Gandhi, education is 'the moral development of the person', a process that is by definition 'lifelong'.

### REAPING INDIA'S DEMOGRAPHIC DIVIDEND

#### Issue:

Countries like Singapore, Taiwan and South Korea have already shown us how demographic dividend can be reaped to achieve incredible economic growth by adopting forward-looking policies and programmes.

#### Analysis of Background:

##### The window of demographic opportunity

- With falling fertility (currently 2.0), rising median age (from 24 years in 2011, 29 years now and expected to be 36 years by 2036), a falling dependency ratio (expected to decrease from 65% to 54% in the coming decade taking 15-59 years as the working age population), **India is in the middle of a demographic transition.**
- This provides a **window of opportunity** towards faster economic growth. India has already begun to get the dividend.
- As fertility declines, the share of the young population falls and that of the older, dependent population rises.

- If the fertility decline is rapid, the increase in the population of working ages is substantial yielding the 'demographic dividend'.
- The smaller share of children in the population enables **higher investment per child**.
- Therefore, the future entrants in the labour force can have **better productivity and thus boost income**.
- With the passage of time, the share of the older population rises and that of the working age population begins to fall and hence the dividend is available for a period of time, '**the window of demographic opportunity**'.

#### **Need for forward-looking policies:**

- Without proper policies, the increase in the working-age population may lead to rising unemployment, fueling economic and social risks.
- This calls for forward-looking policies incorporating population dynamics, education and skills, healthcare, gender sensitivity, and providing rights and choices to the younger generation.

#### **Lessons for India:**

- Countries like Singapore, Taiwan and South Korea have already shown us how demographic dividend can be reaped.
- There are important lessons from these countries for India.

##### **1) NTA data:**

- The first is to undertake an updated **National Transfer Accounts (NTA)** assessment.
- Using NTA methodologies, we find that India's per capita consumption pattern is way lower than that of other Asian countries.
- A child in India consumes around 60% of the consumption by an adult aged between 20 and 64, while a child in China consumes about 85% of a prime-age adult's consumption.
- The NTA data for India needs to be updated to capture the progress made on such investments since 2011-12.

##### **2) Invest more in children and adolescents:**

- India ranks poorly in Asia in terms of private and public human capital spending.
- It needs to invest more in children and adolescents, particularly in nutrition and learning during early childhood.

##### **3) Make health investments:**

- Health spending has not kept pace with India's economic growth.
- The public spending on health has remained flat at around 1% of GDP.
- Evidence suggests that better health facilitates improved economic production.
- Hence, it is important to draft policies to promote health during the demographic dividend.

##### **4) Make reproductive healthcare services accessible on a rights-based approach:**

- We need to provide universal access to high-quality primary education and basic healthcare.
- The unmet need for family planning in India at 9.4% as per the latest National Family Health Survey-5 (2019-21) is high as compared to 3.3% in China and 6.6% in South Korea, which needs to be bridged.

#### 5) Bridge gender differentials in education:

- The gender inequality of education is a concern.
- In India, boys are more likely to be enrolled in secondary and tertiary school than girls. This needs to be reversed.

#### 6) Increase female workforce participation:

- As of 2019, 20.3% of women were working or looking for work, down from 34.1% in 2003-04.
- New skills and opportunities for women and girls befitting their participation in a \$3 trillion economy is urgently needed.
- It is predicted that if all women engaged in domestic duties in India who are willing to work had a job, female labour force participation would increase by about 20%.

#### 7) Address the diversity between States:

- While India is a young country, the status and pace of population ageing vary among States.
- Southern States, which are advanced in demographic transition, already have a higher percentage of older people.
- These differences in age structure **reflect differences in economic development and health** – and remind us of States' very different starting points at the outset of the 2030 Sustainable Development Goals Agenda.
- But this also offers **boundless opportunities for States to work together**, especially on demographic transition, with the north-central region as the reservoir of India's workforce.

**8) Governance reform:** A new federal approach to governance reforms for demographic dividend will need to be put in place for policy coordination between States on various emerging population issues such as migration, ageing, skilling, female workforce participation and urbanisation.

#### Prelims view:

1. What is demographic dividend?
2. Details: World population report.

## CRIMINALIZING MARITAL RAPE IN INDIA

### Issue:

The Delhi High Court has told the Centre that it will continue hearing the petitions challenging the legal exception to marital rape and not wait for the government's ongoing process of initiating reform in the criminal laws.

### Analysis of Background:

#### What is Marital Rape?

- Marital rape is the act of sexual intercourse with one's spouse without her consent.
- It is no different manifestation of domestic violence and sexual abuse.
- It is often a chronic form of violence for the victim which takes place within abusive relations.

#### Status in India:

- Historically considered as right of the spouses, this is now widely classified as rape by many societies around the world.
- In India, marital rape is not a criminal offense (as protected under IPC section 375).
- India is one of fifty countries that have not yet outlawed marital rape.

#### Reasons for disapproval of this concept:

- The reluctance to define non-consensual sex between married couples as a crime and to prosecute has been attributed to:
  1. Traditional views of marriage
  2. Interpretations of religious doctrines
  3. Ideas about male and female sexuality
  4. Cultural expectations of subordination of a wife to her husband
- It is widely held that a husband cannot be guilty of any sexual act committed by himself upon his lawful wife their on account of their mutual matrimonial consent.

#### Why it must be a crime?

- **Associated physical violence:** Rape by a spouse, partner or ex-partner is more often associated with physical violence.
- **Mental harassment:** There is research showing that marital rape can be more emotionally and physically damaging than rape by a stranger.
- **Compulsive relationship:** Marital rape may occur as part of an abusive relationship.
- **Revengeful nature:** Furthermore, marital rape is rarely a one-time event, but a repeated if not frequent occurrence.
- **Obligation on women:** In the case of marital rape the victim often has no choice but to continue living with their spouse.

### **Violation of fundamental rights:**

- Marital rape is considered as the violation of FR guaranteed under Article 14 of the Indian constitution which guarantees the equal protection of laws to all persons.
- By depriving married women of an effective penal remedy against forced sexual intercourse, it violates their right to privacy and bodily integrity, aspects of the right to life and personal liberty under Article 21.

### **Problems in prosecuting marital rape:**

- **Lack of awareness:** A lack of public awareness, as well as reluctance or outright refusal of authorities to prosecute is common globally.
- **Gender norms:** Additionally, gender norms that place wives in subservient positions to their husbands, make it more difficult for women to recognize such rape.
- **Acceptability of the concept:** Another problem results from prevailing social norms that exist.

### **Present regulations in India:**

- Indian Penal Code criminalizes rape in most cases, although marital rape is not illegal when the woman is over the age of 18.
- However, until 2017, men married to those between 15 and 18 could not be convicted of rape.
- Marital rape of an adult wife, who is unofficially or officially separated, is a criminal offence punishable by 2 to 7 year in prison; it is not dealt by normal rape laws which stipulate the possibility of a death sentence.
- According to the Protection of Women From Domestic Violence Act (2005), other married women subject to such crime by their husband may demand for financial compensation.
- They also have the right to continue to live in their marital household if they wish, or may approach shelter or aid homes.

However, marital rape is still not a criminal offence in this case and is only a misdemeanour.

### **Arguments against criminalization:**

- **Subjective:** It is very subjective and intricate to determine whether consent was acquired or not.
- **Prone to Misuse:** If marital rape is criminalized without adequate safeguards it could be misused like the current dowry law by the dissatisfied wives to harass and torture their Husbands.
- **Burden on Judiciary:** It will increase the burden of judiciary which otherwise may serve other more important causes.

### **Way forward:**

- Sanctioning marital rape is an acknowledgment of the woman's right to self-determination (i.e., control) of all matters relating to her body.
- In the absence of any concrete law, the judiciary always finds it difficult to decide the matter of domestic rape in the absence of solid evidence.
- The main purpose of marriage is procreation, and sometimes divorce is sought on the ground of non-consummation of marriage.
- Before giving a final interpretation, the judiciary must balance the rights and duties of both partners.



## GENOCIDE

### Issue:

Incendiary speeches at a religious assembly include calls for the genocide of Muslims in India and can be seen as part of an ongoing pattern of targeting minorities.

### Analysis of Background:

#### Convention against genocide:

- **India's role:** India has signed and ratified the **Convention on the Prevention and Punishment of the Crime of Genocide** of 1948.
- In 1946, **Cuba, India and Panama** co-sponsored General Assembly Resolution 96(I), which affirmed genocide as a 'crime under international law'.
- As a result of this resolution, a convention on the prohibition of genocide was drafted, which was passed by the General Assembly in 1948 and came into effect in 1951, **with more than 150 states party to the convention presently.**
- **Legal obligation:** Legal obligations on states that are party to the convention include:
  - the obligation not to commit genocide,
  - to prevent genocide, and to punish genocide(Article I),
  - to enact legislation to give effect to the provisions of the convention (Article V);
  - to provide for effective penalties for those found guilty of criminal conduct (Article V); and
  - the obligation to try those charged with genocide in a competent tribunal (Article VI).

#### No legislation enacted by India:

- Since signing the Genocide Convention and ratifying it, to date India has not enacted any legislation in accordance with Article VI of the Genocide Convention.
- At the outset, India is in **violation of its international obligation** to criminalise genocide within its domestic law per Articles V, VI and VII, and to take all means to ensure the prevention of genocide.
- Indian domestic law shows that there are **no comparable provisions for the prosecution of any mass crimes**, least of all genocide.
- Indian Penal Code provisions relating to rioting, unlawful assembly and 'promoting enmity between different groups' **do not embody the basic elements of the crime of genocide**, which is against a collectivity or a group, with the specific intent to cause its destruction.
- These also do not pertain to **another key aspect of the Genocide Convention** – that of prevention, and creating the conditions in which such hate speech and other associated acts are not allowed to flourish.

#### Significance of the Gambia's proceedings before the ICJ against Myanmar:

- The Gambia has initiated proceedings before the **International Court of Justice (ICJ)** against Myanmar on the basis of the Convention.
- The ICJ, relying on a previous case of *Belgium v. Senegal*, stated, "It follows that **any State party to the Genocide Convention, and not only a specially affected State**, may invoke the responsibility of another State party with a view to ascertaining the alleged failure to comply with its obligations erga omnes partes, and to bring that failure to an end.

## NATIONAL COMMISSION FOR SAFAI KARAMCHARIS GETS 3-YEAR EXTENSION

### Issue:

The Union Cabinet has approved a three-year extension of the tenure of the National Commission for Safai Karamcharis (NCSK) that was set to end on March 31.

### Analysis of Background:

#### About National Commission for Safai Karamcharis

- The commission was set up in 1993 under the NCSK Act 1993 for a period of three years, which has been extended since then.
- The NCSK Act is however ceased to have effect from February 29, 2004.
- After that, the tenure of the NCSK has been extended as a non-statutory body from time to time through resolutions.

#### Why was NCSK set up?

- The commission helps in coming up with programmes for the welfare of sanitation workers.
- It also monitors the implementation of the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013.
- Till December 31, 2021, 58,098 manual scavengers had been identified.

#### Need for eliminating Manual Scavenging

- Undignified life (all the 6 Fundamental Rights are compromised, directly or indirectly).
- It directly perpetuates castism.
- Modern, Secular India has no place for such “professions”.
- It no way suits India’s rising global profile – ‘super power’ aspirations.
- Women are mostly disprivileged since most manual scavengers are dalit women.

#### What else needs to be done?

- Though the government has taken many steps for the upliftment of the safai karamcharis, the deprivation suffered by them in socio-economic and educational terms is still far from being eliminated.
- Although manual scavenging has been almost eradicated, sporadic instances of their deaths do occur.

#### Way forward

- There is a continued need to monitor the various interventions and initiatives of the government for welfare of safai Karamcharis.
- The govt must strive to achieve the goal of complete mechanization of sewer/septic tanks cleaning in the country and rehabilitation of manual scavengers.

### Prelims View:

1. Details: National Commission for Safai Karamcharis.
2. Which are fundamental rights related to Manual Scavenger’s?

## THE CHAKMAS AND HAJONGS

### Issue:

In Arunachal Pradesh, the Chakma and Hajong people are feeling heat since the State government decided to conduct a special census in December 2021.

### Analysis of Background:

#### What is the news?

- The North-Eastern States have had a history of being paranoid about outsiders outnumbering the indigenous communities and taking their land, resources and jobs.
- The threat from “non-locals” in a specific area has also been perceived to be from communities indigenous elsewhere in the region.
- This has often led to conflicts such as the recent attacks on non-tribal people in Meghalaya’s capital Shillong or an Assam-based group’s warning to a fuel station owner in Guwahati against employing Bihari workers.

#### Who are the Chakmas and Hajongs?

- The Chakmas and Hajongs of Arunachal Pradesh are migrants from the Chittagong Hill Tracts of erstwhile East Pakistan, now Bangladesh.
- Displaced by the Kaptai dam on the Karnaphuli River in the 1960s, they sought asylum in India.
- They settled in relief camps in the southern and south-eastern parts of Arunachal Pradesh from 1964 to 1969.
- A majority of them live in the Changlang district of the State today.
- Mizoram and Tripura have a sizeable population of the Buddhist Chakmas while the Hindu Hajongs mostly inhabit the Garo Hills of Meghalaya and adjoining areas of Assam.

#### Why was a special census of the two communities planned?

- The Arunachal Government has cited to resolve the protracted issue of racial antagonism.
- It seeks to rehabilitate the Chakma-Hajongs in other States.
- The census plan was however dropped after the Chakma Development Foundation of India petitioned the PMO.

#### Issues with the census:

- Chakma organizations said the census was nothing but racial profiling of the two communities because of their ethnic origin and violated Article 14 of the Indian Constitution.
- It is against Article 1 of the International Convention on the Elimination of All Forms of Racial Discrimination, ratified by India.

#### What is their citizenship status?

- Members of the two communities had been settled in Arunachal Pradesh six decades ago with a rehabilitation plan, allotted land and provided with financial aid depending on the size of their families.
- Although local tribes claim the population of the migrants has increased alarmingly, the 2011 census says there are 47,471 Chakmas and Hajongs in the State.
- They are granted citizenship by birth under Section 3 of the Citizenship Act, 1955, after having been born before July 1, 1987, or as descendants of those who were born before this date.

#### **Prelims View:**

1. Who are Chakmas and Hajongs?
2. Details: origin of Chakmas and Hajongs.
3. Map: Chittagong Hill

## **TIWA COMMUNITY**

### **Issue:**

Almost 250 members of two extremist organisations in Assam laid down their arms before Chief Minister Himanta Biswa Sarma at a formal programme in Guwahati.

### **Analysis of Background:**

- The organisations are the Tiwa Liberation Army (TLA) and the United Gorkha People's Organisation (UGPO).
- Formed in 2014 to cater to the aspirations of the Tiwa community, the TLA was active in Morigaon, Nagaon and West Karbi Anglong districts of central Assam.
- The UGPO, formed in 2007, was mostly active in the Bodoland Territorial Region and Biswanath district.

### **Who are Tiwa?:**

- Tiwa (Lalung) is an ethnic group mainly inhabiting the states of Assam and Meghalaya in north-eastern India.
- They are also found in some areas of Arunachal Pradesh, Manipur and Nagaland.
- They are recognized as a Scheduled tribe within the State of Assam.
- They were known as Lalungs in the Assamese Buranjis and in Colonial literature and in the Constitution of India, though members of the group prefer to call themselves Tiwa (meaning "the people who were lifted from below").

### PAKISTAN READY TO HOST SAARC SUMMIT

**Issue:** Pakistan Foreign Minister Shah has said that his country was ready to host the 19th SAARC Summit and invited India to join it virtually if it is not willing to visit Islamabad.

#### Analysis of Background:

##### About SAARC

- The South Asian Association for Regional Cooperation (SAARC) is the regional intergovernmental organization and geopolitical union of states in South Asia.
- Members: Afghanistan, Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan and Sri Lanka.
- It was established in Dhaka on 8 December 1985. Its secretariat is based in Kathmandu, Nepal.
- The organization promotes the development of economic and regional integration.
- It maintains permanent diplomatic relations at the United Nations as an observer and has developed links with multilateral entities, including the European Union.



##### Formation of SAARC

- After the USSR invaded Afghanistan in 1979, the security situation in South Asia rapidly deteriorated.
- In response, the foreign ministers of the initial seven members met in Colombo in 1981.
- At the meeting, Bangladesh proposed forming a regional association that would meet to discuss matters such as security and trade.
- While most of the countries present were in favour of the proposal, India and Pakistan were skeptical.
- Eventually, both countries relented and in 1983 in Dhaka, joined the other five nations in signing the Declaration.

##### Economic significance of SAARC

- The SAARC comprises 3% of the world's area, 21% of the world's population and 4.21% (US\$3.67 trillion) of the global economy, as of 2019.
- It launched the South Asian Free Trade Area in 2006.

### Major accomplishments

- Forum for discussions: It has provided a platform for representatives from member countries to meet and discuss important issues, something that may have been challenging through bilateral discussions.
- Diplomatic tool: India and Pakistan for example would struggle to publicly justify a meeting when tensions between the two are particularly high, but both countries often come together under the banner of SAARC.
- Crisis management: The bloc has also made some headway in signing agreements related to climate change, food security and combating the Covid-19 crisis.
- Technology: It has been another avenue of cooperation marked by the launch of South Asia Satellite by India.

### Limitations to SAARC

- Small scale: Despite its lofty ambitions, SAARC has not become a regional association in the mould of the European Union or the African Union.
- Internal divisions: Its member states are plagued by internal divisions, most notably the conflict between India and Pakistan.
- Trade disputes: This in turn has hampered its ability to form comprehensive trade agreements or to meaningfully collaborate on areas such as security, energy and infrastructure.
- Terrorism: The last SAARC summit to be held in Pakistan has been cancelled several times due to many nations pulling out of the summit citing fears of regional insecurity.

### Why must India rethink on SAARC?

- Extended diplomacy: India continued to attend Shanghai Cooperation Organisation (SCO) meetings along with their Pakistani counterparts.
- Pandemic mitigation: Reviving SAARC is crucial to countering the common challenges brought about by the pandemic.
- Economic cooperation: Apart from the overall GDP slowdown, global job cuts has led to fall in revenue for migrant labour and expatriates from South Asian countries.
- Countering China: While dealing with China, a unified South Asian platform is a crucial countermeasure for India.

### Prelims View:

1. What is SAARC?
2. Which are countries are members of SAARC?
3. India is Member or Not?

## ASSAM- MEGHALAYA BOUNDARY DISPUTE

### Issue:

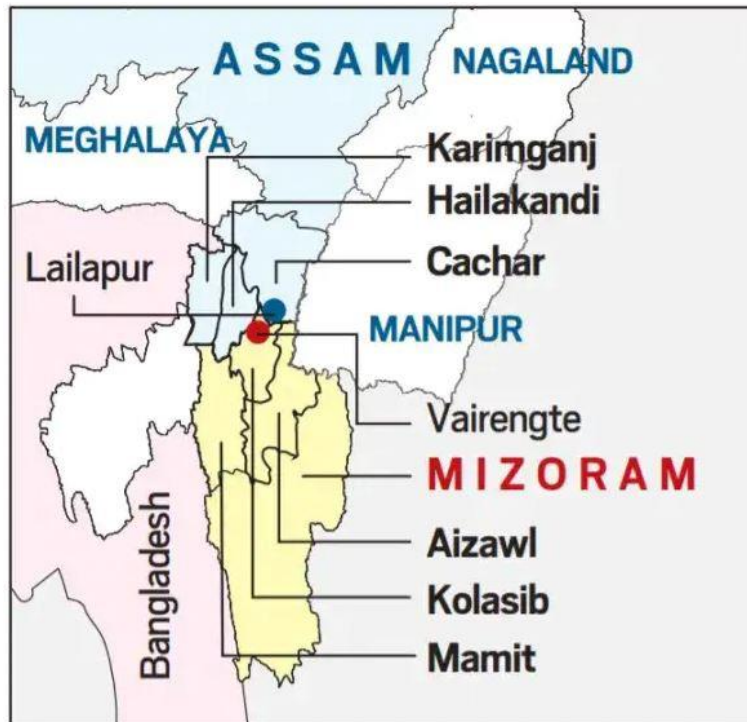
Union Home Minister is expected to seal the final agreement to end the dispute in six areas of the Assam-Meghalaya boundary ahead of Meghalaya's 50th Statehood Day celebration on January 21.



## Analysis of Background:

### Assam- Meghalaya Boundary Dispute

- Assam has had a boundary dispute with Mizoram for decades and several rounds of talks have been held since 1994-95 to solve the issue.
- Till 1972, Mizoram was a part of Assam and acquired full statehood in 1987.
- The 164.6 km-long border between the States runs along with Cachar, Hailakandi and Karimganj districts in Assam and Kolasib, Mamit and Aizawl districts in Mizoram.
- There are several border areas where violence have been reported.



### Roots of the dispute:

- In the Northeast's complex boundary equations, showdowns between Assam and Mizoram residents are less frequent than they are.
- The boundary between present-day Assam and Mizoram, 165 km long today, dates back to the colonial era when Mizoram was known as Lushai Hills, a district of Assam.
- The dispute stems from a notification of 1875 that differentiated Lushai Hills from the plains of Cachar, and another of 1933 that demarcates a boundary between Lushai Hills and Manipur.
- Mizoram believes the boundary should be demarcated on the basis of the 1875 notification, which is derived from the Bengal Eastern Frontier Regulation (BEFR) Act, 1873.
- Mizo leaders have argued in the past argued against the demarcation notified in 1933 because Mizo society was not consulted.

### Other boundary disputes in North-East:

- The states of the Northeast were largely carved out of Assam, which has border disputes with several states.
- During British rule, Assam included present-day Nagaland, Arunachal Pradesh and Meghalaya besides Mizoram, which became separate state one by one. Today, Assam has boundary problems with each of them.
- Nagaland shares a 500-km boundary with Assam.
- In two major incidents of violence in 1979 and 1985, at least 100 persons were killed. The boundary dispute is now in the Supreme Court
- On the Assam-Arunachal Pradesh boundary (over 800 km), clashes were first reported in 1992, according to the same research paper.
- Since then, there have been several accusations of illegal encroachment from both sides, and intermittent clashes. This boundary issue is being heard by the Supreme Court.
- The 884-km Assam-Meghalaya boundary, too, witnesses flare-ups frequently. As per Meghalaya government statements, today there are 12 areas of dispute between the two states.

### Prelims View:

1. Map: Border state of assam, Megalaya, Mizoram
2. Garo, Khasi, Jaintia hills, Lushai Hills

## WTO VERDICT ON SUGAR

### Issue:

India filed an appeal with the Appellate Body of the World Trade Organization (WTO) disputing a verdict by the WTO's dispute settlement panel last month on sugar subsidies.

### Analysis of Background:

- The WTO's dispute settlement panel had ruled that India, by subsidising sugar producers, was breaking rules framed under the General Agreement on Tariffs and Trade (GATT) which govern international trade.
- In 2019, Australia, Brazil, and Guatemala complained against India at the WTO arguing that subsidies offered by the Indian government to sugar producers were against the rules governing international trade.
- They argued that these subsidies, which include both domestic subsidies as well as export subsidies, exceed the limits imposed by WTO trade rules.
- According to WTO rules, subsidies cannot exceed 10% of the total value of sugar production. These countries believe that subsidies offered by India have led to increased production of sugar and caused the price of sugar to drop significantly in the global market.
- After two years, the WTO ruled in December that India's sugar policy was favouring domestic producers through subsidies to the detriment of foreign producers.

- The panel recommended that India withdraws its alleged prohibited subsidies under the Production Assistance, the Buffer Stock, and the Marketing and Transportation Schemes within 120 days from the adoption of this report.
- India has stated that the WTO's dispute panel ruling has made certain "erroneous" findings about domestic schemes to support sugarcane producers and exports and the findings of the panel are completely "unacceptable" to it.
- India is the second-largest sugar producer in the world after Brazil and it is estimated that more than 5 crore people depend on the cultivation of sugarcane alone for their livelihood.

## ASIAN INFRASTRUCTURE INVESTMENT BANK (AIIB)

### Issue:

Former Reserve Bank of India (RBI) governor Urjit Patel has been appointed as a vice-president of the Asian Infrastructure Investment Bank (AIIB), a Beijing based multilateral development bank.

### Analysis of Background:

- He will succeed outgoing Vice President D J Pandian, who is in charge of sovereign and non-sovereign lending of the AIIB in South Asia, the Pacific Islands and South-East Asia.
- He will be one of the five Vice Presidents of the AIIB with a three-year tenure.
- Pandian, a former Gujarat chief secretary, has been AIIB's vice-president since 2016, the year the bank was set up with India as its second largest shareholder after China. Mr. Pandian was also the bank's first chief investment officer.
- Urjit Patel is currently the chairman of the National Institute of Public Finance and Policy. He had taken over as the 24th Governor of the Reserve Bank of India (RBI) succeeding Raghuram Rajan in September 2016 and was with RBI till December 2018.

### About AIIB:

- India has emerged as AIIB's biggest beneficiary by obtaining \$6.8 billion funding for 29 projects.
- In December, AIIB approved the \$150 million "Chennai City Partnership: Sustainable Urban Service Program" aiming to strengthen institutions and improve the quality and financial sustainability of selected urban services in Chennai.
- Also, the AIIB and the Asian Development Bank (ADB) in Manila are processing a \$2 billion loan request from India to purchase 667 million Covid-19 jobs.
- Pandian has consistently sought to dispel the notion that the AIIB is a Chinese bank, saying that except the US and Japan, most of the developed and developing countries have joined the bank.
- In late December, the AIIB approved the application of Iraq to join, becoming the bank's 51st regional member to bring its membership to 105.

- As of October 22, AIIB has overall approved 147 projects in 31 countries valued at \$28.97 billion.

#### Prelims View:

- Details: AIIB.

## TURKMENISTAN'S 'GATEWAY TO HELL'

### Issue:

Turkmenistan President has ordered experts to find a way to extinguish a fire in a huge natural gas crater, the Darvaza gas crater also known as the 'Gateway to Hell'.

### Analysis of Background:

- Turkmenistan President has ordered experts to find a way to extinguish a fire in a **huge natural gas crater**, the Darvaza gas crater also known as the 'Gateway to Hell'.
- Mystery surrounds the **Darvaza crater's** creation in the **Karakum Desert**.
- Many believe it formed when a Soviet drilling operation went wrong in 1971.
- According to local Turkmen geologists, the huge crater formed in the 1960s but was only lit in the 1980s.
- The crater is one of Turkmenistan's most popular tourist attractions.
- In 2018, the president officially renamed it the Shining of Karakum.



#### Prelims View:

- **Map:** Darvaza gas crater, Karakum Desert

**Issue:** Russia has mobilised some 1,00,000 troops on its border with Ukraine. Russia says the North Atlantic Treaty Organization's eastward expansion (which the alliance calls "enlargement") threatens its interests and has sought written security guarantees from the West.

### **Analysis of Background:**

#### **What are Russia's demands?**

- Russian President Vladimir Putin has demanded a ban on further expansion of NATO to include Ukraine, Georgia or other countries in Russia's neighbourhood.
- Since the German unification in 1990, NATO has added new members five times. If the alliance had 12 founding members in 1949, it now has 30 members, including the three Baltic countries of Estonia, Latvia and Lithuania — all sharing borders with Russia — and Hungary, Poland, Romania and Bulgaria, all members of the former Soviet-led Warsaw Pact.
- Putin has also asked NATO to roll back its military deployments to the 1990s level and ban the deployment of intermediate range missiles in areas that would allow NATO to reach Russia.
- Further, Moscow has asked NATO to curb its military cooperation with Ukraine and other former Soviet republics.
- In other words, Mr. Putin wants not just a halt to NATO's future expansion but also its roll-back from Russia's rim land.

#### **What is the U.S. response?**

- The U.S. has given a written response to the Kremlin, which hasn't been released. But public remarks made by President Joe Biden, Secretary of State Antony Blinken and other top officials suggest that the U.S. has taken a mixed approach of diplomacy and economic deterrence.
- The U.S. has ruled out changing NATO's "open door policy" — which means, at least in theory, NATO could induct more members.
- The U.S. also says it would continue to offer training and weapons to Ukraine.
- But Washington is open to discussing missile deployment in Eastern Europe and a mutual reduction in military exercises.
- Also, it is highly unlikely that Ukraine and Georgia, both fighting separatist conflicts, would be taken into NATO in the foreseeable future.

- The U.S. has ruled out sending troops to Ukraine or taking other direct military measures against Russia in the event of an invasion. But Washington has threatened to impose severe economic sanctions on Russia if it makes any military move.



#### What are Putin's options?

- Russia says it won't attack Ukraine. But the situation on the ground remains tense.
- Russia has already annexed Crimea, the Black Sea peninsula that was part of Ukraine, through a referendum.
- Russia is also backing separatists in the self-declared Luhansk and Donetsk republics (Donbas) in eastern Ukraine.
- Besides, Moscow has mobilised troops on Ukraine's eastern border with Russia and northern border with Belarus, southern border with Crimea and south-western border with Transnistria (Moldova).





### What is India's position?

- India broke its silence on Friday, calling for “a peaceful resolution of the situation through sustained diplomatic efforts for long-term peace and stability in the region and beyond”. This was the standard position India had taken during the Crimean crisis as well.
- But the decisions it took after the annexation of Crimea offer insights into the thinking of policy-makers in New Delhi on Ukraine.
- Immediately after the annexation, India abstained from a vote in the UN General Assembly on a resolution that sought to condemn Russia. In March 2014, Mr. Putin praised India's “restraint and objectivity”.

- In December that year, Sergey Aksyonov, the head of the Crimean Republic, visited India as part of Mr. Putin's delegation, which had triggered an unusual criticism of India by the then Ukrainian President, Petro Poroshenko.
- In November 2020, India voted against a Ukraine-sponsored resolution in the UN General Assembly that sought to condemn alleged human rights violations in Crimea.
- So while India's position is largely rooted in neutrality, New Delhi has adapted itself to the post-2014 status quo on Ukraine.

**Prelims View:**

1. Map: Ukraine, Russia Border countries.
2. Known: NATO

**NORD STREAM PIPELINE**

**Issue:**

The Nord Stream pipeline is back in the news following the renewed tensions between the West and Russia over Ukraine

**Analysis of Background:**

- Owned by the Russian energy giant, Gazprom, Nord Stream the longest subsea pipeline, is an export gas pipeline which 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.
- The pipeline's significance comes from the fact that it bypasses transit countries, making it highly reliable for European customers.



### **What is the Nord Stream Pipeline?**

- Nordstream consists of two pipelines, which have two lines each.
- Nord Stream 1 was completed in 2011 and runs from Vyborg in Leningrad to Lubmin near Greifswald, Germany.
- Nord Stream 2 which runs from Ust-Luga in Leningrad to Lubmin was completed in September 2021 and has the capacity to handle 55 billion cubic meters of gas per year once it becomes operational.
- The twin pipelines together can transport a combined total of 110 billion cubic metres (bcm) 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.
- In Germany, the pipeline connects to the OPAL (Baltic Sea Pipeline) and NEL (North European Pipeline) which further connects to the European grid.

### **What are the objections to the pipeline?**

- The pipeline has run into trouble from environmentalists who argue that it does not fit in with German efforts to cut dependence on fossil fuels and fight climate change.
- The strategic objection, particularly from the U.S., is that it will make Europe too dependent on Russia, increasing Russia's influence in Europe. Moreover, there is concern that Russia could use it as a geopolitical weapon.
- Ukraine has objected because it will lose around \$2 billion in transit fees once the pipeline becomes operational.
- Countries like Poland and Belarus also stand to lose transit fees and hence oppose the pipeline as it will bypass existing pipelines running through them.

### **Why is it important for Europe and Russia?**

- Europe requires more than 100 billion cubic metres (bcm) of natural gas each year and around 40% of its gas comes from Russia. This gas is used for heating homes, factories, and offices in the harsh, long European winters and also for power generation.
- Over the last few years, Europe has become more dependent on gas imports because of a decrease in domestic gas production. Reducing dependence on Russian gas is difficult as there are no easy replacements.
- There is no infrastructure to import LNG from exporters like Qatar and the U.S.

- Moreover, Germany's transition to cleaner fuels by phasing out nuclear power and cutting reliance on coal has increased its dependence on Russian gas as gas is seen as a cleaner fuel.
- Finally, a reduction in gas from Russia would increase already high gas prices and that would not be popular domestically. As for Russia, which has the largest natural gas reserves in the world, around 40% of its budget comes from sales of gas and oil.
- Nord Stream 2 is important because it eliminates the risks related with sending gas through transit countries, cuts operating costs by doing away with transit fees and gives direct access to its most important European customer, Germany. It increases Europe's dependence on Russia while giving it a reliable customer.

#### Prelims View:

#### Map:

1. Nord Stream pipeline Passing Regions
2. Baltic Sea Border countries.
3. Which are countries parts of Baltic States?

## ECONOMY

### DOMESTIC SUPPORT IN AGRICULTURE: THE BOXES

#### Issue:

India appeals against WTO dispute panel ruling on sugar export subsidies at appellate body.

#### Analysis of Background:

- In WTO terminology, subsidies in general are identified by "boxes" which are given the colours of traffic lights: green (permitted), amber (slow down — i.e. need to be reduced), red (forbidden).
- The Agriculture Agreement has no red box, although domestic support exceeding the reduction commitment levels in the amber box is prohibited; and there is a blue box for subsidies that are tied to programmes that limit production.
- There are also exemptions for developing countries (sometimes called an "S&D box" or "development box", including provisions in Article 6.2 of the Agreement).

#### Amber box:

- Nearly all domestic support measures considered to distort production and trade (with some exceptions) fall into the amber box, which is defined in Article 6 of the Agriculture Agreement as all domestic supports except those in the blue and green boxes.
- These include measures to support prices, or subsidies directly related to production quantities.

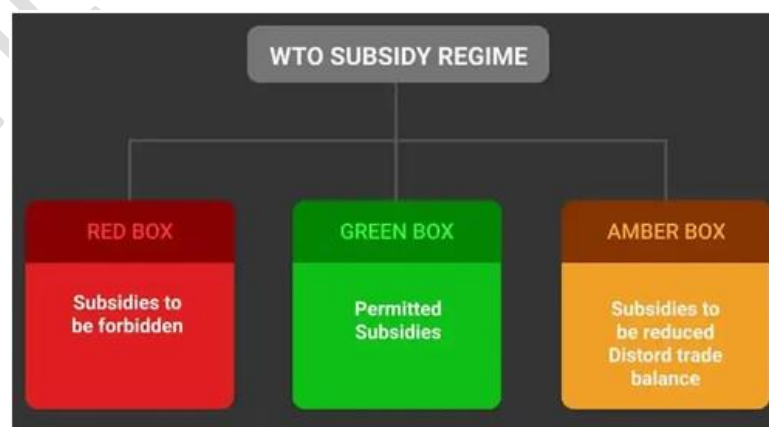
- These supports are subject to limits. “De minimis” minimal supports for both product-specific and non-product-specific support are allowed, defined as a share of the value of agricultural production.
- This threshold is generally 5% of the value of agricultural production for developed countries, 10% for most developing countries — although some WTO members agreed to a different level when they negotiated to join the WTO.
- Furthermore, 32 WTO members with larger subsidies than the de minimis levels at the beginning of the post-Uruguay Round reform period committed to reducing these support levels.
- The reduction commitments are expressed in terms of a “Total Aggregate Measurement of Support” (Total AMS) which includes all supports for specified products together with supports that are not for specific products, in one single figure. In the Agriculture Agreement, AMS is defined in Article 1 and Annexes 3 and 4.

#### Blue box:

- This is the “amber box with conditions” — conditions designed to reduce distortion.
- Any support that would normally be in the amber box, is placed in the blue box if the support also requires farmers to limit production (details set out in Paragraph 5 of Article 6 of the Agriculture Agreement).
- At present there are no limits on spending on blue box subsidies.

#### Green box:

- The green box is defined in Annex 2 of the Agriculture Agreement.
- In order to qualify, green box subsidies must not distort trade, or at most cause minimal distortion.
- They have to be government-funded (not by charging consumers higher prices) and must not involve price support.
- They tend to be programmes that are not targeted at particular products, and include direct income supports for farmers that are not related to (are “decoupled” from) current production levels or prices.
- They also include environmental protection and regional development programmes.
- “Green box” subsidies are therefore allowed without limits, provided they comply with the policy-specific criteria set out in Annex 2.



### Development Box

- Article 6.2 of the Agriculture Agreement allows developing countries additional flexibilities in providing domestic support.
- The type of support that fits into the developmental category are measures of assistance, whether direct or indirect, designed to encourage agricultural and rural development and that are an integral part of the development programmes of developing countries.
- They include investment subsidies which are generally available to agriculture in developing country members, agricultural input subsidies generally available to low-income or resource-poor producers in developing country members, and domestic support to producers in developing country members to encourage diversification from growing illicit narcotic crops.

### De minimis

- The World Trade Organisation (WTO) defines de minimis as the “minimal amounts of domestic support that are allowed even though they distort trade — up to 5% of the value of production for developed countries, 10% for developing”.

### Agreement on Subsidies and Countervailing Measures (SCM)

- The WTO Agreement on Subsidies and Countervailing Measures disciplines the use of subsidies, and it regulates the actions countries can take to counter the effects of subsidies.
- Under the agreement, a country can use the WTO’s dispute-settlement procedure to seek the withdrawal of the subsidy or the removal of its adverse effects. Or the country can launch its own investigation and ultimately charge extra duty (“countervailing duty”) on subsidized imports that are found to be hurting domestic producers.
- All countries that become members of the WTO will automatically be subject to the Subsidies Agreement.

### Prelims View:

1. Concept: Amber Box, Blue Box, Green Box Subsidy.
2. Developing and Developed countries green box subsidy percentage.

## MSMES OWNED BY SC ENTREPRENEURS

**Issue:** 6% of MSMEs owned by SC entrepreneurs

### Analysis of Background:

- Maharashtra tops India’s list in the number of micro, small and medium enterprises (MSME) owned by entrepreneurs from the Scheduled Castes with as many as 96,805 enterprises.
- Generally, the proportion of enterprises owned by Scheduled Caste entrepreneurs in the overall national tally of MSMEs is 6%.



- Tamil Nadu with 42,997 enterprises and Rajasthan with 38,517 units occupy the second and third slots.
- The Udyam system of registration, which came into force on July 1, 2020, is a prerequisite for any MSME (regardless of the social category of ownership) to avail itself of concessions or benefits from the Central and State governments and the last date for migration to Udyam has been extended up to March 31, 2022.
- This stipulation is only in respect of MSMEs, which want to get covered under schemes of the governments including priority sector lending of banks. Otherwise, the enterprises, which had registered themselves under the previous system such as Udyog Aadhar Memorandum (UAM), can carry on their business.
- There is no room for duplication under the new system, which has a provision for integration with the GSTN (Goods and Services Tax Network).

#### Udyam registration portal for MSME

- Udyam Registration Portal is developed by Ministry of Micro, Small and Medium Enterprises.

#### Features:

- MSME registration process is **fully online, paperless and based on self-declaration**. No documents or proof are required to be uploaded for registering an MSME
- A Registration number will be given after registration
- After completion of the process of registration, an Udyam Registration Certificate will be issued This certificate will have a dynamic QR Code from which the web page on our Portal and details about the enterprise can be accessed.
- PAN & GST linked details on investment and turnover of enterprises will be taken automatically from the respective Government data bases.

#### Benefits:

- This process will be extremely **simple, seamless entrepreneur friendly**.
- It will set an example in **Ease of Doing Business**, not only in India but internationally.
- It **will reduce transaction time and costs**. Entrepreneurs and Enterprises can focus on their real work and become globally competitive.

#### Prelims View:

1. What is Udyam registration portal?
2. Find: MSME Rural , Urban Percentage.

## RBI'S FINANCIAL STABILITY REPORT

### Issue:

Last week, the Reserve Bank of India (RBI) released its latest Financial Stability Report (FSR).

### Analysis of Background:

- It details the current status of different financial institutions such as all the different types of banks and non-banking lending institutions.
- It also maps the state of credit growth and the rate at which borrowers are defaulting on paying back loans.
- As part of the FSR, which is published twice each year, the RBI also conducts a Systemic Risk Survey (SRS), wherein it asks experts and market participants to assess the financial system on five different types of risks — global, financial, macroeconomic, institutional and general.

### Prelims View:

1. Who release Financial Stability Report?

## SMALL-VALUE DIGITAL PAYMENTS IN OFFLINE MODE

### Issue:

The Reserve Bank of India (RBI) has come out with the framework for facilitating small-value digital payments in offline mode, a move that would promote digital payments in semi-urban and rural areas.

### Analysis of Background:

#### About:

- The framework incorporates feedback received from the pilot experiments on offline transactions conducted in different parts of the country between September 2020 and June 2021.
- An offline digital payment does not require Internet or telecom connectivity.
- Under this new framework, such payments can be carried out face-to-face (proximity mode) using any channel or instrument like cards, wallets and mobile devices.
- Such transactions would not require an Additional Factor of Authentication. Since the transactions are offline, alerts (by way of SMS and / or e-mail) will be received by the customer after a time lag.
- There is a limit of ₹200 per transaction and an overall limit of ₹2,000 until the balance in the account is replenished. The RBI said the framework took effect 'immediately'.

## EIGHT CORE INDUSTRY

### Issue:

Index of Eight Core Industries for November, 2021 was released by the Office of the Economic Adviser, Department for Promotion of Industry and Internal Trade.

### Analysis of Background:

- Core industry can be defined as the main industry which has a multiplier effect on the economy.
- In most countries, there is particular industry that seems to be backbone of all other industries and it qualifies to be the core industry.
- The eight Core Industries in decreasing order of their weightage: Refinery Products> Electricity> Steel> Coal> Crude Oil> Natural Gas> Cement> Fertilizers.
- The Eight Core Industries **comprise 40.27% of the weight of items** included in the Index of Industrial Production (IIP).

### Index of Industrial Production

- The Index of Industrial Production (IIP) is an index that shows the growth rates in different industry groups of the economy in a fixed period of time.
- It is compiled and **published monthly by the Central Statistical Organization (CSO)**, Ministry of Statistics and Programme Implementation.
- IIP is a composite indicator that measures the growth rate of industry groups classified under:
  - Broad sectors: Mining, Manufacturing, and Electricity.
  - Use-based sectors: Basic Goods, Capital Goods, and Intermediate Goods.
- Base Year for IIP is 2011-2012.
- The eight core industries of India represent about 40% of the weight of items that are included in the IIP.

### Prelims View:

1. What are eight core industries?
2. Known: Weightage of Eight core industry order wise.
3. What is IIP?

## SECURITIES AND EXCHANGE BOARD OF INDIA (SEBI)

**Issue:** SEBI shortlists seven for the posts of 2 whole time members

### Analysis of Background:

- The Securities and Exchange Board of India was established on April 12, 1992 in accordance with the provisions of the **Securities and Exchange Board of India Act, 1992**.
- The Securities and Exchange Board of India (SEBI) is **the regulatory body for securities and commodity market** in India under the ownership of **Ministry of Finance**, Government of India.
- The basic functions of the Securities and Exchange Board of India is to protect the interests of investors in securities and to promote and regulate the securities market.

### History :

- Before SEBI came into existence, **Controller of Capital Issues** was the regulatory authority; it derived authority from the **Capital Issues (Control) Act, 1947**.
- In April, 1988 the SEBI was constituted as the regulator of capital markets in India under a resolution of the Government of India.
- Initially SEBI was a **non statutory body** without any statutory power.
- It became **autonomous and given statutory powers by SEBI Act 1992**.
- The **headquarters of SEBI is situated in Mumbai**. The regional offices of SEBI are located in Ahmedabad, Kolkata, Chennai and Delhi.
- 

### Structure:

- SEBI Board consists of a **Chairman and several other whole time and part time**
- SEBI **also appoints various committees**, whenever required to look into the pressing issues of that time.
- Further, a **Securities Appellate Tribunal (SAT)** has been constituted to protect the interest of entities that feel aggrieved by SEBI's decision.

### Prelims View:

1. What is SEBI?
2. Role of SEBI?
3. What is SAT?

## RETAIL INFLATION

**Issue:** Dec retail inflation at five-month high 5.59%

### **Analysis of Background:**

- The change in the consumer price index over a period of time is referred to as CPI-based inflation, or retail inflation.
- The CPI is an index measuring retail inflation in the economy by collecting the change in prices of most common goods and services used by consumers.
- The CPI is calculated for a fixed list of items including food, housing, apparel, transportation, electronics, medical care, education, etc.
- The CPI specifically identifies periods of deflation or inflation for consumers in their day-to-day living expenses.

### **The CPI is used as,**

- Macroeconomic indicator of inflation;
- Tool by the central bank and government for inflation targeting and for inspecting price stability; and
- Deflator in the national accounts.

### **Consumer Price Index in India:**

- In India, there are four consumer price index numbers, which are calculated, and these are as follows:
- CPI for Industrial Workers (IW)
- CPI for Agricultural Labourers (AL)
- CPI for Rural Labourers (RL) and
- CPI for Urban Non-Manual Employees (UNME)
- The Ministry of Statistics and Program Implementation collects CPI (UNME) data and compiles it but the remaining three are collected by the **Labour Bureau in the Ministry of Labour**.

### **Prelims View:**

1. What is Inflation?
2. What is Consumer price and whole sale price Inflation?
3. Who predict inflation level and who fix the inflation target percentage?

## **DRAVIDIAN MODEL OF DEVELOPMENT**

### **Issue:**

The Chief Minister of Tamil Nadu is pushing for a 'Dravidian Model' where economic development is inclusive.

### **Analysis of Background:**

#### **What is the Dravidian Model?**

- The goal is equal economic development that will be in tune with social justice.

- It has taken root since the days of the Justice Party government [in pre-Independent India].
- TN polity has divided the task into short-term and long-term, and travels with the objective of improving the economy by implementing them within the time frame.

**Note:** The Government of India Act 1919 implemented the Montagu-Chelmsford reforms, instituting a Diarchy in Madras Presidency. The diarchial period extended from 1920 to 1937, encompassing five elections. Justice party was in power for 13 of 17 years.

### Unique features of this developmental approach

#### (1) Financial planning:

- TN has constituted an Economic Advisory Council comprising internationally renowned economists since there is a need to evolve an economic development to suit the current situation.
- It has emerged out higher as comparatively high levels of human development with economic dynamism.

#### (2) Health and education:

- It sought and ensured opportunity-equalizing policies in the expanding modern sectors through affirmative action policies and investments in education and health.
- Tamil Nadu has been a pioneer in broad-basing entry into school education through a slew of incentives, the noon meal scheme being the most well-known.

#### (3) Social Harmony

- It also succeeded in building a bloc of lower caste groups under a Dravidian-Tamil identity that subsumed and sought to transcend individual caste identities.
- It has distinct political mobilization against caste-based inequalities in the state.
- Mobilization built an ethos that questioned the privileges of caste elites and the naturalness of merit in a caste society.

## NATIONAL COMPANY LAW TRIBUNAL (NCLT)

### Issue:

The Supreme Court has upheld a National Company Law Tribunal (NCLT) decision to wind up Devas, once regarded as a move to revolutionise digital media and broadcasting services via satellite. However, it ended up as a case of fraud and corruption under CBI investigation.

### What is NCLT?

- Insolvency and Bankruptcy Code was enacted in 2016 for reorganization and insolvency resolution of corporate persons, partnership firms and individuals in a time bound manner for maximization of the value of assets of such persons.
- The adjudicating authority is National Company Law Tribunal (NCLT) for companies and LLPs and Debt Recovery Tribunal (DRT) for individuals and partnership firms.
- It is a quasi-judicial body in India that adjudicates issues relating to companies in India.
- Established on 1st June, 2016 (Companies Act, 2013).



- Formed based on the recommendations of the Justice Eradi Committee.
- It deals with matters mainly related to companies law and the insolvency law.
- Term of members: Appointments will be for five years from the date of assumption of charge or till attaining the age of 65 or until further orders.

## BUDGETING FOR THE EDUCATION EMERGENCY

### Issue:

Faced with an unprecedented education emergency, this is the time to substantially ramp up public spending on education and make it more effective.

### Analysis of Background:

#### Low allocation for education

- UNESCO's 2030 framework for action suggests public education spending levels of between 4% and 6% of GDP and 15%-20% of public expenditure.
- A recent World Bank study notes that India spent 14.1 % of its budget on education, compared to 18.5% in Vietnam and 20.6% in Indonesia, countries with similar levels of GDP.
- But since India has a higher share of population under the age of 19 years than these countries, it should actually be allocating a greater share of the budget than these countries.
- Public spending on education in most States in India was below that of other middle-income countries even before the pandemic.
- Most major States spent in the range of 2.5% to 3.1% of State income on education, according to the Ministry of Education's Analysis of Budgeted Expenditure on Education.
- This compares with the 4.3% of GDP that lower-middle-income countries spent, as a group, between 2010-11 and 2018-19.
- In the 2021-22 Budget, the Central government's allocation for the Education Department was slashed compared to the previous year, even though the size of the overall budget increased.
- Of the major States and Delhi, eight either reduced or just about maintained their budget allocation for education departments in 2021-22 compared to 2020-21.

#### What requirement need's for improvement in educational system:

- The vast majority of the 260 million children enrolled in preschool and school, especially in government schools, did not have meaningful structured learning opportunities during the 20 months of school closures.
- **Infusion of resources:** The education system now needs not only an infusion of resources for multiple years, but also a strengthened focus on the needs of the poor and disadvantaged children.
- What it is spent on and how effectively resources are used are important.
- It is clear what additional resources are required for.

- **The needs include:** back-to-school campaigns and re-enrolment drives; expanded nutrition programmes; reorganisation of the curriculum to help children learn language and mathematics in particular, and support their socio-emotional development, especially in early grades; additional learning materials; teacher training and ongoing support; additional education programmes and collection and analysis of data.
- **Focus on teacher training:** How does expenditure on technology compare with the amounts spent on teacher training, which represents just 0.15% of total estimated expenditure on elementary education?
- **Teachers are central to the quality of education,** so why does India spend so little on teacher training?

## NON-FUNGIBLE TOKENS (NFTs)

### Issue:

French luxury fashion brand Hermès is suing American digital artist Mason Rothschild who created the MetaBirkins series of NFTs (Non-Fungible Tokens), a rapidly growing part of the cryptoworld.

### Analysis of Background:

- An NFT is a unique, irreplaceable token that can be used to prove ownership of digital assets such as music, artwork, even tweets and memes.
- The term 'non-fungible' simply means that each token is different as opposed to a fungible currency such as money (a ten-rupee note can be exchanged for another and so on).
- Cryptocurrencies such as Bitcoin and Ethereum are also fungible, which means that one Bitcoin can be exchanged for another. But an NFT cannot be exchanged for another NFT because the two are different and therefore unique. Each token has a different value, depending on which asset it represents.
- NFT transactions are recorded on blockchains, which is a digital public ledger, with most NFTs being a part of the Ethereum blockchain. NFTs became popular in 2021, when they were beginning to be seen by artists as a convenient way to monetise their work.

### What are the other reasons for which NFTs are in high demand?

- One of the other attractions is that NFTs are a part of a new kind of financial system called decentralised finance (DeFi), which does away with the involvement of institutions such as banks.
- For this reason, decentralised finance is seen as a more democratic financial system because it makes access to capital easier for lay people by essentially eliminating the role of banks and other associated institutions.

## FISCAL CONSOLIDATION

### Issue:

Two years of real growth in economic activities have been wiped out by COVID-19, which the Budget must take note of and support growth and fiscal consolidation.

### Analysis of Background:

- Fiscal consolidation implies reduction in debt accumulation and fiscal deficit. Governments undertake different policies to achieve fiscal consolidation.
- Better targeting of government subsidies and extending Direct Benefit Transfer scheme for more subsidies.
- Improving efficiency of tax administration by eliminating evasion of tax, increasing tax compliance, reducing tax avoidance, etc.
- Enhancing tax GDP ratio by widening the tax base and minimizing tax concessions and exemptions also improves tax revenues.
- Higher economic growth rate will help the government to get higher tax revenues as well. Augmentation of tax revenue is necessary to bring fiscal consolidation as there are limitations for reducing government expenditure in India.

### Fiscal Responsibility and Budget Management Act:

- It was enacted in August 2003.
- It aims to make the Central government responsible for ensuring inter-generational equity in fiscal management and long-term macro-economic stability.
- The Act envisages the setting of limits on the Central government's debt and deficits.
- **It aims to limit the fiscal deficit to 3% of the GDP.**
- To ensure that the States too are financially prudent, the 12th Finance Commission's recommendations in 2004 linked debt relief to States with their enactment of similar laws.
- The States have since enacted their own respective Financial Responsibility Legislation, which sets the same 3% of Gross State Domestic Product (GSDP) cap on their annual budget deficits.
- It also mandates greater transparency in fiscal operations of the Central government and the conduct of fiscal policy in a medium-term framework.
- The Budget of the Union government includes a Medium-Term Fiscal Policy Statement that specifies the annual revenue and fiscal deficit goals over a three-year horizon.
- The rules for implementing the Act were notified in July 2004. The rules were amended in 2018, and most recently to the setting of a target of 3.1% for March 2023.

- The **NK Singh committee** (set up in 2016) recommended that the government should target a fiscal deficit of 3% of the GDP in years up to March 31, 2020 cut it to 2.8% in 2020-21 and to 2.5% by 2023.

#### **Escape Clause:**

Under Section 4(2) of the Act, the Centre can exceed the annual fiscal deficit target citing certain grounds. They are,

- National security, war
- National calamity
- Collapse of agriculture
- Structural reforms
- Decline in real output growth of a quarter by at least three percentage points below the average of the previous four quarters.

#### **Prelims View:**

1. Details: Fiscal Consolidation.
2. What is escape clause provision in Fiscal Responsibility and Budget Management Act?

## **DEALING WITH THE MACROECONOMIC UNCERTAINTIES**

#### **Issue:**

Macroeconomic uncertainties are mounting.

#### **Analysis of Background:**

##### **Impact of US Fed's decision:**

- Against the backdrop of possible interest rate hikes by the U.S. Federal Reserve and the taper tantrum, there is pressure on the Reserve Bank of India (RBI) to increase its interest rates to prevent capital outflows.
- The monetary policy corridor is still “accommodative” to support the growth recovery.
- Globally, central banks have started increasing the interest rates.

#### **Macroeconomic uncertainties:**

##### **Inflationary pressure**

- In India, the wholesale price index (WPI) inflation rose to a record high of 14.32% in November 2021 as per the data released by the Ministry of Commerce and Industry.
- The consumer price index (CPI) inflation now is 5.03%, though that is still within the comfort zone of the inflation targeting framework envisaged in India's new monetary framework.
- The official nominal inflation anchor in India is 4%, with a band of variations of +/- 2.

##### **Absorbing excess liquidity**

- The RBI Financial Stability Report, published on December 29, 2021, revealed a possible worsening of the gross non-performing asset (GNPA) ratio of scheduled commercial banks — from 6.9% in September 2021 to 9.5% by September 2022.

- Absorbing the excess liquidity that was injected to stimulate growth as part of the pandemic response is crucial to reversing trends in non performing assets (NPAs).
- Absorption of excess liquidity was attempted by increasing the cut-off yield rate of variable rate reverse repo (VRRR) to 3.99%, and curtailing the government securities acquisition programme.

#### Interest rate structure and implications for government borrowing:

- The call money market rates are below the repo rate.
- The bond yields are increasing ahead of the Union Budget 2022-23.
- The rise in bond yields will result in higher borrowing costs for the Government.

#### Way forward for fiscal policy:

- **Maintain accommodative policy stance:** Given these macroeconomic uncertainties, **maintaining an accommodative fiscal policy stance** in the upcoming Union Budget for FY23 is crucial for a sustainable recovery.
- **Don't focus on fiscal consolidation:** Any **attempt at fiscal consolidation** at this juncture employing capital expenditure compression rather than a tax buoyancy path **can adversely affect economic growth.**
- **Public investment** — infrastructure investment in particular — is a major growth driver through “crowding-in” of private corporate investment.
- **Strengthening investments in the health-care sector** is crucial at this juncture as a prolonged lockdown can accentuate the current humanitarian crisis and deepen economic disruptions.
- When credit-linked economic stimulus has an uneven impact on growth recovery, the significance of **fiscal dominance cannot be undermined.**
- **Address unemployment:** Rising unemployment needs to be addressed through an urgent policy response that strengthens job guarantee programmes.

#### Prelims View:

1. Concept: Whole sale price index, Consumer price index, variable rate reverse repo
2. Non-performing assets and its type.

## K-SHAPED ECONOMIC RECOVERY

### Issue:

Former RBI Governor Raghuram Rajan has said that the government needed to do more to prevent a K-shaped recovery of the economy hit by the coronavirus pandemic.

### Analysis of Background:

#### K-Shaped Recovery

- A K-shaped recovery occurs when, following a recession, different parts of the economy recover at different rates, times, or magnitudes.

- This is in contrast to an even, uniform recovery across sectors, industries, or groups of people.
- A K-shaped recovery leads to changes in the structure of the economy or the broader society as economic outcomes and relations are fundamentally changed before and after the recession.
- This type of recovery is called K-shaped because the path of different parts of the economy when charted together may diverge, resembling the two arms of the Roman letter “K.”

#### **Implications of a K-Shaped Recovery:**

- Households at the bottom have experienced a permanent loss of income in the forms of jobs and wage cuts; this will be a recurring drag on demand, if the labour market does not heal faster.
- To the extent that Covid has triggered an effective income transfer from the poor to the rich, this will be demand-impeding because the poor tend to spend-instead of saving.
- If Covid-19 reduces competition or increases the inequality of incomes and opportunities, it could impinge on trend growth in developing economies by hurting productivity and tightening political economy constraints.

## **ANTI-DUMPING DUTY**

### **Issue:**

India has initiated an anti-dumping probe against imports of a certain type of tiles, used for covering the floors in residential and commercial buildings, from China, Taiwan and Vietnam following a complaint by domestic players.

### **Analysis of Background:**

#### **Why in news?**

- Countries start anti-dumping probes to determine whether their domestic industries have been hurt because of a surge in cheap imports.
- The dumping has caused material injury to the domestic players. If established, the Directorate General of Trade Remedies (DGTR) would recommend an anti-dumping duty on these imports.
- As a countermeasure, they India would impose these duties under the multilateral regime of the World Trade Organisation (WTO).

#### **What is Dumping?**

- Dumping is a process wherein a company exports a product at a price that is significantly lower than the price it normally charges in its home (or its domestic) market.
- This is an unfair trade practice which can have a distortive effect on international trade.
- Anti dumping is a measure to rectify the situation arising out of the dumping of goods and its trade distortive effect.

#### **What is Anti-Dumping Duty?**



- An anti-dumping duty is a protectionist tariff that a domestic government imposes on foreign imports that it believes are priced below fair market value.
- In order to protect their respective economy, many countries impose duties on products they believe are being dumped in their national market.
- In fact, anti-dumping is an instrument for ensuring fair trade and is not a measure of protection per se for the domestic industry.
- Such 'dumped' products have the potential to undercut local businesses and the local economy.
- Anti-dumping duties provide relief to the domestic industry against the injury caused by dumping.

#### **Mechanism in India:**

- The Department of Commerce recommends the anti-dumping duty, provisional or final.
- The Department of Revenue in Finance Ministry acts upon the recommendation within three months and imposes such duties.

#### **WTO and Anti-Dumping Duties:**

- The WTO operates a set of international trade rules, including the international regulation of anti-dumping measures.
- It does NOT intervene in the activities of companies engaged in dumping.
- Instead, it focuses on how governments can—or cannot—react to the practice of dumping.
- In general, the WTO agreement permits governments to act against dumping if it causes or threatens material injury to an established domestic industry.

#### **Issues with such duties:**

- Anti-dumping duties have the potential to distort the market.
- In a free market, governments cannot normally determine what constitutes a fair market price for any good or service.

#### **Prelims View:**

1. What is Anti-Dumping Duty?
2. What is countervailing duty?
3. Is they part of WTO Provision?

## ECONOMIC SURVEY HIGHLIGHTS

### Issue:

The Union Finance Ministry is expected to release the single volume Economic Survey for 2021-22 on January 31, 2022.

### Analysis of Background:

#### What is the Economic Survey?

- The Economic Survey is an annual financial document that reviews the economic development in India over the past financial year by analysing and providing detailed statistical data of all the sectors-industrial, agricultural, industrial production, employment, prices, exports, among others.
- It also analyses trends in other factors that have an impact on the Indian economy such as money supply and foreign exchange reserves.
- The Economic Survey is released a day before the Union Budget is presented in the Parliament.
- The Survey is prepared by the Economics Division of the Department of Economic Affairs of the Finance Ministry under the overall guidance of the Chief Economic Adviser (CEA). It is only released after it is approved by the FM.
- However, this year the Economic Survey is being prepared by the Principal Economic Advisor and other officials in absence of the Chief Economic Advisor (CEA).
  - The previous CEA KV Subramanian had completed his three-year term as CEA on December 6 last year.

#### Why is Economic Survey significant?

- The Economic Survey is regarded as the flagship annual document of the Union Ministry of Finance. It is also seen as the report of the Union Government for the financial year under review.
- The Economic Survey provides a summary of all the economic development across the country that happened in a particular financial year. Apart from analysing the macroeconomic situation of the country over the past financial year, it also provides an outline for the next financial year.
- The survey maps out a roadmap for India's economy going into the next financial year. It provides detailed reasons and justifications for why it believes the government should enact certain economic reforms for managing the economy.

#### When was the first Economic Survey of India presented?

- The first Economic Survey was tabled in the year 1950-51. Up to 1964, it was presented along with the Union Budget. From 1964 onwards, it has separated from the Budget.

### **Why is the Economic Survey presented before the Budget?**

- As the Economic survey reviews the overall performance of the economy during the year, it helps in giving a better understanding of the Union Budget.
- The survey primarily helps to comprehend the country's priority for the next financial year and what sectors would need more emphasis in the Union Budget.
- The Economic Survey was de-linked from the Budget in 1964 and unveiled in advance in order to provide a context of the latter.

### **What do the Economic Survey documents contain?**

- The Economic Survey consists of two parts– one includes the economic challenges the country is facing and the second is the analysis of the year gone by.

### **Is the govt bound to present the Economic Survey?**

- The government is not bound to present the Economic Survey as it nowhere mentioned in the Constitution. However, it is now part of the government's practice to present the survey every year before the budget.

### **Economic Survey's objectives**

The various objectives of the Economic Survey in India can be summed up under three heads:

- Reviewing the country's economic development over the past 12 months.
- Summarising how the different development projects of the country perform.
- Highlighting the government's policy initiatives.

### **The format of the Economic Survey**

- After Arvind Subramanian took charge as the Chief Economic Advisor (CEA) of the country, the Economic Survey became a two-volume report and his successor KV Subramanian continued the same trend.
- The first volume generally has chapters on the future course of the economy. Therefore, the first volume provides a scope for the CEAs to narrate their views. The second volume lists the country's economic developments over the past year.
- The principal focus of the second volume is to explain the immediate economic issues faced by the different sectors with the help of statistical data. It throws light on the major challenges anticipated along with the solutions presumed.

## **Key Highlights of the Economic Survey 2021-22**

### **Forex Reserves in India**

- India was the fourth largest forex reserve holder as of December 2021 according to the Economic Survey 2022 released on Monday.
- The continuous inflow of the forex reserve has transformed India from the earlier Fragile Five countries to the the fourth largest forex reserve holder, the survey noted.
- India was the fourth largest forex reserves holder in the world after China, Japan, and Switzerland as on November 2021.
- The forex reserve stood at USD 633.6 billion at end of December 2021 as against USD 577 billion at the end of March 2021, the Economic Survey document said.

### **State of the Economy:**

- Indian economy estimated to grow by 9.2 percent in real terms in 2021-22 (as per first advanced estimates) subsequent to a contraction of 7.3 percent in 2020-21.
- GDP projected to grow by 8- 8.5 percent in real terms in 2022-23.
- The year ahead poised for a pickup in private sector investment with the financial system in good position to provide support for economy's revival.
- Projection comparable with World Bank and Asian Development Bank's latest forecasts of real GDP growth of 8.7 percent and 7.5 percent respectively for 2022-23.
- As per IMF's latest World Economic Outlook projections, India's real GDP projected to grow at 9 percent in 2021-22 and 2022-23 and at 7.1 percent in 2023-2024, which would make India the fastest growing major economy in the world for all 3years.
- Agriculture and allied sectors expected to grow by 3.9 percent; industry by 11.8 percent and services sector by 8.2 percent in 2021-22.
- On demand side, consumption estimated to grow by 7.0 percent, Gross Fixed Capital Formation (GFCF) by 15 percent, exports by 16.5 percent and imports by 29.4 percent in 2021-22.
- Macroeconomic stability indicators suggest that the Indian Economy is well placed to take on the challenges of 2022-23.
- Combination of high foreign exchange reserves, sustained foreign direct investment, and rising export earnings will provide adequate buffer against possible global liquidity tapering in 2022-23.
- Economic impact of "second wave" was much smaller than that during the full lockdown phase in 2020-21, though health impact was more severe.

- Government of India's unique response comprised of safety-nets to cushion the impact on vulnerable sections of society and the business sector, significant increase in capital expenditure to spur growth and supply side reforms for a sustained long-term expansion.
- Government's flexible and multi-layered response is partly based on an "Agile" framework that uses feedback-loops, and the use of eighty High Frequency Indicators (HFIs) in an environment of extreme uncertainty.

#### **Fiscal Developments:**

- The revenue receipts from the Central Government (April to November, 2021) have gone up by 67.2 percent (YoY) as against an expected growth of 9.6 percent in the 2021-22 Budget Estimates (over 2020-21 Provisional Actuals).
- Gross Tax Revenue registers a growth of over 50 percent during April to November, 2021 in YoY terms. This performance is strong compared to pre-pandemic levels of 2019-2020 also.
- During April-November 2021, Capex has grown by 13.5 percent (YoY) with focus on infrastructure intensive sectors.
- Sustained revenue collection and a targeted expenditure policy has contained the fiscal deficit for April to November, 2021 at 46.2 percent of BE.
- With the enhanced borrowings on account of COVID-19, the Central Government debt has gone up from 49.1 percent of GDP in 2019-20 to 59.3 percent of GDP in 2020-21, but is expected to follow a declining trajectory with the recovery of the economy.

#### **External Sectors:**

- India's merchandise exports and imports rebounded strongly and surpassed pre-COVID levels during the current financial year.
- There was significant pickup in net services with both receipts and payments crossing the pre-pandemic levels, despite weak tourism revenues.
- Net capital flows were higher at US\$ 65.6 billion in the first half of 2021-22, on account of continued inflow of foreign investment, revival in net external commercial borrowings, higher banking capital and additional special drawing rights (SDR) allocation.
- India's external debt rose to US \$ 593.1 billion at end-September 2021, from US \$ 556.8 billion a year earlier, reflecting additional SDR allocation by IMF, coupled with higher commercial borrowings.
- Foreign Exchange Reserves crossed US\$ 600 billion in the first half of 2021-22 and touched US \$ 633.6 billion as of December 31, 2021.

- As of end-November 2021, India was the fourth largest forex reserves holder in the world after China, Japan and Switzerland.

### **Monetary Management and Financial Intermediation:**

- The liquidity in the system remained in surplus.
  - Repo rate was maintained at 4 per cent in 2021-22.
  - RBI undertook various measures such as G-Sec Acquisition Programme and Special Long-Term Repo Operations to provide further liquidity.
- The economic shock of the pandemic has been weathered well by the commercial banking system:
  - YoY Bank credit growth accelerated gradually in 2021-22 from 5.3 per cent in April 2021 to 9.2 per cent as on 31 December 2021.
  - The Gross Non-Performing Advances ratio of Scheduled Commercial Banks (SCBs) declined from 11.2 per cent at the end of 2017-18 to 6.9 per cent at the end of September, 2021.
  - Net Non-Performing Advances ratio declined from 6 percent to 2.2 per cent during the same period.
  - Capital to risk-weighted asset ratio of SCBs continued to increase from 13 per cent in 2013-14 to 16.54 per cent at the end of September 2021.
  - The Return on Assets and Return on Equity for Public Sector Banks continued to be positive for the period ending September 2021.
- Exceptional year for the capital markets:
  - 89,066 crore was raised via 75 Initial Public Offering (IPO) issues in April-November 2021, which is much higher than in any year in the last decade.
  - Sensex and Nifty scaled up to touch peak at 61,766 and 18,477 on October 18, 2021.
  - Among major emerging market economies, Indian markets outperformed peers in April-December 2021.

### **Prices and Inflation:**

- The average headline CPI-Combined inflation moderated to 5.2 per cent in 2021-22 (April-December) from 6.6 per cent in the corresponding period of 2020-21.
  - The decline in retail inflation was led by easing of food inflation.
  - Food inflation averaged at a low of 2.9 per cent in 2021-22 (April to December) as against 9.1 per cent in the corresponding period last year.



- Effective supply-side management kept prices of most essential commodities under control during the year.
- Proactive measures were taken to contain the price rise in pulses and edible oils.
- Reduction in central excise and subsequent cuts in Value Added Tax by most States helped ease petrol and diesel prices.
- Wholesale inflation based on Wholesale Price Index (WPI) rose to 12.5 per cent during 2021-22 (April to December). This has been attributed to:
  - Low base in the previous year,
  - Pick-up in economic activity,
  - Sharp increase in international prices of crude oil and other imported inputs, and
  - High freight costs.
- Divergence between CPI-C and WPI Inflation:
  - The divergence peaked to 9.6 percentage points in May 2020.
  - However, this year there was a reversal in divergence with retail inflation falling below wholesale inflation by 8.0 percentage points in December 2021.
  - This divergence can be explained by factors such as:
    - Variations due to base effect,
    - Difference in scope and coverage of the two indices,
    - Price collections,
    - Items covered,
    - Difference in commodity weights, and
    - WPI being more sensitive to cost-push inflation led by imported inputs.
      - With the gradual waning of base effect in WPI, the divergence in CPI-C and WPI is also expected to narrow down.

### **Sustainable Development and Climate Change:**

- India's overall score on the NITI Aayog SDG India Index and Dashboard improved to 66 in 2020-21 from 60 in 2019-20 and 57 in 2018-19.
- Number of Front Runners (scoring 65-99) increased to 22 States and UTs in 2020-21 from 10 in 2019-20.
- In North East India, 64 districts were Front Runners and 39 districts were Performers in the NITI Aayog North-Eastern Region District SDG Index 2021-22.
- India has the tenth largest forest area in the world.

- In 2020, India ranked third globally in increasing its forest area during 2010 to 2020.
- In 2020, the forests covered 24% of India's total geographical, accounting for 2% of the world's total forest area.
- In August 2021, the Plastic Waste Management Amendment Rules, 2021, was notified which is aimed at phasing out single use plastic by 2022.
- Draft regulation on Extended Producer Responsibility for plastic packaging was notified.
- The Compliance status of Grossly Polluting Industries (GPIs) located in the Ganga main stem and its tributaries improved from 39% in 2017 to 81% in 2020.
- The consequent reduction in effluent discharge has been from 349.13 millions of litres per day (MLD) in 2017 to 280.20 MLD in 2020.
- The Prime Minister, as a part of the national statement delivered at the 26 Conference of Parties (COP 26) in Glasgow in November 2021, announced ambitious targets to be achieved by 2030 to enable further reduction in emissions.
- The need to start the one-word movement 'LIFE' (Lifestyle for Environment) urging mindful and deliberate utilization instead of mindless and destructive consumption was underlined.

#### **Agriculture and Food Management:**

- The Agriculture sector experienced buoyant growth in past two years, accounting for a sizeable 18.8% (2021-22) in Gross Value Added (GVA) of the country registering a growth of 3.6% in 2020-21 and 3.9% in 2021-22.
- Minimum Support Price (MSP) policy is being used to promote crop diversification.
- Net receipts from crop production have increased by 22.6% in the latest Situation Assessment Survey (SAS) compared to SAS Report of 2014.

#### **Industry and Infrastructure:**

- Index of Industrial Production (IIP) grew at 17.4 percent (YoY) during April-November 2021 as compared to (-)15.3 percent in April-November 2020.
- Introduction of Production Linked Incentive (PLI) scheme, major boost provided to infrastructure-both physical as well as digital, along with measures to reduce transaction costs and improve ease of doing business, would support the pace of recovery.

#### **Services:**

- GVA of services crossed pre-pandemic level in July-September quarter of 2021-22; however, GVA of contact intensive sectors like trade, transport, etc. still remain below pre-pandemic level.

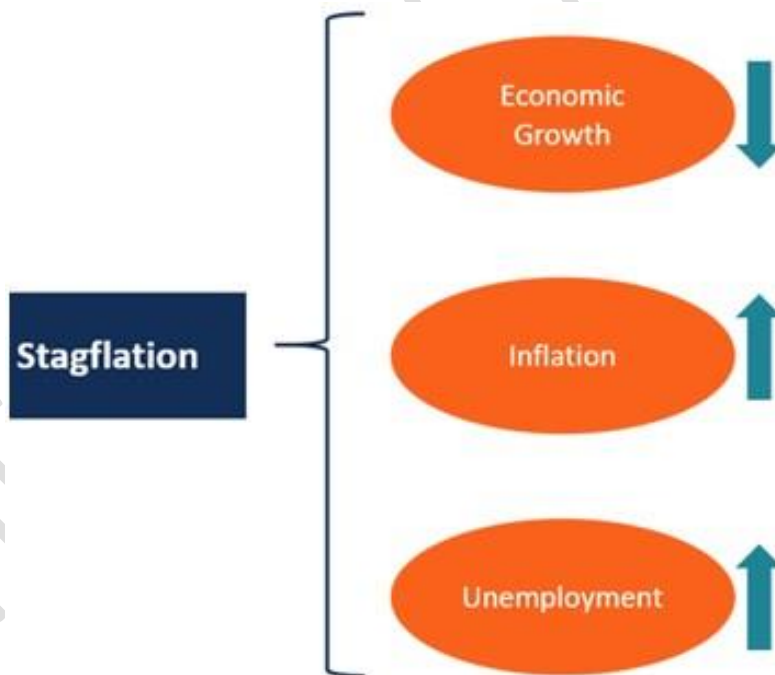
## STAGFLATION

### Issue:

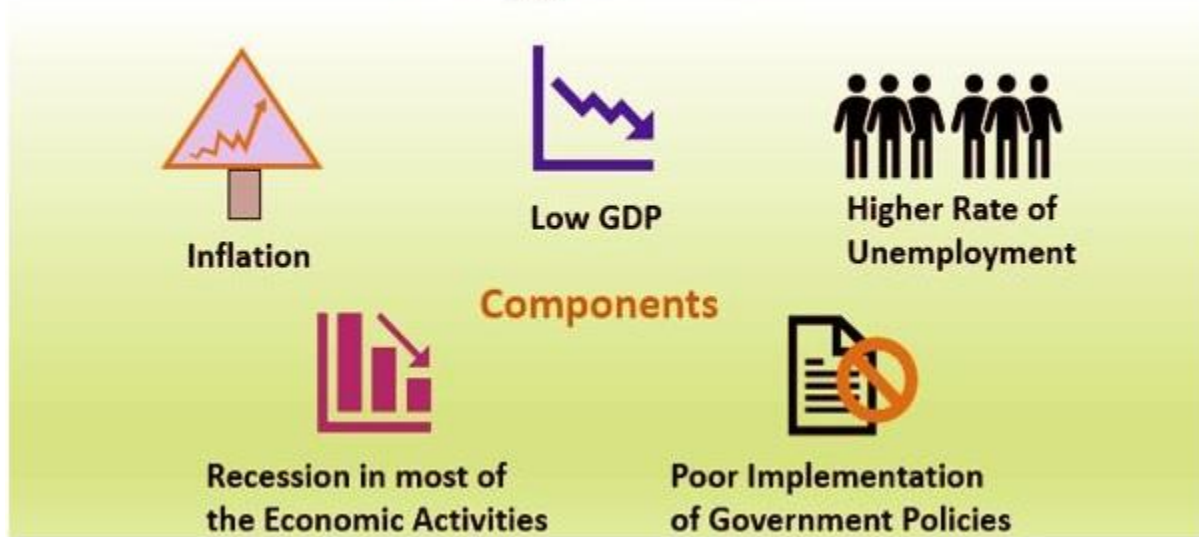
Dr Amit Mitra, a seasoned economist-turned-politician and Principal Chief Advisor (Cabinet rank) to the Chief Minister and Finance Department, Government of West Bengal, feels that “there is no readymade formula to tackle stagflation which is policy-induced

### Analysis of Background:

- It is a seemingly contradictory condition described by slow economic growth and relatively high unemployment, or economic stagnation, which is at the same time accompanied by rising prices (i.e. inflation).
- Stagflation can also be alternatively defined as a period of inflation combined with a decline in gross domestic product (GDP).
- Typically, inflation rises when the economy is growing fast. That’s because people are earning more and more money and are capable of paying higher prices for the same quantity of goods.
- When the economy stalls, inflation tends to dip as well – again because there is less money now chasing the same quantity of goods.



# Stagflation



## Steps needed to control stagflation in Indian economy:

**Tax measures:** The best policy measure is to reduce income tax and corporate taxes as they tend to reduce labour costs and raise demand for labour. Similarly, GST should be reduced in order to prevent the price level from rising. To encourage state and local governments to reduce state and local sales, the central government should sanction additional grants-in-aid to them.

**Wage control:** A policy of wage control should be adopted with government intervention to limit wage rises. When wages rise, firms are forced to reduce production and employment. Consequently, there is a fall in real income and consumer expenditure. Limiting wage increases can break the cycle of wage inflation and help to improve the economic situation.

**Supply-side solutions:** One solution to stagflation is to increase aggregate supply through supply-side policies, for example, privatisation and deregulation to increase efficiency and reduce costs of production. Private sector must be incentivised to invest more and to increase supply through tax measures.

**Monetary policy:** The primary macroeconomic objective should be to reduce inflation. Reducing inflation may cause higher unemployment and lower economic growth in the short-term. But, this unemployment can be targeted once the price level is controlled.

**Labour reforms:** Frictions in the labour market should be reduced by reducing the time and cost involved in obtaining information about employment opportunities. Barriers which either limit entry into a profession or maintain wages at artificially high rates should be removed.

## ENVIRONMENT AND AGRICULTURE

### Zero Tillage

#### Issue:

Farmers can save ₹180 crore through zero tillage.

#### Analysis of Background:

- Zero tillage is the process where the crop seed will be sown through drillers without prior land preparation and disturbing the soil where previous crop stubbles are present.
- Zero tillage not only reduce the cost of cultivation it also reduces the soil erosion, crop duration and irrigation requirement and weed effect which is better than tillage.
- Zero Tillage (ZT) also called No Tillage or Nil Tillage.
- No Till approach started from 1960s by farmers in India.

#### Advantages of zero tillage:

- Reduction in the crop duration and thereby early cropping can be obtained to get higher yields.
- Reduction in the cost of inputs for land preparation and therefore a saving of around 80%.
- Residual moisture can be effectively utilized and number of irrigations can be reduced.
- Dry matter and organic matter get added to the soil.
- Environmentally safe – Greenhouse effect will get reduced due to carbon sequestration.
- No tillage reduces the compaction of the soil and reduces the water loss by runoff and prevent soil erosion.
- As the soil is intact and no disturbance is done, No Till lands have more useful flora and fauna.

#### Prelims View:

1. What is zero tillage and advantage of it?
2. How it create impact on climate change?

### PM-KISAN

**Issue:** Prime Minister Narendra Modi on Saturday released over ₹20,900 crore to more than 10.09 crore farmers across India as the 10th instalment of financial aid under the PM-KISAN scheme

#### Analysis of Background:

- It is a Central Sector Scheme with 100% funding from the Government of India.
- It is being implemented by the Ministry of Agriculture and Farmers Welfare.
- The entire responsibility of identification of beneficiary farmer families rests with the State / UT Governments.
- Under the **Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)** scheme, a financial benefit of ₹6,000 a year is provided to the eligible farmer families, payable in **three equal instalments of ₹2,000.**
- The money is transferred directly to the bank account of the beneficiaries.

- **PM-KISAN scheme was announced in the February 2019 Budget.**

### **Objective**

- With a view to provide income support to all land holding eligible farmer families, the Government has launched PM-KISAN.
- The scheme aims to supplement the financial needs of the farmers in procuring various inputs to ensure proper crop health and appropriate yields, commensurate with the anticipated farm income.
- Benefits and Eligibility conditions
- All land holding eligible farmer families (subject to the prevalent exclusion criteria) are to avail of the benefits under this scheme, as per the cabinet decision taken during May 2019.

### **Exclusion Categories**

The following categories of beneficiaries of higher economic status shall not be eligible for benefit under the scheme:

- All Institutional Land holders.
- Farmer families in which one or more of its members belong to following categories
- Former and present holders of constitutional posts
- Former and present Ministers/ State Ministers and former/present Members of Lok Sabha/ Rajya Sabha/ State Legislative Assemblies/ State Legislative Councils, former and present Mayors of Municipal Corporations, former and present Chairpersons of District Panchayats.
- All serving or retired officers and employees of Central/ State Government Ministries /Offices/Departments and its field units Central or State PSEs and Attached offices /Autonomous Institutions under Government as well as regular employees of the Local Bodies (Excluding Multi Tasking Staff /Class IV/Group D employees)
- All superannuated/retired pensioners whose monthly pension is Rs.10,000/-or more (Excluding Multi Tasking Staff / Class IV/Group D employees) of above category
- All Persons who paid Income Tax in last assessment year
- Professionals like Doctors, Engineers, Lawyers, Chartered Accountants, and Architects registered with Professional bodies and carrying out profession by undertaking practices.

### **PM-KISAN Mobile App**

- The PM-KISAN Mobile App developed and designed by the National Informatics Centre in collaboration with the Ministry of Electronics and Information Technology has been launched.
- The farmers can view the status of their application, update or carry out corrections of their Aadhaar cards and also check the history of credits to their bank accounts.



## SPECIES IN NEWS: SEPTEMERANTHUS

### Issue:

A new genus of a parasitic flowering plant has recently been discovered from the Nicobar group of islands.

### Septemeranthus:

- The genus Septemeranthus grows on the plant species *Horsfieldia glabra* (Blume) Warb.
- The parasitic flowering plants have a modified root structure spread on the stem of the tree and are anchored inside the bark of the host tree.
- It has a distinct vegetative morphology, inflorescence architecture and floral characters.
- The leaves of the plant are heart-shaped with a very long tip and the ovary, fruit and seeds are 'urceolate' (earthen pot-shaped).
- Birds consume viscous seeds of this new genus and seeds have potential of pseudo viviparous germination that deposit on the leaves and branches of their same plant which is already attached to host plants.



### Key features:

- They need a host tree or shrub in order to thrive and exhibit a worldwide distribution in tropical as well as temperate habitats.
- They are important in forest ecology, pathology and medicine.
- They play an important role as they provide food for frugivorous birds.

## LIGNITE MINING

### Issue:

The Congress government in Rajasthan is preparing an ambitious road map in the New Year for mining of lignite in Bikaner district's Gudha West and the installation of a new lignite-based thermal power plant in its vicinity.

### Analysis of Background:

#### About:

- The joint action plan is expected to significantly enhance the State's power generation capacity.
- Lignite mining capacity of 10 lakh tonnes was available in Gudha West, where there was a plan to set up a power plant of 125 to 135 MW capacity in 2005 as well.
- The Central Government's Neyveli Lignite Corporation is already generating electricity in its power plant at Gudha East, while the power is being produced by the private sector in Bikaner district's Barsingsar village.

### Important Information:

#### Lignite:

- Lignite, often referred to as brown coal, is a soft, brown, combustible, sedimentary rock formed from naturally compressed peat.
- It has a carbon content around 25–35%, and is considered the lowest rank of coal due to its relatively low heat content.
- Lignite is mined all around the world and is used almost exclusively as a fuel for steam-electric power generation.
- The combustion of lignite produces less heat for the amount of carbon dioxide and sulfur released than other ranks of coal. As a result, environmental advocates have characterized lignite as the most harmful coal to human health.

## SUNDERBANS TIGER RESERVE (STR)

### Issue:

On New Year, fourth incident of a tiger straying into the islands

### Analysis of Background:

- Sundarban is the largest deltaic region of the world and encompasses over hundreds of islands (105), with a maze of innumerable rivers, rivulets, and creeks.
- The name 'Sundarban' means "beautiful forest" and it is believed to be derived from a mangrove tree species 'Sundari' (Heritiera fomes).
- The Indian Sundarban is the southernmost part of the estuarine delta formed by the River Ganges and Brahmaputra, bordering the Bay of Bengal.
- It is located little south of the Tropic of Cancer.
- The Dampier-Hodges line separates the Sundarbans from the rest of West Bengal.
- On the eastern boundary lies Bangladesh separated by the rivers Kalindi, Raimangal, and Harinbhanga.

### Sundarban National Park:

- The Sundarban National Park is located in the south-east of Calcutta in the District of West Bengal and forms part of the Gangetic Delta.
- The Sundarbans mangrove forest, one of the largest such forests in the world, lies across India and Bangladesh on the delta of the Ganges, Brahmaputra and Meghna rivers on the Bay of Bengal.
- It is adjacent to the border of India's Sundarbans World Heritage site inscribed in 1987.
- The site is intersected by a complex network of tidal waterways, mudflats and small islands of salt-tolerant mangrove forests, and presents an excellent example of ongoing ecological processes.
- The area is known for its wide range of fauna, including 260 bird species, the Bengal tiger and other threatened species such as the estuarine crocodile and the Indian python.
- It is home to many rare and globally threatened wildlife species such as the estuarine crocodile, Royal Bengal Tiger, Water monitor lizard, Gangetic dolphin, and olive ridley turtles.
- Sundarban Wetland, India was recognised as the 'Wetland of International Importance' under the Ramsar Convention in January 2019.
- The Sunderbans Delta is the only mangrove forest in the world inhabited by tigers.



#### Prelims View:

1. Known: Sundarban National Park.
2. Ramsar wetland convention.

## 2 VS 2" AGRI MARKET ACCESS ISSUES

### Issue:

In pursuant to the 12th India – USA TPF meeting held on 23 Nov, 2021 Department of Agriculture and farmer's welfare (DAC&FW) and US Department of Agriculture (USDA) have signed a framework agreement for implementing the 2 Vs 2 Agri market access issues.

**Analysis of Background:**

- 2 Vs 2 Agri market access issues involves inspection / oversight transfer for Indian mangoes & pomegranate and market access for pomegranate arils from India and market access for US cherries and U.S Alfalfa hay.
- Mango and pomegranate exports will start from Jan – Feb 2022 and pomegranate aril exports from Apr 2022. Exports of Alfalfa hay and cherries from USA will begin in Apr 2022.
- In addition, based on the ministerial discussions, Department of Animal Husbandry and Dairying (DAHD) also conveyed its readiness to provide market access for U.S pork and requested the U.S side to share a signed copy of final sanitary certificate for finalizing the same.

**SPOT-BILLED PELICANS****Issue:**

Spot billed pelicans dying enmasse in Andhra Pradesh

**Analysis of Background:**

- The spot-billed pelican (*Pelecanus philippensis*) or grey pelican is a member of the pelican family.
- It breeds in southern Asia from southern Iran across India east to Indonesia.
- The species is found to breed only in peninsular India, Sri Lanka and in Cambodia.
- In the non-breeding season they are recorded in Nepal, Myanmar, Thailand, Laos and Vietnam.
- It is a bird of large inland and coastal waters, especially large lakes.
- Estimates suggest that increased protection has since enabled a recovery in their numbers and the status of the species was changed from vulnerable to near threatened in the 2007 IUCN Red List.
- Wildlife (Protection) Act, 1972: Schedule IV (Hunting prohibited but the penalty for any violation is less compared to the first two schedules).
- The spot-billed pelican is capable of hunting huge fish from the water bodies and swamps and thus, it is vulnerable to infestation.

**Reasons for their death:**

- Preliminary inquiry suggests that nematode infestation is the cause for the death of the spot-billed pelicans that preys on nearby water bodies. The nematode parasite is suspected to be transferred through fish and snails in particular, when the birds prey in the aqua ponds.
- The nematode infestation would not spread from one species to another species.

## NATIONAL CLEAN AIR PROGRAMME

### Issue:

Delhi and most of the other non-attainment cities under the National Clean Air Programme (NCAP) have shown only a marginal improvement, said a new analysis released.

### Analysis of Background:

#### About NCAP

- The NCAP was implemented across India in 2019 to reduce particulate matter levels in 132 cities by 20-30% in 2024.
- Cities are declared non-attainment if they consistently fail to meet the **National Ambient Air Quality Standards (NAAQS)** over a five-year period.

#### What are NAAQ standards?

- The mandate provided to the Central Pollution Control Board (CPCB) under the Air (Prevention and Control of Pollution) Act empowers it to set standards for the quality of air.
- Hence the current National Ambient Air Quality Standards were notified in November 2009 by the CPCB.
- Prior to this, India had set Air Quality standards in 1994, and this was later revised in 1998.
- The 2009 standards further lowered the maximum permissible limits for pollutants and made the standards uniform across the nation.
- Earlier, less stringent standards were prescribed for industrial zones as compared to residential areas.

#### Pollutants covered:

- Sulphur Dioxide (SO<sub>2</sub>)
- Nitrogen Dioxide (NO<sub>2</sub>),
- Particulate Matter (size less than 10 µm) or PM 10
- Particulate Matter (size less than 2.5 µm) or PM2.5
- Ozone (O<sub>3</sub>)
- Carbon Monoxide (CO)
- Ammonia (NH<sub>3</sub>)

## INDIA APPEALS AGAINST WTO ORDER ON SUGAR

### Issue:

India has appealed against a ruling of the World Trade Organisation's (WTO) trade dispute settlement panel on domestic sugar subsidies, stating that the panel had committed "certain errors of law" in its report.

## Analysis of Background:

India's Minimum Selling Price system for Sugarcane was brought to notice to the WTO by Brazil, Australia and Guatemala.

## What was the complaint against India?

Australia, Brazil, and Guatemala said India's domestic support and export subsidy measures appeared to be inconsistent with various articles against WTO's:

1. Agreement on Agriculture
  2. Agreement on Subsidies and Countervailing Measures (SCM)
  3. Article XVI (which concerns subsidies) of the General Agreement on Trade and Tariffs (GATT)
- **Domestic Support:** All three countries complained that India provides domestic support to sugarcane producers that exceed the de minimis level of 10% of the total value of sugarcane production.
  - **Various subsidies:** They also raised the issue of India's alleged export subsidies, subsidies under the production assistance and buffer stock schemes, and the marketing and transportation scheme.
  - **Notifying support:** Australia accused India of "failing" to notify its annual domestic support for sugarcane and sugar subsequent to 1995-96, and its export subsidies since 2009-10.

## India's reply to WTO panel

- India rejected the panel's findings as "erroneous", "unreasoned", and "not supported by the WTO rules".
- It argued that the requirements of Article 3 of the SCM Agreement are not yet applicable to India.
- It has a phase-out period of 8 years to eliminate export subsidies under the agreement.
- India also argued that its mandatory minimum prices are not paid by the governments but by sugar mills, and hence do not constitute market price support.

## Backgrounder: Sugarcane Pricing in India

### Who determines Sugarcane prices?

Sugarcane prices are determined by the Centre as well as States.

- The Centre announces Fair and Remunerative Prices which are determined on the recommendation of the Commission for Agricultural Costs and Prices (CACP) and are announced by the Cabinet Committee on Economic Affairs, which is chaired by Prime Minister.
- The State Advised Prices (SAP) are announced by key sugarcane producing states which are generally higher than FRP.

## Minimum Selling Price (MSP) for Sugar

- The price of sugar is market-driven & depends on the demand & supply of sugar.
- However, with a view to protecting the interests of farmers, the concept of MSP of sugar has been introduced since 2018.
- MSP of sugar has been fixed taking into account the components of Fair & Remunerative Price (FRP) of sugarcane and minimum conversion cost of the most efficient mills.

## Basis of price determination

- With the amendment of the Sugarcane (Control) Order, 1966, the concept of Statutory Minimum Price (SMP) of sugarcane was replaced with the Fair and Remunerative Price (FRP) of sugarcane in 2009-10.
- The cane price announced by the Central Government is decided on the basis of the recommendations of the Commission for Agricultural Costs and Prices (CACP).
- This is done in consultation with the State Governments and after taking feedback from associations of the sugar industry.

## What is FRP?

- FRP is fixed under a sugarcane control order, 1966.
- It is the minimum price that sugar mills are supposed to pay to the farmers.
- However, states determine their own State Agreed Price (SAP) which is generally higher than the FRP.

## Factors considered for FRP:

- The amended provisions of the Sugarcane (Control) Order, 1966 provides for fixation of FRP of sugarcane having regard to the following factors:
  - a) cost of production of sugarcane;
  - b) return to the growers from alternative crops and the general trend of prices of agricultural commodities;
  - c) availability of sugar to consumers at a fair price;
  - d) price at which sugar produced from sugarcane is sold by sugar producers;
  - e) recovery of sugar from sugarcane;
  - f) the realization made from the sale of by-products viz. molasses, bagasse, and press mud or their imputed value;
  - g) reasonable margins for the growers of sugarcane on account of risk and profits.

## Prelims View:

1. What is WTO'S - Agreement on Agriculture?
2. What is General Agreement on Trade and Tariffs?
3. What is Fair and Remunerative Price?



## ORANG NATIONAL PARK

### Issue:

- The Assam government has recently issued a preliminary notification for adding 200.32 sq. km to the 78.82 sq. km Orang National Park, the State's oldest reserve, about 110 km northeast of Guwahati.
- The government had in September 21 dropped the 'Rajiv Gandhi' prefix to Orang given by the government in 1992.

### Analysis of Background:

#### Orang National Park (*Prelims*)

- Orang NP is located on the northern bank of the Brahmaputra River in the Darrang and Sonitpur districts of Assam.
- It was established as a sanctuary in 1985 and declared a national park in 1999.
- It has a rich flora and fauna, including great Indian rhinoceros, pygmy hog, Asian elephant, wild water buffalo and Bengal tiger.
- Orang, on the northern bank of the river, is strategic to the Kaziranga Orang Riverine Landscape.
- Tigers and rhinos are known to use the islands in this riverine landscape, about 180 km long, to hop between Orang and Kaziranga.

## CLIMATE CHANGE AND RESOLUTION FOR MITIGATION

### Issue:

India's pledge to set a net-zero target by 2070, at the COP26 summit, Glasgow, has again highlighted the importance of forests to help mitigate the challenges of climate change.

### Analysis of Background:

#### Need for sustainable management of forests

- The United Nations Framework Convention on Climate Change (UNFCCC) framework (2013) of REDD+ for Reducing Emissions from Deforestation and Forest Degradation has highlighted the importance of forest along with the '**sustainable management of forests for the conservation and enhancement of forest carbon stocks**'.

- **Land-based sinks:** In a study by Griscom (2017), land-based sinks (natural climate solutions which also include forests) can provide **up to 37% of emission reduction** and help in keeping the global temperature below 2° C.
- **Natural regeneration model:** Recent research has favoured a natural regeneration model of restoration over the existing much-hyped **mode of tree planting** as such forests are said to secure nearly **32% carbon storage**, as per one report of the Intergovernmental Panel on Climate Change.

#### Degradation and deforestation in India

- As per the State of Forests Report (1989), the country had 2,57,409 sq.km (7.83% of its geographical area) under the open forest category, having a density of 10% to less than 40%.
- However, in 30 years (2019) this has been increased to 3,04,499 sq. km (9.26%).
- This means every year on average, nearly 1.57 lakh hectare of forests was degraded.
- **Anthropogenic pressure:** This degradation highlights the presence of anthropogenic pressures including encroachment, grazing, fire, which our forests are subjected to.

#### Need for the participation of people to achieve target of carbon sequestration

- The degradation warrants the participation of people as an essential and effective route to achieve the desired target of carbon sequestration through the restoration of forests.
- As envisaged in National Forest Policy, 1988, India made its attempt, in 1990, to engage local communities in a partnership mode while protecting and managing forests and restoring wastelands with the concept of care and share.
- Later, the concept of forest development agencies was introduced to consolidate the efforts in an autonomous model.
- **Creation of joint forest management committees:** The efforts to make this participatory approach operative resulted in the formation of nearly 1.18 lakh joint forest management committees managing over 25 million hectares of forest area.
- Most of these became active and operative while implementing various projects financed by external agencies such as the World Bank, the Overseas Economic Cooperation Fund (OECF) Japan, the Department for International Development (DFID) United Kingdom and the European Union (EU).
- A similar system of joint management in the case of national parks, sanctuaries and tiger reserves which existed in the name of eco-development committees initially proved effective.
- However, the completion of the project period and lack of subsequent funding affected their functionality and also the protection of forests due to a lack of support from participating local communities including associated non-governmental organisations.

- **Customary participation:** Except for the National Mission for Green India, in all other centrally sponsored programmes such as Project Tiger, fire management, Integrated Development of Wildlife Habitats (IDWH) including the Compensatory Afforestation Management and Planning Authority (CAMPA), the lack of priority and policy support to ensure the participation of local communities via the institutions of joint forest management committees slowly made their participation customary.
- This caused a gradual decline in their effectiveness.
- **Role change:** The role of local institutions of gram panchayat or joint forest management committees is now restricted to be a consultative institution instead of being partners in planning and implementation.
- **Implications of role change:** This indifference and alienation from the participatory planning and implementation of various schemes

### Way forward

- **Revisit legal and policy mechanism:** To achieve net-zero targets there is a need to revisit our existing legal and policy mechanisms.
- **Incentivise local communities:** We also need to incentivise the local communities appropriately and ensure fund flow for restoration interventions.
- There is a need for duly providing for the adequate participation of local people in planning and implementation through local institutions.
- **Replicate Telangana model:** Political priority and appropriate policy interventions as done recently in Telangana by amending the panchayat and municipal acts and creating a provision for Telangana Haritha Nidhi need replication in other States.
- **Financial and institutional support mechanisms:** These should be supported by enabling financial and institutional support mechanisms and negotiations with stakeholders
- Though India did not become a signatory of the Glasgow Leaders' Declaration on Forests and Land Use, the considerations of land tenure and the forest rights of participatory communities with accelerated finances will help aid steps in the race toward net zero.

### Prelims View:

1. Details - Cop 26 Summit.
2. What is an India national determined contribution?
3. What is CAMPA?
4. Details – UNFCCC, RED+.
5. What is Bonn challenge?

### Issue:

Experts have argued that the introduction of African cheetahs to Kuno National Park could endanger the Asiatic lion which has also been identified for re-introduction.

### Analysis of Background:

#### About Asiatic Cheetah:

- Cheetah, the world's fastest land animal was declared extinct in India in 1952.
- The Asiatic cheetah is classified as a "critically endangered" species by the IUCN Red List, and is believed to survive only in Iran.
- It was expected to be re-introduced into the country after the Supreme Court lifted curbs for its re-introduction.
- From 400 in the 1990s, their numbers are estimated to have reached to 50-70 today, because of poaching, hunting of their main prey (gazelles) and encroachment on their habitat.

#### Why reintroduce Cheetahs?

- Reintroductions of large carnivores have increasingly been recognized as a strategy to conserve threatened species and restore ecosystem functions.
- The cheetah is the only large carnivore that has been extirpated, mainly by over-hunting in India in historical times.
- India now has the economic ability to consider restoring its lost natural heritage for ethical as well as ecological reasons.

#### Issues with cheetah re-introduction:

- Since 2018, dozens of lions have died from diseases, including canine distemper, opening up a frightening possibility of loss when confined to a single location.
- Establishing an additional free-ranging wild lion population in Kuno is of paramount importance and roadblocks, if any, must be transparently addressed.
- Clearly, the introduction of African cheetahs cannot take precedence over translocating Asiatic lions from Gujarat to Kuno National Park as ordered by none other than the apex court in 2013.
- However, simultaneous re-introduction can create a conflict for prey between these two wild cats.

### Prelims View:

1. What is IUCN Status -Asiatic Cheetah?
2. Presently, Asiatic Cheetah available which are countries?
3. Map: Kuno National Park

## STATE OF FOREST REPORT 2021

### Issue:

The biennial India State of Forest Report (ISFR) 2021 has been released.

### Analysis of Background:

#### What is the India State of Forest Report?

- It is an assessment of India's forest and tree cover, published every two years by the Forest Survey of India under the Ministry of Environment, Forests and Climate Change.
- The first survey was published in 1987, and **ISFR 2021 is the 17th**.
- India is one of the few countries in the world that brings out such every two years, and this is widely considered comprehensive and robust. With data computed through wall-to-wall mapping of India's forest
- Cover through remote sensing techniques, the ISFR is used in planning and formulation of policies in forest management as well as forestry and agroforestry sectors.

#### Forest Survey of India:

- FSI is a national organization responsible for the assessment and monitoring of the forest resources of India regularly.
- It functions under **the Ministry of Environment and Forests and climate change**.
- It is headquartered in Dehradun, Uttarakhand.
- It was founded in 1981.
- FSI is one of the major national survey organizations in India.
- The organization's precursor was the 'Pre-investment Survey of Forest Resources' (PISFR), a project started in 1965 with aid from UNDP and FAO.

#### Findings of the report:

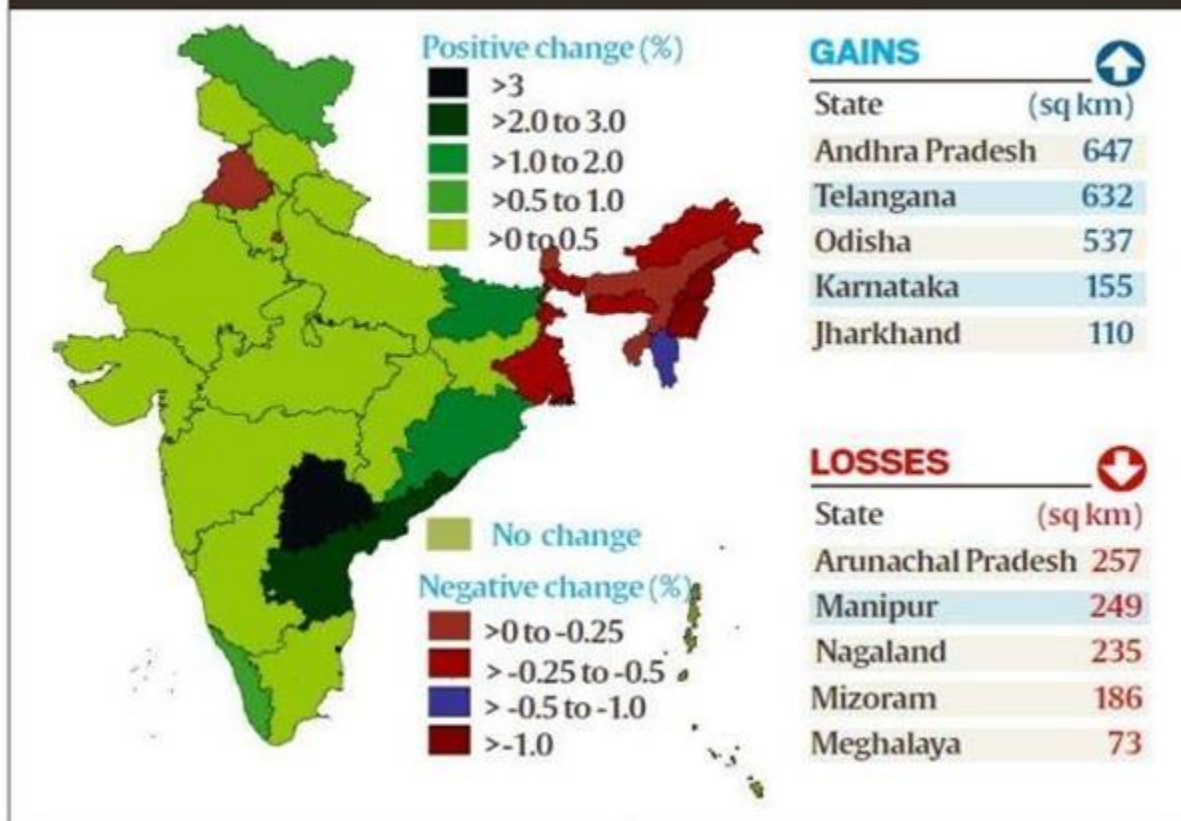
The India State of Forest Report has found the country's forest cover has increased by 1,540 sq km since 2019.

**ISFR 2021 has found that the forest and tree cover** in the country continues to increase with an additional cover of 1,540 square kilometers over the past two years.

- India's forest cover is now 7,13,789 square kilometres, 21.71% of the country's geographical area, an increase from 21.67% in 2019. Tree cover has increased by 721 sq km.
- The states that have shown the highest increase in forest cover are Telangana (3.07%), Andhra Pradesh (2.22%) and Odisha (1.04%).

- Five states in the Northeast—Arunachal Pradesh, Manipur, Meghalaya, Mizoram and Nagaland have all shown loss in forest cover.
- Mangroves have shown an increase of 17sqkm. India's total mangrove cover is now 4,992 sq km.
- The survey has found that 35.46 % of the forest cover is prone to forest fires. Out of this, 2.81 % is extremely prone, 7.85% is very highly prone and 11.51 % is highly prone
- The total carbon stock in country's forests is estimated at 7,204 million tons, an increase of 79.4milliontonssince2019.
- Bamboo forests have grown from 13,882 million culms (stems) in 2019 to 53,336 million culms in 2021.
- While ISFR 2021 has shown an increasing trend in forest cover overall, the trend is not uniform across all kinds of forests.
- Three categories of forests are surveyed – very dense forests (canopy density over 70%), moderately dense forests (40-70%) and open forests (10-40%).
- Scrubs (canopy density less than 10%) are also surveyed but not categorized as forests.
- Very dense forests have increased by501 sq km. This is a healthy sign but pertains to forests that are protected and reserve forests with active conservation activities.
- The north-east did not show positive results as the current assessment showed a decrease of forest cover to the extent of 1,020 sq km in the region.
- Arunachal Pradesh lost the maximum forest cover of 257 sq km, followed by Manipur which lost 249 sq km, Nagaland 235 sq km, Mizoram 186 sq km and Meghalaya 73 sq km.
- In total 140 hill districts of the country, the forest cover reduced by 902 sq km in the last two years. In the 2019 report, the forest cover in the hill regions had increased by 544 sq km.

## GAINS & LOSSES IN FOREST COVER SINCE 2019



### New features in ISFR:

- In the present ISFR 2021, FSI has included a new chapter related to the assessment of forest cover in the Tiger Reserves, Corridors and Lion conservation area of India.
- In this context, the decadal assessment of change in forest cover within Tiger Reserves, Corridors and Lion conservation area helps in assessing the impact of conservation measures and management interventions that have been implemented over the years.
- For the first time assessed forest cover in tiger reserves, tiger corridors and the Gir forest which houses the Asiatic lion.
- The forest cover in tiger corridors has increased by 37.15 sq km (0.32%) between 2011-2021, but decreased by 22.6 sq km (0.04%) in tiger reserves. Forest cover has increased in 20 tiger reserves in these 10 years, and decreased in 32.
- Buxa, Anamalai and Indravati reserves have shown an increase in forest cover while the highest losses have been found in Kawal, Bhadra and the Sunderbans reserves.
- Pakke Tiger Reserve in Arunachal Pradesh has the highest forest cover, at nearly 97%.



### What impact has climate change had?

- The report estimates that by 2030, 45-64% of forests in India will experience the effects of climate change and rising temperatures, and forests in all states (except Assam, Meghalaya, Tripura and Nagaland) will be highly vulnerable climate hot spots.
- Ladakh (forest cover 0.1-0.2%) is likely to be the most affected. India's forests are already showing shifting trends of vegetation types, such as Sikkim which has shown a shift in its vegetation pattern for 124 endemic species.
- In 2019-20, 1.2 lakh forest fire hotspots were detected by the SNPP\_VIIRS sensor, which increased to 3.4 lakh in 2020-21. The highest numbers of fires were detected in Odisha, Madhya Pradesh and Chhattisgarh.

### Slight reduction in capital's forest cover in two years, shows report:

- Forest cover in Delhi has reduced by 0.44 sq km between 2019 (195.44 sq km) and 2021 (195 sq km).
- Very dense forest' (land with tree canopy density of 70% and above) has remained the same at 6.72 sq km.
- The extent of 'moderately dense forest' (land with tree canopy density of 40% and more, but less than 70%) has increased from 56.42 sq km in 2019 to 56.60 sq km, while open forest land (tree canopy density of 10% and more, but less than 40%) has reduced from 132.30 sq km in 2019 to 131.68 sq km in 2021.
- Meanwhile, the extent of 'trees outside forests' in Delhi is 283 sq km, higher than that in 2019 (265 sq km). As per the report, this will include trees along linear features such as roads, canals, bunds, and scattered trees.
- There has been an increase in terms of 'tree cover', which refers to isolated tree and small patches of trees that are less than 1 hectare in area and found outside recorded forest areas. The 'tree cover' has increased from 129 sq km in 2019 to 147 sq km.

### Prelims View:

1. Who release State of Forest Report (ISFR) 2021?
2. Details: Increasing percentage of forest cover and tree cover along state wise.
3. Details: Forest Survey of India.

## TONGA VOLCANIC ERUPTION AND GLOBAL CLIMATE

### Issue:

Underwater volcanic eruption occurred in Tonga in the southern Pacific Ocean January 15, 2022.

### Analysis of Background:

- Volcanic eruption occurred in Tonga in the southern Pacific Ocean January 15, 2022, affect global climate. The explosion spewed plumes of gases, steam and ash into the stratosphere.

- The gases included sulphur dioxide (SO<sub>2</sub>), which is of particular interest because of its global cooling effect.
- Extreme levels of SO<sub>2</sub> have not been recorded in the stratosphere going by the early data. The Tonga volcanic cloud contains roughly 0.4 teragram (Tg) of SO<sub>2</sub>.

#### **1991 Mount Pinatubo explosion in the Philippines:**

- According to studies, Pinatubo spewed about 15 million tonnes of sulphur dioxide into the stratosphere. The total mass of SO<sub>2</sub> in the volcanic cloud was 20 Tg.
- Researchers recorded a 0.5 degrees Celsius (°C) drop in the average global temperature over large parts of the earth between 1992 and 1993.
- Mount Pinatubo recorded the largest SO<sub>2</sub> cloud since 1978. It took about three weeks to spread around the world.

The Tonga event follows the Intergovernmental Panel on Climate Change report of 2021, which had suggested that an explosive volcanic eruption could occur in the 21st century.

- This eruption could lower surface temperature and precipitation globally, especially over land, for one to three years. “If such an eruption occurs, it would therefore temporarily and partially mask human-caused climate change,” the report had added.
- SO<sub>2</sub> reacts with water to form sulphuric acid droplets, which become a part of aerosol particles. Aerosols are tiny liquid droplets suspended in the air.
- The aerosols block sunlight from reaching the Earth’s surface, causing cooling. Sulphurous aerosols, along with chlorine, contribute to the destruction of stratospheric ozone, though most of this depletion comes from man-made chemical
- The sulphuric acid-rich aerosol particles **induce cooling by reflecting** the incoming sunlight into space.
- The particles from Mount Pinatubo remained in the stratosphere for three-four years after the explosion, according to a study.

#### **Pacific ring of fire:**

- According to the US Geological Survey there are some 1,350 potentially active volcanoes around the world.
- Many are located along a 40,000km (25,000-mile) arc along the Pacific known as the “**Ring of Fire**”, which is also where about 90 percent of all earthquakes occur.
- Tonga is home to several volcanoes, all along the Ring of Fire.



**Prelims View:**

1. Map: Tonga is part of Pacific ring of fire or not.
2. Will the Volcanic Eruption influence the climate change?
3. Details: Volcanic Gases.

**SMOG TOWERS**

**Issue:**

Some researchers in New Delhi have observed paradoxical phenomena near the smog towers. The air closest to the tower should be cleanest, but the device recorded the opposite in several instances.

**Analysis of Background:**

**What are Smog Towers?**

- Smog towers are structures designed to work as large-scale air purifiers. They are fitted with multiple layers of air filters and fans at the base to suck the air.
- After the polluted air enters the smog tower, it is purified by multiple layers before being re-circulated into the atmosphere.

## WHAT IS A SMOG TOWER?

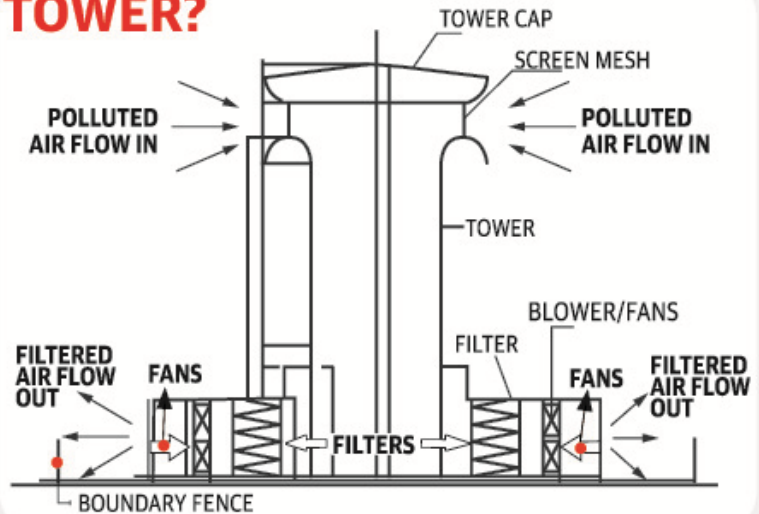
- It is a 24 metre-high steel and cement structure fitted with fans and filters to purify air

- A total of 40 big fans at the bottom of the tower will suck in polluted air from the top and it will pass through 5,000 filters installed at the bottom

- The '3M Filtrete' filters contain electrostatically charged filter media and can capture particles as small as 0.3-10 microns in size

- The tower is built at a cost of ₹20 crore

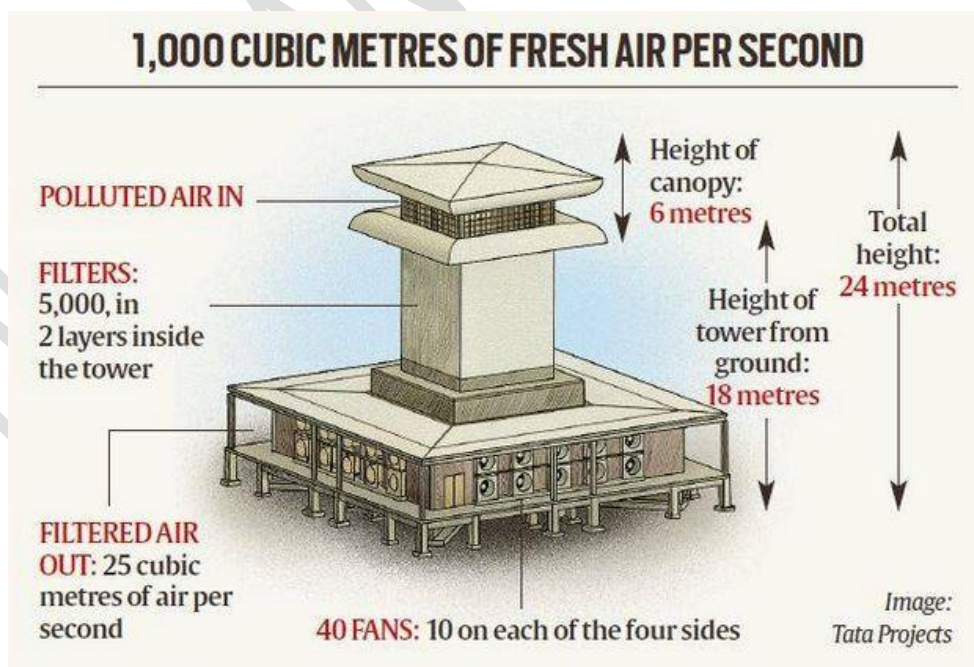
- 1,000 cubic metre of air per second will be purified by the tower



- The tower has been built as a pilot study following Supreme Court orders

### Structure of the Delhi smog tower:

- The structure is 24 m high, about as much as an 8-storey building — an 18-metre concrete tower, topped by a 6-metre-high canopy. At its base are 40 fans, 10 on each side.
- Each fan can discharge 25 cubic metres per second of air, adding up to 1,000 cubic metres per second for the tower as a whole. Inside the tower in two layers are 5,000 filters.
- The filters and fans have been imported from the United States.



### How does it work?

- The tower uses a 'downdraft air cleaning system' developed by the University of Minnesota.
- Polluted air is sucked in at a height of 24 m, and filtered air is released at the bottom of the tower, at a height of about 10 m from the ground.
- When the fans at the bottom of the tower operate, the negative pressure created sucks in air from the top.
- The 'macro' layer in the filter traps particles of 10 microns and larger, while the 'micro' layer filters smaller particles of around 0.3 microns.
- The downdraft method is different from the system used in China, where a tower uses an 'updraft' system — air is sucked in from near the ground, and is propelled upwards by heating and convection.
- Filtered air is released at the top of the tower.

### Impact:

- Computational fluid dynamics modelling suggests the tower could have an impact on the air quality up to 1 km from the tower.
- The actual impact will also determine how the tower functions under different weather conditions, and how levels of PM2.5 vary with the flow of air.

### Issues with smog towers:

- Many experts say that the smog towers are not a viable method to clean city's air.
- The government had talked about 80% pollution reduction at inlet and outlet of the tower but never mentioned about the effect of distance from the tower.
- Instead of spending ₹40 crore on two towers, the government could have spent the funds on several other options such as replacing the small and polluting industrial boilers or chimneys etc.S

### Prelims View:

1. What is Smog tower?
2. P.M.2.5 – Impact on human health.
3. Reason for Delhi air pollution.

## SWAMP DEER

### Issue:

The population of the vulnerable eastern swamp deer, extinct elsewhere in South Asia, has dipped (from 907 in 2018 to 868 in 2020 ) in the Kaziranga National Park and Tiger Reserve.

### Analysis of Background:

#### Swamp Deer

- The swamp deer also called as barasingha is a deer species distributed in the Indian subcontinent.
- Populations in northern and central India are fragmented, and two isolated populations occur in southwestern Nepal.



- It has been locally extinct in Pakistan and Bangladesh, and its presence is uncertain in Bhutan.
- In Assamese, barasingha is called dolhorina; dol meaning swamp.
- Swamp deers do occur in the Kanha National Park of Madhya Pradesh, in two localities in Assam, and in only 6 localities in Uttar Pradesh.

**Conservation status:**

- **IUCN Red List:** Endangered
- **CITES:** Appendix I
- **Wildlife Protection Act of 1972:** Schedule I

**MISS KERALA**

**Issue:**

A section of aquarists and ornamental fish breeders are surprised that the Denison barb (Miss Kerala), a native freshwater fish species commonly found in parts of Karnataka and Kerala, has been included in Schedule I of the Wild Life Protection Act, 1982 (amendment bill).

**Analysis of Background:**

**Miss Kerala**

- Miss Kerala is also known as Denison barb, red-line torpedo barb and roseline shark.
- Its scientific name is *Sahyadria denisonii*.
- The fish is featured with red and black stripes on its body.
- It is found in the States of Kerala and Karnataka.
- It has been listed on the IUCN Redlist as Vulnerable, in 2010.
- This species is known to inhabit fast-flowing hill streams and is often found in rocky pools with thick vegetation along river banks.



Sahyadria denisonii (Miss Kerala) is a native freshwater fish commonly found in Karnataka and Kerala.

### Why included in Schedule I of WPA?

- Ironically, its beauty is the biggest threat to its survival, as it is highly sought-after in the international aquarium trade, constituting 60 – 65% of the total live ornamental fish exported from India.
- Its numbers are also decreasing owing to habitat degradation due to deforestation, mining, agriculture, urban expansion and hydro-electric projects.

## KERALA GETS ITS FIRST-EVER SCIENTIFIC BIRD ATLAS

### Issue:

The Kerala Bird Atlas (KBA), the first-of-its-kind State-level bird atlas in India, has created solid baseline data about the distribution and abundance of bird species across all major habitats, giving an impetus to futuristic studies.

### Analysis of Background:

#### Kerala Bird Atlas (KBA)

- The KBA has been prepared based on systematic surveys held twice over 60 days a year during the wet (July to September) and dry (January to March) seasons between 2015 and 2020.
- It was conducted as a citizen science-driven exercise with the participation of over 1,000 volunteers of the birdwatching community.
- The KBA accounts for nearly three lakh records of 361 species, including 94 very rare species, 103 rare species, 110 common species, 44 very common species, and 10 most abundant species.
- It was found that the species count was higher during the dry season than in the wet season while species richness and evenness were higher in the northern and central districts than in the southern districts.

### Significance of KBA

- The KBA offers authentic, consistent and comparable data through random sampling from the geographical terrain split.
- It is arguably Asia's largest bird atlas in terms of geographical extent, sampling effort and species coverage derived from the aggregation of 25,000 checklists.
- The KBA is considered to be a valuable resource for testing various ecological hypotheses and suggesting science-backed conservation measures.



## UNESCO TAG FOR LIVING ROOT BRIDGES OF MEGHALAYA

### Issue:

The Zoological Survey of India (ZSI) has underlined some green rules for the living root bridges of Meghalaya to get the UNESCO World Heritage Site tag.

### Analysis of Background:

#### Living Root Bridges

- A living root bridge is a type of simple suspension bridge formed of living plant roots by tree shaping.
- They are common in the southern part of the Northeast Indian state of Meghalaya. Such a bridge is locally called jingkieng jri.
- They are handmade from the aerial roots of rubber fig trees (*Ficus elastic*) by the Khasi and Jaintia peoples of the mountainous terrain along the southern part of the Shillong Plateau.
- Most of the bridges grow on steep slopes of subtropical moist broadleaf forest between 50m and 1150m above sea level.

### Why is it so unique:

- As long as the tree from which it is formed remains healthy, the roots in the bridge can naturally grow thick and strengthen.
- New roots can grow throughout the tree's life and must be pruned or manipulated to strengthen the bridge.
- Once mature some bridges can have as many as 50 or more people crossing, and have a lifespan of up to 150 years.

## GANODERMA

### Issue:

Researchers from Kerala have identified two new species of fungi from the genus *Ganoderma* that are associated with coconut stem rot.

### Analysis of Background:

- They have also genotyped the two fungi species, named *Ganoderma keralense* and *G. pseudoapplanatum* and identified genetic biomarkers.
- The DNA barcodes have been made publicly available in DNA sequence repositories so that future studies can use it for early detection of the pathogen. The research was published in the journal *Mycologia*.
- The butt rot or basal stem rot of coconut is known by several names in different parts of India: *Ganoderma* wilt (Andhra Pradesh), *Anaberoga* (Karnataka) and *Thanjavur wilt* (Tamil Nadu), to mention a few.

- The infection begins at the roots, but symptoms include discolouration and rotting of stem and leaves. In the later stages, flowering and nut set decreases and finally the coconut palm (*Cocos nucifera*) dies.



## TIGER ESTIMATION

### Issue:

Tiger census will commence at Bandipur and at Nagarahole as part of the All-India Tiger and Mega Herbivore Estimation.

### Analysis of Background:

- This is part of the nation-wide enumeration that is held once in four years and is the fifth such exercise being taken up — the earlier ones being held in 2006, 2010, 2014, 2018.
- In the 2018 census, there were 125 tigers in Nagarahole whereas there were 72 tigers in the 2014 exercise which was a big jump.
- Nagarahole Tiger Reserve is located in Kodagu district and Mysore district in Karnataka.
- Bandipur National Park is located in Chamarajnagar district in It was established as a tiger reserve under Project Tiger in 1973. It is part of the Nilgiri Biosphere Reserve since 1986.

### MSTRIPES:

- This year's enumeration exercise entails the use of MSTRIPES (Monitoring System for Tigers Intensive Protection and Ecological Status) app and apart from the tiger counts, the exercise will also throw up data on mega herbivores, including elephants and gaurs.
- The use of apps ensures that the data is not only digitised but is uploaded on a real-time basis and is robust.

### Prelims View:

1. About: MSTRIPES
2. Map: Nagarhole Tiger Reserve, Bandipur National Park, Nilgiri Biosphere Reserve

## ROOFTOP SOLAR PROGRAMME

**Issue:** Rooftop solar programme norms eased

### Analysis of Background:

- India has significant rooftop solar potential at 1.7 petawatt hour per year.

### Changes introduced:

- MNRE said that now it is not necessary for a household to get the RTS installed by any of the listed vendors of a State Discom. The households can also install the equipment on their own and inform the Discom along with a photograph of the system.
- The Discom will then have to ensure that net metering is provided within 15 days.
- The government said that individual households can now opt for a **vendor of their choice**.
- The **subsidy amount** for purchasing the equipment will be **credited directly into their bank accounts**, within 30 days of installation.

### About the scheme:

- Implemented by the Ministry of New and Renewable Energy.
- Presently under implementation is the Grid-Connected Rooftop Solar Scheme (Phase II), it aims to achieve a cumulative capacity of 40,000 MW from Rooftop Solar Projects by the year 2022.
- This scheme is being implemented in the state by distribution companies (DISCOMs).

### Objectives of the programme:

- To promote the grid-connected SPV rooftop and small SPV power generating plants among the residential, community, institutional, industrial and commercial establishments.
- To mitigate the dependence on fossil fuel based electricity generation and encourage environment-friendly Solar electricity generation.
- To create an enabling environment for investment in the solar energy sector by the private sector, state government and the individuals.
- To create an enabling environment for the supply of solar power from rooftop and small plants to the grid.

### Prelims View:

1. India's Renewable energy Target.
2. Known: Nationally determined contribution

### Issue:

While many developing countries made net-zero pledges at COP26 in Glasgow, they face enormous developmental challenges in their attempts to grow in a climate-constrained world.

### Analysis of Background:

#### Developmental challenges for India

- For India, the national context is shaped by high youth unemployment, millions more entering the workforce each year, and a country hungry for substantial investments in hard infrastructure to industrialise and urbanise.
- Growth with low emission footprint: India's economic growth in the last three decades, led by growth in the services sector, has come at a significantly lower emissions footprint.
- But in the coming decades, India will have to move to an investment-led and manufacturing-intensive growth model to create job opportunities and create entirely new cities and infrastructure to accommodate and connect an increasingly urban population.

#### What could India do to pursue an industrialization pathway that is climate-compatible?

- A coherent national transition strategy is important in a global context where industrialised countries are discussing the imposition of carbon border taxes while failing to provide developing countries the necessary carbon space to grow or the finance and technological assistance necessary to decarbonise.
- What India needs is an overarching green industrialisation strategy that combines laws, policy instruments, and new or reformed implementing institutions to steer its decentralised economic activities to become climate-friendly and resilient.

#### Issues with India's domestic manufacturing of renewable technology components:

- India's industrial policy efforts to increase the domestic manufacturing of renewable energy technology components have been affected by policy incoherence, poor management of economic rents, and contradictory policy objectives.
- India managed to create just a third of jobs per megawatt that China has managed to in its efforts to promote solar PV and wind technologies.
- China has created more jobs in manufacturing solar and wind components for exports than domestic deployment.
- India could have retained some of those jobs if it were strategic in promoting these technologies.

#### Opportunities in decarbonising transport and industry sector:

- Technologies needed to decarbonise the transport and industry sectors provide a significant opportunity for India.

- However, India's R&D investments in these emerging green technologies are non-existent.
- PLI is a step in right direction: The production-linked incentives (PLIs) under 'Aatmanirbhar Bharat' are a step in the right direction for localising clean energy manufacturing activities.
- Focus on R&D: Aligning existing RD&D investments with the technologies needed for green industrialisation is crucial for realising quantum jumps in economic activities.
- Encourage private entrepreneurship: India also needs to nurture private entrepreneurship and experimentation in clean energy technologies.
- Besides China, Korea's green growth strategy provide examples of how India could gain economic and employment rents from green industrialisation without implementing restrictive policies.

#### Way forward:

- India should set its pace based on its ability to capitalise on the opportunities to create wealth through green industrialisation.
- India should follow a path where it can negotiate carbon space to grow, buying time for the hard-to-abate sectors; push against counterproductive WTO trade litigations on decarbonisation technologies; all while making R&D investments in those technologies to ensure that it can gain economic value in the transition.

#### Prelims View:

1. Details: COP26 in Glasgow
2. What is a production-linked incentive Scheme?

## LITHIUM MINING

### Issue:

The Serbia government has revoked the licenses for lithium mining to Rio Tinto, an Anglo-Australian multinational mining organisation, following protests for nearly two months.

### Analysis of Background:

- Serbians have been protesting against Rio Tinto's plans to mine lithium in the Jadar valley near Lozinca town in the country.
- Rio Tinto had discovered lithium deposits in the country in 2006 and had bought land in the Lozinca area in Serbia.



- The mine would have produced enough lithium to operate one million electric vehicles along with boric acid and sodium sulphate.
- While Rio Tinto has said to be fulfilling all Serbia's and European Union's environmental standards, protestors have been pointing out that lithium mining in the \$2.4-billion project would irrevocably pollute the drinking water.
- Serbian capital Belgrade is surrounded by lignite mines and coal power plants powered by these mines, which only make the pollution worse.

## SCIENCE AND TECHNOLOGY

### BREAKTHROUGH IN BATTERY TECHNOLOGY

#### Issue:

Shareholders of California-based Quantum Scape Corp, a battery startup backed by Volkswagen AG, have approved a multibillion-dollar pay package for Chief Executive Officer Jagdeep Singh, who could receive stock options potentially valued at \$2.3 billion, subject to the company meeting some performance milestones.

#### Analysis of Background:

- QuantumScape's solid-state battery — lithium metal with a solid electrolyte separating the two electrodes — is seen as an exceptionally bright prospect in an increasingly crowded space.
- Earlier efforts to build a solid-state separator (electrolyte) capable of working with lithium metal had to compromise on aspects such as the cycle life and operating temperature of the battery, and the issue of excess lithium deposits on the anode.



- QuantumScape claims to have circumvented this: its use of a solid state separator technology eliminates the side reaction between the liquid electrolyte and the carbon/graphite in the anode of conventional lithium-ion cells.
- Volkswagen plans to have production running for solid-state batteries by 2025 via the partnership with QuantumScape.

#### **Solid-state batteries:**

- The energy density of lithium-ion cells used in today's mobile phones and electric vehicles is nearly four times higher than that of older-generation nickel-cadmium batteries.
- Lithium-ion batteries use aqueous electrolyte solutions, where ions transfer to and fro between the anode (negative electrode generally made of graphite) and cathode (positive electrode made of lithium), triggering the recharge and discharge of electrons.
- Despite improvements in technology over the last decade, issues such as long charging times and weak energy density persist.
- While lithium-ion batteries are seen as sufficiently efficient for phones and laptops, they still lack the range that would make EVs a viable alternative to internal combustion engines.
- One major problem is that lithium metal is extremely reactive.
- The main form of lithium corrosion are dendrites, which are branched lithium structures that grow out from the electrode and can potentially pierce through the separator and on to the other end, short-circuiting the cell.
- In current lithium-ion batteries, in which the electrolyte is a flammable liquid, dendrite formation can trigger a fire.
- QuantumScape says its solid-state lithium-metal battery replaces the polymer separator used in conventional lithium-ion batteries with a solid-state separator.
- The replacement of the separator enables the use of a lithium-metal anode in place of the traditional carbon/graphite anode.
- The lithium metal anode is more energy-dense than conventional anodes, which allows the battery to store more energy in the same volume, according to the company.
- The QuantumScape design is supposed to be 'anode-free' in that the battery is manufactured in a discharged state, and the negative electrode forms in situ on the first charge.

#### **Advantages:**

- The advantages of the solid-state battery technology include
- higher cell energy density (by eliminating the carbon anode),
- lower charge time (by eliminating the need to have lithium diffuse into the carbon particles in conventional lithium-ion cells),
- ability to undertake more charging cycles and thereby a longer life,
- improved safety
- Lower cost could be a game-changer, given that at 30 per cent of the total cost, battery expenses are a key driver of the vehicle costs.



### Prelims View:

1. Lithium Battery Advantages.
2. What is lithium triangle?

## RAPID ANTIGEN TEST

### Issue:

States/UTs directed to ramp up rapid antigen tests.

### Analysis of Background:

- The test is done on swabbed nasal samples that detect antigens that are found on or within the SARS-CoV-2 virus.
- Antigens are foreign substances that induce an immune response in the body.
- It is a point-of-care test, performed outside the conventional laboratory setting, and is used to quickly obtain a diagnostic result.

### RT-PCR vs Rapid antigen test:

- RT-PCR is currently the gold standard frontline test for the diagnosis of Covid-19.
- Like RT-PCR, the rapid antigen detection test too seeks to detect the virus rather than the antibodies produced by the body.
- While the mechanism is different, the most significant difference between the two is time. RT-PCR test takes a minimum of 2-5 hours including the time taken for sample transportation. In a reliable rapid antigen detection test, the maximum duration for interpreting a positive or negative test is 30 minutes.

### Limitations of an antigen test's results:

- These tests are very specific for the virus, but are not as sensitive as molecular PCR tests. This means that positive results from antigen tests are highly accurate, but there is a higher chance of false negatives, so negative results do not rule out infection.
- Negative results from an antigen test may need to be confirmed with a PCR test prior to making treatment decisions or to prevent the possible spread of the virus due to a false negative.
- Once the sample is collected in the extraction buffer, it is stable only for one hour. Therefore, the antigen test needs to be conducted at the site of sample collection in the healthcare setting.

### Prelims View:

1. Difference B/w RT-PCR vs Rapid antigen test?

## SINGLE BOARD COMPUTERS (SBC)

### Issue:

On December 21, NASA launched into space a SpaceX Falcon 9 rocket, which carried the Dragon 2 spacecraft loaded with various equipment for astronauts on board the International Space Station (ISS).

### Analysis of Background:

- The launch marked the 24th cargo mission of billionaire Elon Musk's rocket company to the ISS for the space agency.
- Nestled among these devices were a pair of computers about the size of a set top box. They aren't the usual laptops or desktops we use every day. The two single board computers (SBC) don't have a monitor attached to them.
- An SBC is built on a single circuit board, which houses a microprocessor, memory unit, input/output channels, and other features required for a functional computer.
- The duo part of the Dragon 2 consignment, called Astro Pi, were built by the non-profit Raspberry Pi Foundation, in collaboration with the European Space Agency (ESA).
- The mini-computers are equipped with an 8GB RAM, high-quality camera, Google Coral machine learning accelerator, colour and luminosity sensor, and passive infrared sensor.
- All of these sensors are packed inside a space-ready aluminium case that makes the hardware suitable for running codes on the ISS.
- This is the second time the non-profit has sent its SBCs to the ISS. In 2015, British ESA astronaut Tim Peake took the first two Astro Pis as part of the Principia mission. The ones that reached the ISS recently were upgraded for more advanced computing projects.

## GAGANYAAN AND OTHER NEW MISSIONS IN 2022

### Issue:

After a rather muted 2021 in terms of satellite launches, Indian Space Research Organization (ISRO) is gearing up for a number of missions in 2022 including the launch of the first unmanned mission of Gaganyaan.

### Analysis of Background:

#### Gaganyaan Mission

- Gaganyaan is crewed orbital spacecraft intended to be the formative spacecraft of the Indian Human Spaceflight Programme (IHSP).
- The IHSP was initiated in 2007 by ISRO to develop the technology needed to launch crewed orbital spacecraft into low Earth orbit.
- The first uncrewed flight, named Gaganyaan 1, is scheduled to launch no earlier than June 2022 on a GSLV Mark III rocket.
- ISRO had been working on related technologies and it performed a Crew Module Atmospheric Re-entry Experiment and a Pad Abort Test for the mission.
- If completed in meantime, India will become the fourth nation to conduct independent human spaceflight after the Russia, US and China.

### Details of the project:

- The spacecraft is being designed to carry three people, and a planned upgraded version will be equipped with rendezvous and docking capability.
- In its maiden crewed mission, this capsule will orbit the Earth at 400 km altitude for up to seven days with a two or three-person crew on board.
- This Hindustan Aeronautics Limited (HAL) manufactured crew module had its first un-crewed experimental flight in 2014.
- DRDO will provide support for critical human-centric systems and technologies like space-grade food, crew healthcare, radiation measurement and protection, parachutes for the safe recovery of the crew module and fire suppression system.

### Other missions this year:

1. Earth Observation Satellites: EOS-4 and EOS-6
2. Flights for Crew Escape System of Gaganyaan
3. Chandrayaan-03
4. Aditya L1
5. XpoSat
6. New projects
7. Venus mission
8. DISHA –a twin aeronomy satellite mission
9. TRISHNA, an ISRO-CNES mission

## SYNAPSES

### Issue:

Neurons, or nerve cells, in the brain connect by means of junctions known as synapses through which they transmit signals. Recent work by researchers at the National Centre of Biological Sciences, Bengaluru, has thrown light on what stimulates these synapses to form.

### Analysis of Background:



### Types of synapses:

- There are two types of synapses – chemical and electrical.

- In chemical synapses, there is a space of about 20 nanometres between two neurons, and the way they communicate is this: One neuron converts electrical signal into chemical signals and this chemical is released into the synaptic space and the receiving neuron converts the chemical signal back into an electrical signal.
- As far as the electrical synapse goes, this is not the way it operates. In these synapses, the two neurons have a physical connection and the conversion of electrical to chemical need not occur, and they communicate directly.
- Electrical synapses are like a physical wire, communication is faster but they are also fewer in number.

#### **Zebrafish:**

- Researchers from TIFR-National Centre of Biological Sciences, Bengaluru, have chosen Zebrafish as a model organism to study this process.
- Zebrafish are transparent and neuron development in larval zebrafish can be observed from day to day by injecting a dye or by engineering the fish to express fluorescent proteins.

## **OMICRON EPIDEMIC**

**Issue:** Increasing number of omicron cases

#### **Analysis of Background:**

- India is facing an epidemic wave of Omicron disease presenting mostly with sore throat, nasal discharge – without cough or high fever. Pneumonia is uncommon. Blood oxygen level remains normal.
- Omicron disease is a milder version of COVID-19 with **Wuhan-D614G** or **Alpha, Beta, Gamma and Delta variants**.

#### **Mutational changes:**

- All previous variants had few mutational changes of the spike protein, Omicron has many more, particularly in the 'receptor-binding domain' (RBD), the ligand that binds to host cell receptor, ACE-2.
- While earlier variants have 8-9 mutations on the S1 portion, Omicron has 32-37 in different studies.
- This many mutations have resulted in several alterations in the virus-host cell interactions. For example, the viral load in saliva is high, allowing high sensitivity in RTPCR of saliva samples. Much virus is broadcast into air even without cough.

- Coronaviruses have two cell entry processes – the **major one by fusion of virus envelope with the cell membrane** and the **minor one by fusion with the endosomes within the cytoplasm**.
- Virus multiplication is far more efficient with major than minor process. **All previous variants use the major cell entry process**.
- **Omicron uses the second process**, as elucidated in laboratory experiments. After receptor-binding the receptor–virus complex is ‘swallowed up’ by the cell through ‘endocytosis’ without affecting the cell membrane.
- The endocytotic vesicle (invagination of cell membrane) then fuses with subcellular organelle called endosome, a normal process. The virus coat now fuses with endosome membrane, releasing the virus genome into the cytoplasm.
- In the first process with cell-surface fusion, all adjacent cells also fuse with the infected cell and **form a ‘syncytium’**– giant cell with multiple nuclei.
- Syncytia are closely associated with disease severity, particularly with lung pathology.
- In laboratory experiments with Omicron, syncytium formation does not occur. This change presumably leads to less virus production in the body, less invasion of organs and tissues, lower severity and duration of symptoms, decreased need for hospitalisation and low case-fatality ratio – altogether a watered down 2021 version of COVID 2019.
- Omicron resembles influenza virus infection that remains mostly **confined to upper respiratory tract**.

#### **Immunity evasion;**

- Omicron has a propensity for immunity evasion. Virus neutralising antibodies induced by infection by all earlier variants or any of the available vaccines are far less effective against Omicron disease.
- Most monoclonal antibodies that were effective to treat COVID-19 are no longer effective to treat Omicron disease. However, the world over, high degree of protection against severe disease requiring hospitalisation by enhanced antibody levels achieved by a booster dose, is observed.
- Even when antibody fitness to the virus (affinity) is low, the sheer magnitude of antibody level enables antibody-binding to more viruses, thus enhancing functional effectiveness as shown in the U.K.
- These many changes – genetic, fundamental cell–virus interactions, pathology, virulence, disease characteristics, immunity evasion – set Omicron apart from all other variants.
- To emphasise its greater deviation than other variants, imagine the term ‘deviant’.
- The term deviant indicates the high degree and abruptness (non-continuum) of change – in virology, the terms used to represent substantial genetic differences are: lineage, sub-type or serotype – depending on the degree of deviation

### **Influenza pandemic:**

- Analogy with Influenza Type A virus epidemiology is interesting. The 1957 pandemic due to a subtype H2N2 emerged when the H1N1 of 1918 pandemic was still circulating as endemic/seasonal.
- H2N2 with antigenic shift not only spread globally, but it also displaced H1N1 from circulation.
- Immunity induced by H2N2 was sufficient to prevent H1N1 circulation.
- In 1968, the next pandemic started with H3N2 subtype; it displaced H2N2, presumably due to cross-immunity.
- The 2009 pandemic was with a new variant of H1N1, with borrowed genes from swine influenza, and named H1N1pdm09 to distinguish it from the earlier H1N1.
- Antigenic cross-reactivity with H3N2 was not strong – hence both H3N2 and H1N1pdm09 are in co-circulation globally as endemic/seasonal.

### **Prelims View:**

1. Details: Omicron
2. What is genetic mutation?
3. Active and passive immunity means?

## **CHINA'S CHANG'E 5 LUNAR PROBE**

### **Issue:**

China's Chang'e 5 lunar probe finds first on-site evidence of water on moon's surface

### **Analysis of Background:**

- China's Chang'e 5 lunar lander has found the first-ever on-site evidence of water on the surface of the moon, lending new evidence to the dryness of the satellite.
- The lunar soil at the landing site contains less than 120 parts-per-million (ppm) water or 120 grams water per ton, and a light, vesicular rock carries 180 ppm, which are much drier than that on Earth.
- The presence of water had been confirmed by remote observation but the lander has now detected signs of water in rocks and soil.
- A device on-board the lunar lander measured the spectral reflectance of the regolith and the rock and detected water on the spot for the first time.
- The water content can be estimated since the water molecule or hydroxyl absorbs at a frequency of about three micrometers.
- It was the solar wind that contributed to the most humidity of lunar soil as it brought hydrogen that makes up the water, the researchers said.

- The additional 60 ppm water in the rock may originate from the lunar interior, according to the researchers. Therefore, the rock is estimated to hail from an older, more humid basaltic unit before being ejected onto the landing site to be picked up by the lunar lander.
- The study revealed that the moon had turned drier within a certain period, owing probably to the degassing of its mantle reservoir.
- The Chang'e-5 spacecraft landed on one of the youngest mare basalts located at a mid-high latitude on the moon. It measured water on the spot and retrieved samples weighing 1,731 grams.

## APPOINTMENT OF NEW CHAIRMAN IN ISRO

### Issue:

Eminent rocket scientist S. Somanath has been appointed Chairman of the Indian Space Research Organisation (ISRO) and Space Secretary.

### Analysis of Background:

- Somanath is taking over the reins of ISRO at a critical juncture when sweeping reforms and critical missions and projects — the Gaganyaan human spaceflight mission included — are waiting in the wings.
- Somanath, at present, has been serving as the Director of the Vikram Sarabhai Space Centre (VSSC) and the Indian Institute of Space Science and Technology (IIST).
- Somanath has played a major role in the development of the PSLV and the Geosynchronous Satellite Launch Vehicle Mk-III (GSLV Mk-III). He joined the GSLV Mk-III project in 2003, and served as Project Director from 2010 to 2014.
- Later on, he had a two-and-a-half-year stint as Director, Liquid Systems Propulsion Centre (LPSC), Valiamala, where he contributed to the development of the indigenous cryogenic stages for the GSLV. Dr. Somanath took over as the Director, VSSC, in January 2018.

## NATIONAL PHARMACEUTICAL PRICING AUTHORITY (NPPA)

### Issue:

Price of Covishield, Covaxin may be capped at ₹275/dose

### Analysis of Background:

- National Pharmaceutical Pricing Authority (NPPA) was constituted as an **attached office of the Department of Pharmaceuticals (DoP) in 1997** under Ministry of Chemicals & Fertilizers as an **independent Regulator for pricing of drugs** and to **ensure availability and accessibility of medicines at affordable prices.**



- It fixes ceiling prices of scheduled essential drugs and monitors Maximum Retail Prices (MRPs) of remaining non-scheduled medical devices, which have been regulated as drugs.
- NPPA is neither a Statutory nor a Constitutional Body.

#### **Drugs (Prices Control) Order (DPCO):**

- The Drugs Prices Control Order, 1995 is an **order issued by the Government of India under Sec. 3 of Essential Commodities Act, 1955** to regulate the prices of drugs.
- The Order inter alia provides the list of **price controlled drugs, procedures for fixation of prices** of drugs, method of implementation of prices fixed by Govt., penalties for contravention of provisions etc.
- For the purpose of implementing provisions of DPCO, **powers of Government have been vested in NPPA.**

## **HYPERSONIC MISSILES**

### **Issue:**

Kim Jong Un personally oversaw the successful test of a hypersonic missile and urged North Korea to press ahead with building more “strategic military muscle” despite international sanctions over its nuclear weapons programme.

### **Analysis of Background:**

- Hypersonic missiles are listed among the “top priority” tasks for strategic weapons development in North Korea’s five-year plan.
- It was the third reported North Korean test of a hypersonic gliding missile. The missile flew 700 kilometres (435 miles) at an altitude of about 60 kilometres (37 miles) at Mach 10 speed.
- The most recent test demonstrated “the superior manoeuvrability of the hypersonic glide vehicle”. It also claimed it accurately hit a target some 1,000 kilometers (620 miles) away.
- South Korea’s military, which had cast doubt on Pyongyang’s initial claims, said the missile launched recently had reached hypersonic speeds and showed clear signs of “progress” from last week’s test.

### **Hypersonic missiles:**

- Hypersonic missiles travel at speeds of at least Mach 5 — five times the speed of sound — and can manoeuvre mid-flight, making them harder to track and intercept.

## ATL SPACE CHALLENGE 2021

### Issue:

The Atal Innovation Mission (AIM), NITI Aayog declared the results of the 'ATL Space Challenge 2021'.

### Analysis of Background:

- The Challenge was launched in collaboration with Indian Space Research Organisation (ISRO) and Central Board of Secondary Education (CBSE).
- The ATL Space Challenge witnessed over 2500 submissions from both ATL and Non-ATL students across the country from which 75 top innovators were selected. It was the first time that an ATL challenge open to both ATL and non-ATL students.
- The ATL Space Challenge 2021 was launched on 6th September 2021 with an objective to enable innovation among young school students to create something in space sector that will not only help them learn about the space but create something that space programme can use itself.
- The Challenge also aligned with the World Space Week 2021, which is observed from 4 to 10 October each year at the global level in order to celebrate the contributions of space science and technology.

## XENO-TRANSPLANTATION

### Issue:

Recently, the University Of Maryland School Of Medicine announced that it had successfully transplanted a genetically-modified pig heart into a patient with severe ailments.

### Analysis of Background:

#### What is Xenotransplantation?

- Xenotransplantation, or transplanting organs across different species, was first tried in humans in the 1980s.
- The experiment was abandoned after the famous case of the American Baby Fae who was born with a congenital heart defect and received a baboon heart in 1984.
- However, pig heart valves have been used for replacing damaged valves in humans for over 50 years now.
- Nowadays, harvesting organs from genetically engineered pigs is seen as a viable alternative to meet organs shortage.

#### How the pigs are genetically engineered?

- The donor pig underwent 10 genetic modifications, by which the genes responsible for the rapid rejection of foreign organs by the human body were inactivated or knocked out.

- Four pig genes were removed, and six human genes were added.
- “GalSafe” pigs, or pigs that had undergone editing to knock out a gene that codes for Alpha-gal (a sugar molecule) were used.
- Alpha-gal can elicit a devastating immune response in humans.
- GalSafe pigs have been well studied, and are approved by the US Food and Drug Administration (FDA) for use in pharmacology.









**Science Matters**

# Hope from pig organs

*Researchers have taken a major step toward cloning pigs whose organs could be safely transplanted into humans, giving new hope to the thousands of ill people waiting for organs.*

**Xenotransplantation**  
Process of replacing human organs with those from other mammals

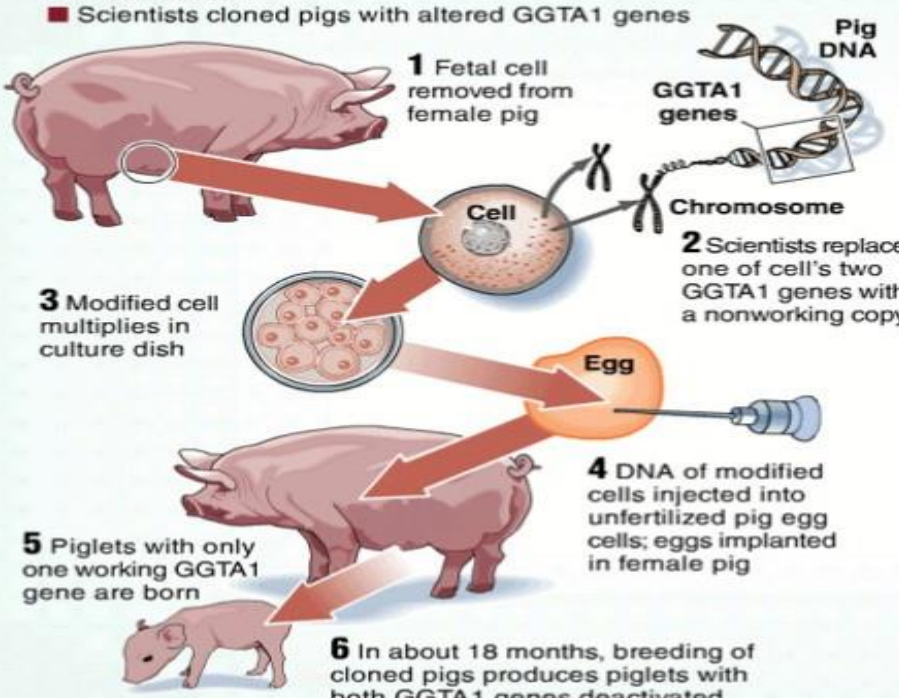
**A good match**  
Pigs are promising sources for transplants because their organs closely match the size and shape of humans'

HUMAN	PIG
	
	
	
	

Source: Science Express, PPL Therapeutics, United Network for Organ Sharing (U.S.)  
Graphic: Chicago Tribune

**The problem**  
■ Pigs have two copies of the GGTA1 gene, which makes pig cells trigger the human immune system, which then rejects a transplanted pig organ

**New solution**  
■ Scientists cloned pigs with altered GGTA1 genes



**What's next**  
■ Researchers will work to breed pigs that can't transfer a harmful pig virus to humans  
■ If the pigs' organs can be transplanted successfully into chimpanzees or other primates, human testing may start by 2006

Chicago Tribune/KRT

Graphic Selected by SIRS Staff

## Why pursue xenotransplantation?

- Modern scientific supporters of xenotransplantation argue that the potential benefits to society outweigh the risks, making pursuing xenotransplantation the moral choice.
- None of the major religions object to the use of genetically modified pig organs for life-saving transplantation.

#### Case in India:

- Harvesting organs from genetically engineered pigs is seen as a viable alternative to meet organs shortage.
- According to the health ministry, around 0.18 million people in India are estimated to suffer from renal failure every year, but only about 6,000 renal transplants are carried out in the country.
- About 25,000-30,000 liver transplants are needed annually in India but only about 1,500 are being performed.
- In the case of the heart, 50,000 people suffer from heart failure and are in need of a heart transplant.
- Yet, only 10-15 heart transplants are carried out in India each year.

#### Issues with Xenotransplantation

Besides scientific challenges, there are several ethical challenges to overcome:

- **Animal rights:** Many, including animal rights groups, strongly oppose killing animals to harvest their organs for human use.
- **Decreased life expectancy:** In the 1960s, many organs came from the chimpanzees, and were transferred into people that were deathly ill, and in turn, did not live much longer afterwards.
- **Religious violations:** Certain animals such as pork are strictly forbidden in Islam and many other religions.
- **Informed consent:** Autonomy and informed consent are important when considering the future uses of xenotransplantation.
- **Threats of zoonosis:** The safety of public health is a factor to be considered. We are already battling the biggest zoonotic disease threat.

#### Prelims View:

- Details: Xenotransplantation

## ANTIMICROBIAL RESISTANCE

### Issue:

The Global Research on Antimicrobial Resistance (GRAM) report published in The Lancet provides the most comprehensive estimate of the global impact of Antimicrobial Resistance (AMR) so far.

### Analysis of Background:

#### What is AMR?

- Antimicrobial resistance (AMR or AR) is the ability of a microbe to resist the effects of medication that once could successfully treat the microbe
- Antibiotic resistance occurs naturally, but misuse of antibiotics in humans and animals is accelerating the process.
- A growing number of infections – such as pneumonia, tuberculosis, gonorrhoea, and salmonellosis – are becoming harder to treat as the antibiotics used to treat them become less effective.
- It leads to higher medical costs, prolonged hospital stays, and increased mortality.

#### How does it occur?

- Antibiotics are medicines used to prevent and treat bacterial infections.
- Antibiotic resistance occurs when bacteria change in response to the use of these medicines.
- Bacteria, not humans or animals, become antibiotic-resistant.
- These bacteria may infect humans and animals, and the infections they cause are harder to treat than those caused by non-resistant bacteria.

#### What did the GRAM report find?

- AMR is a leading cause of death globally, higher than HIV/AIDS or malaria.
- As many as 4.95 million deaths may be associated with bacterial AMR in 2019.
- Lower respiratory tract infections accounted for more than 1.5 million deaths associated with resistance in 2019, making it the most common infectious syndrome.

The six leading pathogens for deaths associated with resistance were:

1. Escherichia coli (E. Coli)
2. Staphylococcus aureus
3. Klebsiella pneumonia
4. Streptococcus pneumonia
5. Acinetobacter baumannii
6. Pseudomonas aeruginosa

#### What are the implications of this study?

- Common infections such as lower respiratory tract infections, bloodstream infections, and intra-abdominal infections are now killing hundreds of thousands of people every.
- This includes historically treatable illnesses, such as pneumonia, hospital-acquired infections, and foodborne ailments.



## NEOCOV CORONAVIRUS FOUND IN BATS

### Issue:

NeoCov coronavirus found in bats may pose threat to humans in the future, scientists caution.

### Analysis of Background:

#### Coronavirus: A quick backgrounder

- Coronaviruses are a large family of viruses that are known to infect animals and humans.
- They are largely categorized into four genera — alpha, beta, gamma, and delta.
- Broadly speaking, alpha and beta coronaviruses commonly infect mammals such as bats and humans, while Gamma and Delta mainly infect birds.

#### Infecting humans: Through 'Zoonotic Spillover'

- While animals, including bats, are generally considered as the reservoirs of coronaviruses, rarely spillover events could occur.
- It is possible for viruses that infect animals to jump to humans, a process which is known as zoonotic spillover.
- Many major infectious diseases, including COVID-19, is widely thought to be a result of spillover.

#### COVID-19 Pandemic

- SARS-CoV-2, the coronavirus responsible for the COVID-19 pandemic, belongs to the genus of beta coronavirus.
- It is in fact the 7<sup>th</sup> type of coronavirus known to infect and cause severe disease in humans.

#### How does it affect humans?

- How a coronavirus latches onto special receptors on host cells depends on a key part of the virus known as its receptor-binding domain.
- The differences in the receptor-binding domain of coronaviruses are therefore what determine the type of host receptor the virus will use and thus the host that it will be able to infect.
- There are currently 4 well-characterized receptors for coronaviruses, including **ACE2**, which is used by SARS-CoV and SARS-CoV-2, and DPP4 used by MERS-CoV.

#### What is NeoCoV?

- NeoCoV is a bat coronavirus that was first identified in 2011.
- It was identified in a species of bats known as Neoromicia, which is where the name NeoCoV was derived from.
- Commonly known as aloe bats, this species is distributed in the Afro-Malagasy region.
- NeoCoV shares an 85% similarity to MERS-CoV in the genome sequence, making it the closest known relative of MERS-CoV.

#### Does NeoCoV infect humans and cause high mortality?

- It is important to note that inherently, NeoCoV cannot interact with human receptors, implying that in its current form the virus cannot infect humans.
- NeoCoV does not infect humans yet and has thus not caused any deaths.

### What does the preprint say and why is it important?

- The study reports that despite their similarity, MERS-CoV and NeoCoV use different receptors to infect cells.
- The bat coronavirus NeoCoV was found to use bat ACE2 receptors for efficiently entering cells.
- The interaction between NeoCoV and bat ACE2 receptors is different from what is seen in other coronaviruses that utilize ACE2.
- However, specific mutations artificially created in the receptor-binding domain of NeoCoV can enhance its efficiency to interact with human ACE2 receptors.
- These mutations have not yet been seen in NeoCov isolates from natural settings.

### Prelims View:

1. What is Zoonotic Disease?
2. Known: SARS – CoV, NeoCoV

## MERGER OF 5GI AND 5G

### Issue:

'Telcos, stakeholders agree on 5Gi, 5G merger'

### Analysis of Background:

- Telecom service providers and other stakeholders across the board agreed on an action plan merge to 5Gi with the global standard on 5G, the Telecommunications Development Society of India (TSDSI) said.
- The 5Gi and 3GPP-5G merger is a milestone and will be a key enabler to achieve high-speed, high quality connectivity for all as 5G gets rolled out in India and the rest of the world.
- The **3GPP or the third-generation partnership project** is a global initiative that provides standards and specifications on telecommunications technologies.
- 5Gi, an initiative of the Department of Telecommunications (DoT) was planned as an indigenous technology that was to be developed jointly by the Indian Institutes of Technology at Madras and Hyderabad.
- The 5G Radio Interface Technology, called 5Gi, is an initiative of the Telecommunications Standards Development Society, India (TSDSI), together with the academia, whose merger plan with the global 5G standards, will now be submitted to the International Telecommunication Union (ITU) and TEC.

### What is 5Gi?

- 5Gi is a locally designed telecommunication network that has been designed by IIT Hyderabad, IIT Madras and the Centre of Excellence in Wireless Technology.



- The project is approved by the Department of Telecommunications in India and has been provided with funding as well.
- The technology developed by Indian institutions will be an alternative to the global 5G standards and has already got a thumbs up from the International Communication Unit.
- **The main problem with global 5G technology is that the range of coverage goes down with an increase in frequency. This is where 5Gi steps in, as it provides a higher range at a lower frequency.**

#### **5Gi might be more efficient and effective than 5G:**

- Essentially, 5Gi network technology is capable of working at a lower frequency than 5G by still providing a higher range.
- The technology works on a **Low Mobility Large Cell method**, which transmits a cell-based waveform which results in increased range. the TSDSi or the **Telecommunications Standards Development Society of India** says that “Enhanced cell coverage enabled by this standard, will be of great value in countries and regions that rely heavily on mobile technologies for connectivity but cannot afford dense deployment of base stations due to lack of deep fibre penetration, poor economics and challenges of geographical terrain.”

## **ULTRA-LONG PERIOD MAGNETAR**

### **Issue:**

Scientists have detected what appears to be an incredibly dense star behaving unlike anything else ever seen - and suspect it might be a type of exotic astrophysical object whose existence has been only hypothesised until now.

### **Analysis of Background:**

- The object, spotted using the Murchison Widefield Array telescope in outback Western Australia, unleashed huge bursts of energy roughly three times per hour when viewed from Earth during two months in 2018.
- It may be the first known example of what is called an “ultra-long period magnetar.”
- This is a variety of neutron star - the compact collapsed core of a massive star that exploded as a supernova - that is highly magnetised and rotates relatively slowly, as opposed to fast-spinning neutron star objects called pulsars that appear from Earth to be blinking on and off within milliseconds or seconds.
- It is located relatively close to Earth in cosmic terms, roughly 4,200 light years away, where a light year is the distance light travels in a year, 9.5 trillion km.
- Neutron stars including pulsars are among the universe's densest objects.
- They are roughly 12 km in diameter - akin to the size of a city - but with more mass than our Sun.

- A neutron star with an extreme magnetic field, a magnetar, could potentially power the radio pulsations, the researchers said.

**Prelims View:**

- Concept: Magnetar, Neutron star.

## INTRANASAL VACCINES

**Issue:**

The Drugs Controller General of India Friday approved the trials of intranasal booster doses against Covid-19 that is being manufactured by Bharat Biotech, the maker of Covaxin.

**Analysis of Background:**

- Vaccines are usually given through different routes, with the most common being injectable shots delivered into the muscles (intramuscular) or the tissue just between the skin and the muscles (subcutaneous).
- Other routes of delivery, especially in some vaccines for infants, include administering the liquid solution orally instead of injecting. In the intranasal route, the vaccine is sprayed into the nostrils and inhaled.

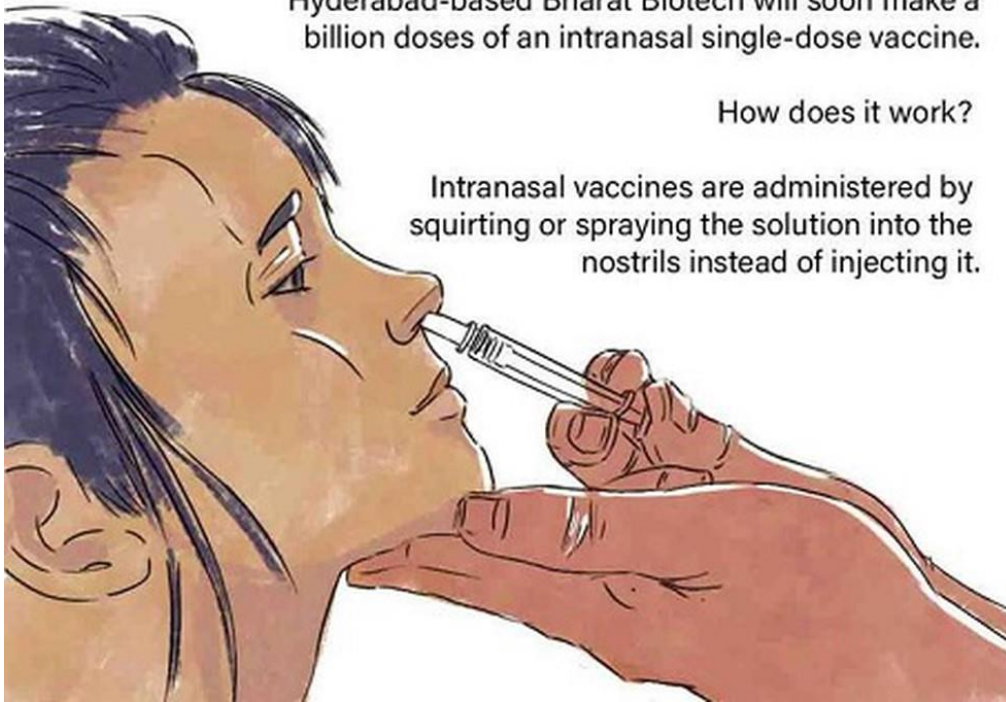
**The importance of such vaccines:**

- Many viruses, including the coronavirus, enter the body through mucosa — wet, squishy tissues that line the nose, mouth, lungs and digestive tract — triggering a unique immune response from cells and molecules there. Intramuscular vaccines generally fail at eliciting this mucosal response, and instead rely on immune cells mobilised from elsewhere in the body flocking to the site of infection.
- Experts believe an intranasal vaccine will act against the virus from the time it tries to break the body's barrier, thereby making it more effective than the intramuscular ones in many cases.
- These vaccines aim to overcome potential difficulties with mass vaccination and reduce the cost by doing away with the need for needles and syringes. Intranasal vaccines are also expected to cut down on the dependence on various trained personnel to administer the vaccine.

Hyderabad-based Bharat Biotech will soon make a billion doses of an intranasal single-dose vaccine.

How does it work?

Intranasal vaccines are administered by squirting or spraying the solution into the nostrils instead of injecting it.



## HYPOGLYCAEMIA

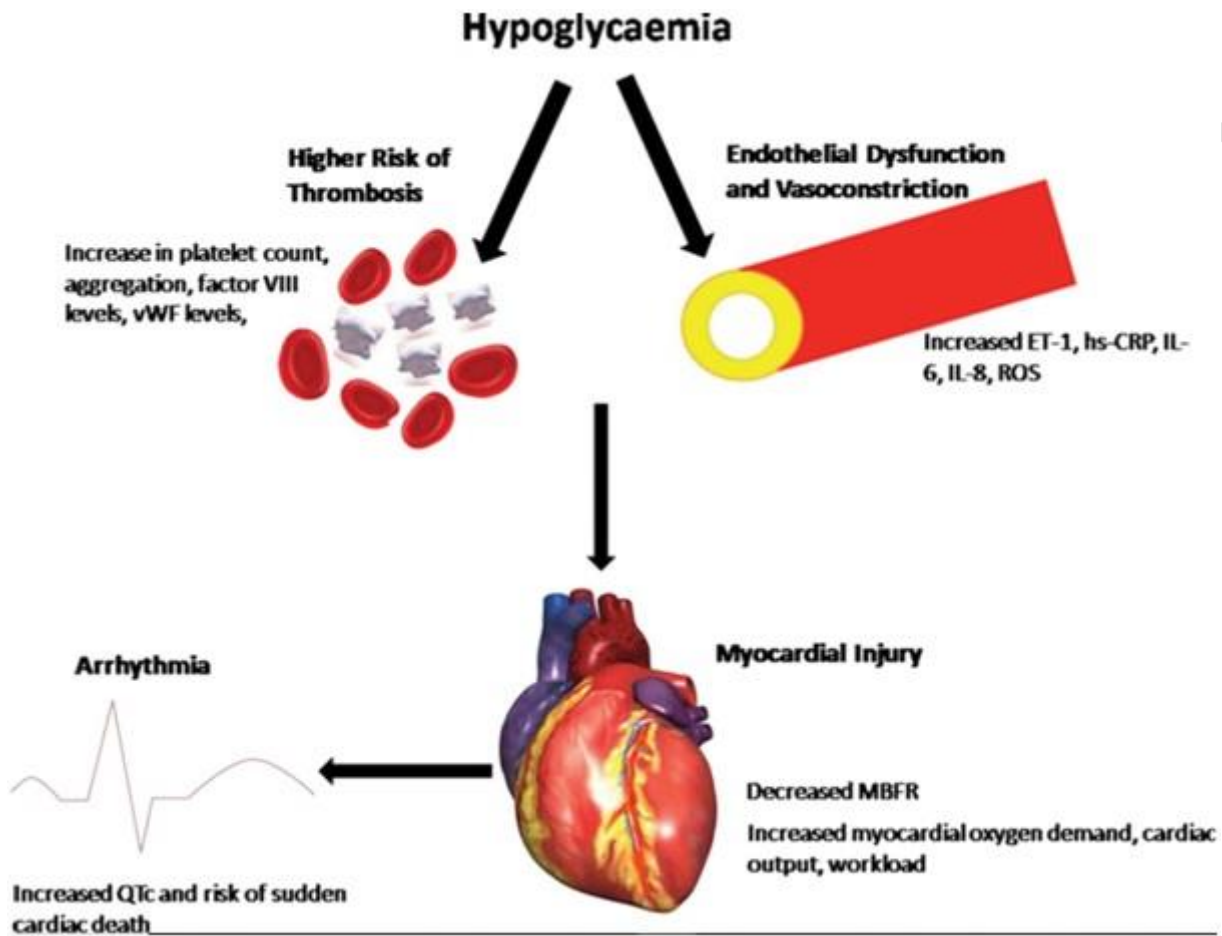
### Issue:

Doctors see post-COVID hypoglycaemia among patients

### Analysis of Background:

- Hypoglycemia, also called low blood sugar, is a fall in blood sugar to levels below normal, typically below 70 mg/dL (3.9 mmol/L).
- Hypoglycemia may result in headache, tiredness, clumsiness, trouble talking, confusion, fast heart rate, sweating, shakiness, nervousness, hunger, loss of consciousness, seizures, or death.
- Symptoms typically come on quickly.
- The most common cause of hypoglycemia is medications used to treat diabetes such as insulin, sulfonylureas, and biguanides.
- Risk is greater in diabetics who have eaten less than usual, recently exercised, or consumed alcohol.

- Hypoglycemia is treated by eating a sugary food or drink, for example glucose tabs or gel, apple juice, soda, or candy. The person must be conscious and able to swallow. The goal is to consume 10-20 grams of a carbohydrate to raise blood glucose levels to a minimum of 70 mg/dL (3.9 mmol/L).



## DEFENSE AND SECURITY

### EXERCISE MILAN

**Issue:**

Navy gears up to hold its largest multilateral exercise 'Milan' at the end of February.

**Analysis of Background:**

- It is a biennial, multilateral naval exercise which started in 1995.
- Formerly, held at Port Blair and now is shifted to Visakhapatnam
- The Navy has held 10 editions of the Milan exercise, with the theme of "synergy across the seas" to enhance professional interactions between friendly foreign navies and learn best practices from each other, since 1995.
- The area of cooperation of the exercise includes capacity building, marine domain awareness, training, hydrography, technical assistance, and operational exercises.

### MULTI AGENCY CENTRE

**Issue:**

The Union government has asked the States to share more intelligence inputs through the Multi Agency Centre (MAC), a common counter-terrorism grid under the Intelligence Bureau (IB).

**Why in news?**

- States are often reluctant to share information on the platform.
- There are several gaps in sharing critical information at the right time.
- Plans are afoot for more than a decade to link the system up to the district level.

**Analysis of Background:**

**About MAC**

- The Multi-Agency Centre (MAC) was formed in December 2001 following the Kargil intrusion and the subsequent overhaul of the Indian national security apparatus suggested by the Kargil Review Committee report.
- Accordingly, the Intelligence Bureau (IB) was authorized to create a multi-agency centre (MAC) in New Delhi.
- Now functioning 24x7 as the nodal body for sharing intelligence inputs, MAC coordinates with representatives from numerous agencies, different ministries, both central and state.
- Various security agencies share real-time intelligence inputs on the MAC.
- The state offices have been designated as subsidiary MACs (SMACs).
- As many as 28 organisations, including the Research and Analysis Wing (R&AW), armed forces and State police, are part of the platform.

## COLLECTIVE SECURITY TREATY ORGANIZATION (CSTO)

### Issues:

A Moscow-led military alliance dispatched troops to help quell mounting unrest in Kazakhstan as the police said dozens were killed trying to storm government buildings.

### Analysis of Background:

- Long seen as one the most stable of the ex-Soviet republics of Central Asia, energy-rich Kazakhstan is facing its biggest crisis in decades after days of protests over rising fuel prices escalated into widespread unrest.
- Under increasing pressure, President Kassym-Jomart Tokayev appealed overnight to the Russia-dominated Collective Security Treaty Organisation (CSTO), which includes five other ex-Soviet states, to combat what he called “terrorist groups” that had “received extensive training abroad”.

### About CSTO:

- The Collective Security Treaty Organization (CSTO) is an intergovernmental military alliance in Eurasia that consists of select post-Soviet states.
- Membership: Armenia, Belarus, Kazakhstan, Kyrgyzstan, Russia and Tajikistan.
- Headquarters: Moscow, Russia.
- The objectives of the CSTO is to strengthen peace, international and regional security including cyber security and stability, the protection on a collective basis of the independence, territorial integrity and sovereignty of the member states.

### Prelims View:

- Details: Collective Security Treaty Organization.

## RAFALE-M

### Issue:

Beginning January 10, 2022, French aircraft maker Dassault Aviation will fly its Rafale-M fighter jet from the Indian Navy's Shore Based Test Facility (SBTF) in Goa to demonstrate compatibility and suitability to operate from the Indigenous Aircraft Carrier Vikrant's deck.

### Analysis of Background:

- The Rafale-M arrived in Goa recently and the demonstration is expected to go up to February 1.
- Boeing will also demonstrate the compatibility of its F/A-18 Super Hornet on the SBTF likely in March, it has been learnt.

- These trials are part of demonstrations by aircraft manufacturers to showcase the compatibility of their aircraft to fly from Indian Navy's aircraft carriers which use a ski-jump to launch aircraft.
- Both the Rafale-M and F/A-18 are originally designed to operate from carriers with a catapult launch mechanism.
- The carrier would thus require minor modifications to operate the aircraft, officials said. A government-to-government agreement could be signed based on the aircraft selected to speed up the process, an official said.
- Boeing has taken a lead in the race having already demonstrated the ability of F/A-18 to take off from a similar shore based facility at Naval Air Station Patuxent river in Maryland, U.S. in December 2020.
- However, each fighter brings certain advantages while having some limitations.
- For instance, Rafale-M does not have a twin seater while its acquisition would mean commonality with the Indian Air Force which will soon complete inducting the 36 Rafale jets contracted in 2016.
- On the other hand, the F/A-18 is a much widely employed platform with a twin seater trainer and also has an electronic warfare version which might be of interest to the Navy.
- In 2017, the Navy had floated Request For Information (RFI) to procure 57 twin-engine carrier fighters which is now set to be downsized to around 26, including few twin-seater trainer variants.
- The revision is in the backdrop of a new indigenous Twin Engine Carrier Based Deck Fighter (TEBDF) being designed and developed by the DRDO and Aeronautical Development Agency (ADA).

## PM'S SECURITY

### Issue:

Prime Minister's cavalcade stranded on a flyover in Punjab's Ferozepur district for over 15 minutes due to a protest by farmers

### Analysis of Background:

- Planning of the PM's security during any visit is an elaborate exercise that involves both central agencies and state police forces. Broad guidelines are laid down in what is called the SPG's 'Blue Book'.
- Three days before any planned visit, the Special Protection Group (SPG), which is responsible for the PM's security, holds a mandatory Advance Security Liaison (ASL) with



everyone involved in securing the event, including SPG officials, Intelligence Bureau (IB) officials in the state concerned, state police officials and the district magistrate concerned.

- Every minute detail of the visit and required security arrangements are discussed among the officials. Once the meeting is over, an ASL report is prepared, and it is signed by all those who attended. Based on this report, all security arrangements are made.

#### **What is chalked out during the meeting?**

- Generally, a PM's visit is supposed to be planned out to the very last detail, and the itinerary that is planned thereafter is expected to stick to it.
- Thus, the meeting discusses how the PM would arrive (by air, road, or rail) and, once he lands, how he would reach the venue of his programme (generally by helicopter or road). In planning this, intelligence inputs of central agencies and the local intelligence unit are taken into consideration.
- Then the security of the venue — which involves aspects such as entry and exit, frisking of those coming to the venue, and placing of door frame metal detectors — is discussed. The structural stability of the dais is checked as well. (There have been incidents of the stage at public meetings collapsing while leaders are on it.)
- Fire safety of the venue is also audited. Even the weather report for the day is taken into consideration. If the PM is likely to take a boat to reach any place, the functional readiness and safety of the boat is authorised on a certificate.
- The SPG only provides proximate security to the PM. When the PM is travelling to any state, it is the responsibility of the state police to ensure overall security. They have the responsibility of intelligence gathering, route clearance, venue sanitisation, and crowd management.
- Central intelligence agencies are responsible for providing inputs about any threat to security. However, it is the SPG that takes the final call on how the PM's security is to be arranged. Sources said the SPG never allows the PM's movement until the local police gives the go-ahead.
- The state police are also supposed to conduct anti-sabotage checks and to secure the route by placing not only men on the roads but also snipers on rooftops.
- The state police also provide a pilot vehicle that leads the PM's cavalcade and, if the PM is likely to stay at a place, an officer of the level of superintendent of police (SP) is deputed as camp commandant to ensure security.

## INNER LINE PERMIT SYSTEM (ILPS)

### Issue:

Plea in Supreme Court against ILPS in Manipur.

### Analysis of Background:

- It is a concept based on the policy of exclusion drawn by colonial rulers in the form of **Bengal Eastern Frontier Regulation Act (BEFR), 1873**.
- The BEFR prohibits an outsider's — "British subject or foreign citizen" — entry into the area beyond the Inner Line without a pass and his purchase of land there.
- It protected the commercial interests of the British from the tribal communities.
- BEFR came as a response to the reckless expansion of British entrepreneurs into new lands which threatened British political relations with the hill tribes.
- After Independence, the Indian government replaced "British subjects" with "Citizen of India".
- The Inner Line separates the tribal-populated hill areas in the Northeast from the plains. To enter and stay for any period in these areas, Indian citizens from other areas need an Inner Line Permit (ILP).
- The main aim of ILP system is to prevent settlement of other Indian nationals in the States where ILP regime is prevalent, in order to protect the indigenous/tribal population.
- The Adaptation of Laws (Amendment) Order, 2019 extended the ILP regime to **Manipur** – after **Arunachal Pradesh, Nagaland and Mizoram** where the ILP regime is applicable.



**ARUNACHAL PRADESH:** Entire state under ILP regime

**NAGALAND:** Entire state under ILP regime

**TRIPURA:** Sixth Schedule covers 70% of geographical area

**MEGHALAYA:** Almost entire state covered under Sixth Schedule, except a part of Shillong

**ASSAM:** 3 Autonomous District Councils under Sixth Schedule

**MANIPUR:** Entire state under ILP regime

### Prelims View:

1. What is ILP?
2. Which states are required ILP Document for before visit the state?
3. What is of Bengal Eastern Frontier Regulation Act?

## BRAHMOS

### Issue:

In the first export order for the BrahMos supersonic cruise missile system, the Philippines has approved a \$374.96 mn contract for the purchase of shore-based anti-ship variant of the missile from India, while discussions are ongoing with a few other Southeast Asian countries.

### Analysis of Background:

#### About BrahMos Missile: (Prelims)

- BrahMos missile derives its name from the combination of the names of **Brahmaputra and Moskva Rivers**.
- They are designed, developed and produced by BrahMos Aerospace, a joint venture company set up by DRDO and Mashinostroyenia of Russia.
- It is a **two-stage missile** with a **solid propellant booster** as the first stage and **liquid ramjet** as the second stage.
- The cruise missiles like BrahMos are a type of system known as the '**standoff range weapons**' which are fired from a range sufficient to allow the attacker to evade defensive fire from the adversary.
- Such weapons are in the arsenal of most major militaries in the world.



### Its capability:

- BrahMos missile flies at a speed of 2.8 Mach or almost three times the speed of sound.
- It is the main weapon system of the Indian Navy warships and has been deployed on almost all of its surface platforms.
- An underwater version is also being developed which will not only be used by the submarines of India but will also be offered for export to friendly foreign nations.

**Various versions:**

- The versions of the BrahMos that are being tested have an extended range of around 400 km, as compared to its initial range of 290 km, with more versions of higher ranges currently under development.
- Various versions including those which can be fired from land, warships, submarines and Sukhoi-30 fighter jets have already been developed and successfully tested in the past.
- The earliest versions of the ship launched BrahMos and land-based system are in service of the Indian Navy and the Indian Army since 2005 and 2007 respectively.

**Prelims View:**

- Details: BrahMos missile.

**BORDER SECURITY FORCE****Issue:**

The Border Security Force (BSF) on Monday said more than 100 terrorists were present at launch pads across the border, waiting to infiltrate into Jammu and Kashmir.

**Analysis of Background:**

- The Border Security Force (BSF) is India's border guarding organisation on its border with Pakistan and Bangladesh.
- It is one of the five Central Armed Police Forces of India, and was raised in the wake of the 1965 War on 1 December 1965, "for ensuring the security of the borders of India and for matters connected there with".
- It has various active roles during an outbreak of war. It is the only CAPF to have a full-fledged Water Wing, Air Wing and even an Artillery Regiment of its own.
- It comes under the Ministry of Home Affairs.
- The BSF has its own cadre of officers but its head, designated as a Director-General (DG), since its raising has been an officer from the Indian Police Service.
- It currently stands as the world's largest border guarding force. BSF has been termed as the First Line of Defence of Indian Territories.

## PEGASUS SPYWARE

### Issue:

A New York Times report has claimed that the Indian government had bought the Pegasus Spyware in 2017.

### Analysis of Background:

#### What is Pegasus?

- Pegasus is a spyware developed by NSO Group, an Israeli surveillance firm that helps spies hack into phones.
- In 2019, when WhatsApp sued the firm in a U.S. court, the matter came to light.
- In July 2021, Amnesty International, along with 13 media outlets across the globe released a report on how the spyware was used to snoop hundreds of individuals, including Indians.
- While the NSO claims its spyware is sold only to governments, none of the nations have come forward to accept the claims.

#### Why is Pegasus so lethal?

- What makes Pegasus really dangerous is that it spares no aspect of a person's identity.
- It makes older techniques of spying seem relatively harmless.
- It can intercept every call and SMS, read every email and monitor each messaging app.
- Pegasus can also control the phone's camera and microphone and has access to the device's location data.
- The app advertises that it can carry out "file retrieval", which means it could access any document that a target might have stored on their phone.

#### Dysfunctions created by Pegasus:

- **Privacy breach:** The very existence of a surveillance system, whether under a provision of law or without it, impacts the right to privacy under Article 21 and the exercise of free speech under Article 19.
- **Curbing Dissent:** It reflects a disturbing trend with regard to the use of hacking software against dissidents and adversaries. In 2019 also, Pegasus software was used to hack into HR & Dalit activists.
- **Individual safety:** In the absence of privacy, the safety of journalists, especially those whose work criticizes the government, and the personal safety of their sources is jeopardised.
- **Self-Censorship:** Consistent fear over espionage may grapple individuals. This may impact their ability to express, receive and discuss such ideas.
- **State-sponsored mass surveillance:** The spyware coupled with AI can manipulate digital content in users' smartphones. This in turn can polarize their opinion by distant controller.
- **National security:** The potential misuse or proliferation has the same, if not more, ramifications as advanced nuclear technology falling into the wrong hands.

#### Snooping in India: A Legality check:

For Pegasus-like spyware to be used lawfully, the government would have to invoke both the IT Act and the Telegraph Act. Communication surveillance in India takes place primarily under two laws:



- **Telegraph Act, 1885:** It deals with interception of calls.
- **Information Technology Act, 2000:** It was enacted to deal with surveillance of all electronic communication, following the Supreme Court's intervention in 1996.

#### Cyber security safeguards in India:

- **National Cyber Security Policy:** The policy was developed in 2013 to build secure and resilient cyberspace for India's citizens and businesses.
- **Indian Computer Emergency Response Team (CERT-In):** The CERT-In is responsible for incident responses including analysis, forecasts and alerts on cybersecurity issues and breaches.
- **Indian Cyber Crime Coordination Centre (I4C):** The Central Government has rolled out a scheme for the establishment of the I4C to handle issues related to cybercrime in the country in a comprehensive and coordinated manner.
- **Budapest Convention:** There also exists Budapest Convention on Cybercrime. However India is not a signatory to this convention.

#### Issue over government involvement:

- It is worth asking why the government would need to hack phones and install spyware when existing laws already offer impunity for surveillance.
- The wide array of victims clearly brings the central government and its role to question.
- In the absence of parliamentary or judicial oversight, electronic surveillance gives the executive the power to influence both the subject of surveillance and all classes of individuals, resulting in a chilling effect on free speech.

#### Way forward:

- The security of a device becomes one of the fundamental bedrocks of maintaining user trust as society becomes more and more digitized.
- There is an urgent need to take up this issue seriously by constituting an independent high-level inquiry with credible members and experts that can restore confidence and conduct its proceedings transparently.
- The need for judicial oversight over surveillance systems in general, and judicial investigation into the Pegasus hacking, in particular, is very essential.

#### Prelims View:

1. What is Budapest Convention?
2. Known: Information Technology Act, 2000, Telegraph Act, 1885
3. What is a spyware?
4. Known: Personal Data protection bill 2021.



## MISCELLANEOUS

### INDIA IMPROVES POSITION IN HENLEY PASSPORT INDEX, 2021

#### Issue:

India now ranks at 83rd position in the Henley Passport Index, climbing seven places from 90th rank last year.

#### Analysis of Background:

##### Henley Passport Index

- The Henley & Partners publishes the ranking and the Index of the world's passports according to the number of destinations their holders can access without a prior visa.
- It was launched in 2005.
- The ranking is based on data from the IATA (International Air Transport Association), a trade association of some 290 airlines, including all major carriers.
- The index includes 199 different passports and 227 different travel destinations.
- The data are updated in real time as and when visa policy changes come into effect.

##### India's performance this year

- India is ranked at 83rd position and shares the rank with Sao Tome and Principe in Central Africa, behind Rwanda and Uganda.
- It now has visa-free access to 60 destinations worldwide with Oman and Armenia being the latest additions.
- It has added 35 more destinations since 2006.

##### Global performance

- Japan and Singapore has topped the list.
- The US and the UK passports regained some of their previous strength after falling all the way to eighth place in 2020.
- The passport of the Maldives is the most powerful in South Asia (58<sup>th</sup>) enabling visa-free entry to 88 countries.
- In South Asia, Bangladesh (103<sup>rd</sup>) is ahead of Pakistan (108<sup>th</sup>) and Nepal (105<sup>th</sup>).
- Afghanistan undoubtedly stands at the last rank.

#### Prelims View:

- **Concept:** Henley Passport Index

### Issue:

Recently, The Global Risks Report 2022, an annual report, is been released by the World Economic Forum.

### Analysis of Background:

- The annual report was based on a survey of 1,000 global experts and leaders in business, government and civil society on their perception of long-term risks to the world.
- Views of over 12,000 leaders from 124 countries who identified their national short-term risks were also analyzed.
- It tracks global risk perceptions among risk experts and world leaders in business, government, and civil society.

### Findings of the report:

- The highest number of respondents thought climate action failure and extreme weather events will be the world's biggest risks in the next five and 10 years as well, the report showed.
- "Social cohesion erosion", "livelihood crises" and "mental health deterioration" are three of the five risks seen as the most concerning threats to the world in the next two years.
- Apart from this, it has significantly contributed to "debt crises", "cybersecurity failures", "digital inequality" and "backlash against science".
- "Extreme weather" and "climate action failure"—appear as top risks in the short-, medium- and long-term outlooks.
- Governments, businesses, and societies are facing increasing pressure to transition to net-zero economies.
- Artificial intelligence, space exploitation, cross-border cyberattacks and misinformation and migration and refugees were rated as the top areas of international concerns.
- Growing insecurity in the forms of economic hardship, worsening impacts of climate change and political persecution will force millions to leave their homes in search of a better future.
- The prospect of 70,000 satellite launches in coming decades, in addition to space tourism, raises risks of collisions and increasing debris in space, amid a lack of regulation.
- The global economic gap will widen by 2024, when the developing countries will have fallen 5.5 per cent below their pre-pandemic expected GDP growth and advanced economies would have surpassed the same by almost 0.9 per cent.

## Prelims View:

1. What is Global risk report?
2. Who release global risks report 2022?

## SILVERLINE PROJECT

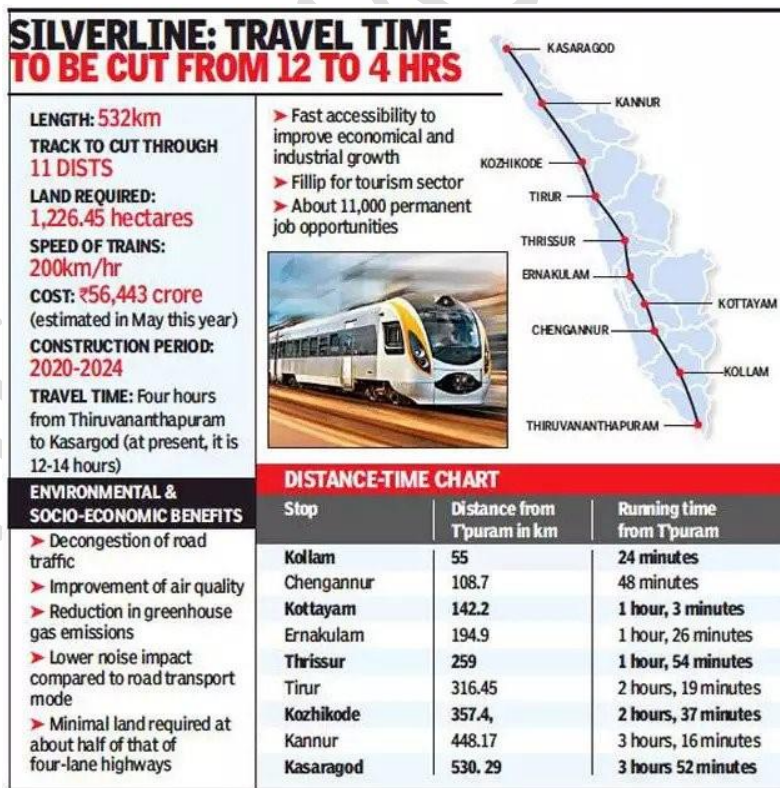
### Issue:

The critical voices have grown in strength against the Kerala government's SilverLine rail project.

### Analysis of Background:

#### About Silverline Project:

- The SilverLine Project entails building a semi high-speed railway corridor through the state linking its southern end and state capital Thiruvananthapuram with its northern end of Kasaragod.
- It is billed as one of the biggest infrastructure enterprises being pushed by the ruling Left government.
- The line is proposed to be 529.45 km long, covering 11 districts through 11 stations.
- When the project is realized, one can travel from Kasaragod to Thiruvananthapuram in less than four hours on trains traveling at 200 km/hr.
- The current travel time on the existing Indian Railways network is 12 hours.
- The project is executed by the Kerala Rail Development Corporation Limited (KRDC), a joint venture between the Kerala government and the Union Ministry of Railways.



### **What was the need for the project?**

- It has long been argued by urban policy experts that the existing railway infrastructure in the state cannot meet the demands of the future.
- Most trains run with an average speed of 45 km/hr due to a lot of curves and bends on the existing stretch.
- The government claims the SilverLine project is the need of the hour as it can take a significant load of traffic off the existing railway stretch and make travel easier and faster for commuters.
- This will in turn reduce the congestion on roads and help reduce accidents and fatalities.

### **Issues with the Project:**

- The unofficial deadline for the project is 2025 but many would say it's not a realistic target, given the laborious nature of land acquisition in a highly densely populated state like Kerala.
- Acquiring land, especially from private players, in urban areas remains the key challenge for the project.
- There's also significant opposition to the project by environmentalists citing potential damage to the state's ecosystem in the path of the proposed route.
- They fear irreversible impact to the state's rivers, paddy fields, and wetlands, triggering floods and landslides in the future.

### **Prelims View:**

1. Known: Silver line Project and its significance.





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